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The Effect of Dividend Policy on Market Value UK Empirical Study

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By

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بِسْم اللّه الرَّحْمَن الرَّحِيْم

وَقُل اعْمَلُوْا فَسَيَرَى اللّه عَمَلَكُم وَرَسُوْلُه وَالْمُؤْمِنُوْن

صَدَق اللّه الْعَلِي الْعَظِيْم

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<u>Abstract</u>

This study tackles the relationship between dividend policy and market value of companies in the UK through three empirical models.

The aim of the first model was to test the validity of the Irrelevant Theory empirically by exploring the relationship between dividend type (cash dividend, share dividend and share repurchase), earnings (EPS) and investment policy (retained earnings per share) with the market value of a company. This is achieved through the use of annual and semi-annual data for 362 companies in different UK sectors by adopting Panel Data for the period extending from 1998 to 2007 (twenty periods), where the fixed-effect (within) regression model was used to examine this sample .

The second model examines if companies favour the investment policy dividend policy by investigating whether or not companies follow a residual dividends policy. This has been identified by following the methodology of Baker and Smith (2006), based on the calculation of Standardized Free Cash Flow (SFCF) for 590 UK companies in different sectors for the period from 1998 to 2007 by using annual data.

The third model seeks to explore managerial preferences regarding dividend type and the most important factors affecting the company management when setting dividends policy. In this respect, the importance of the following factors has been tested: the company's market value; the financing decision; the investment decision; signaling theory; agency theory; and shareholder structure. The

questionnaire methodology used for this model where it was distributed to 1319 UK companies in different sectors. The number of responses was 208 responses is equivalent to 15.77% of the total distributed).

The study arrived at a number of important results that can be summarized as follows: 1) The invalidity of the Irrelevant Theory, as the results show that there is a relationship between dividend policy and market value of a company; 2) There is a relationship between earnings, investment policy and the market value, which indicates that the dividends policy, announced earnings and investment policy work together in affecting the market value of a company; 3) UK companies, on the whole, do not adopt a residual dividends policy, implying no preference for investment policy over dividend policy, except for the two sectors banking and insurance companies where the results showed that they follow the residuals dividends policy 4) Most UK companies' managements prefer cash dividends to other venues choices because of its easy implementation; and 5) The most important factor affecting UK companies' managements when they set their dividends policy is shareholder structure while the least factor listed in importance is agency theory.

<u>Declaration</u>

No portion of the work referred to in this thesis has been submitted in support of an application for another degree of qualification of this or other university or other institute.

Statement of copyright

The copyright of this thesis rests with the author. No quotation it should be published without their prior written consent and information derived from it should be acknowledged.

Acknowledgement

<u>Dedication</u>

To my parents, my wife, my brothers and sisters, and my kids

Chapter One: Research Introduction

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Chapter One: Research Introduction

1-1 Introduction

Social sciences in general and administrative and finance sciences in particular are distinguished in that they have multiple views on a particular subject or a certain point. This applies to many policies and management procedures, as those judgments and perceptions vary on a particular subject depending on the circumstances and facts surrounding the topic concerned.

Maximizing the owners' wealth is one of the most important objectives that a management tries to achieve by adopting specific administrative and finance policies. (Ward, 1993) has added another dimension to the differences in implementing these financial and management policies. This naturally applies to the dividends policy as one of these financial policies that are applied in a company, no matter the type they represent or what activities they undertake.

It has thus become necessary to study the impact of the dividends policy on the market value of a company, and the probable relationship between the two variables. Many studies have been conducted on this relationship, the most notable of which is Miller and Modigliani's study (1961) which has set up the foundation for what is known as the Irrelevant Theory. According to this theory, under efficient market conditions there is no relationship between dividends policy and the market value of a company. However, this theory finds that there is a relationship between investment policy and market value. Accordingly, the dividends policy is not that important as it has no effect on either the value of the company or the owners' wealth.

Chapter One: Research Introduction

A lot of arguments have revolved around the Irrelevant Theory and, consequently, intensive research has been conducted since then to test this theory. While a number of researchers such as Black and Scholes (1974), Merton and Rock (1985) and Peter (1996) tended to support this theory,(Black and Scholes, 1974, Merton and Rock, 1985, Peter, 1996) others oppose it (Litzenberger and Ramaswamy, 1979, Blume, 1980, Litzenberger and Ramaswamy, 1982, Ang and Peterson, 1985, Dyl and Weigand, 1998, Koch and Shenoy, 1999). These conflicting views have led to ambiguity and a need for clarity based on specific results.

The relationship between dividends policy and other polices such as investment and financing overlaps and is complicated. Therefore, selecting the type of policy often depends on management preferences despite the fact that the Irrelevant Theory has indicated that management should follow investment policy in order to maximize future earnings.

1-2 Research problem and motivation

The main motivation of this study is to examine the Irrelevant Theory in the UK by analysing the problems and weaknesses which are noticed in previous studies regarding the relationship between dividends policy and a company's market value.

Most previous studies have dealt with the dividends policy concept but most of them have dealt with one type of dividend (the cash dividend) (Miller and Modigliani, 1961, Horne and McDonald, 1971, Partington, 1985, Holder et al., 1998) and do not make a clear distinction between the dividends policy concept

and dividend types. The dividends policy concept consists of three types of dividends (cash, share and repurchase) (Moyer et al., 1995). A number of studies deals with either share dividend (Barker, 1958, Grinblatt et al., 1984, Bali, 2003) or share repurchase (Ikenberry et al., 1995).

The company may distribute profits in the form of either regular cash dividends or it may distribute profits in the form of shares dividends to shareholders. However, both forms may be distributed at the same time. On the other hand, shareholders can also obtain profits (as a capital gains) when the company repurchases its shares, and considers the regular cash dividend as something quite common (Broyles, 2003). Therefore, there is lack of studies covering all three types of dividends together at the same time.

Besides that, the methodologies of previous studies which discussed the effect of dividend policy on company market value exclude companies which do not making dividends or their dividend intermittently (Lobo et al., 1986, Doron and Ziv, 2001), which posing questions about their sample impartiality. The excluding companies which do not make dividends or their dividend is intermittent, the sample size for these studies is small and their results could not reliable. The important point here is that the zero dividends is still a dividend. Therefore, the sample of this study covers all companies, even those with no dividends or their dividend is not intermittent.

In addition, the relationship between dividends policy and investment policy is complicated and overlapping which could possibly confuse the management

Chapter One: Research Introduction

preferences for one of these policies. When company management prefers investment policy to dividends policy, this means that a company follows a Residual Dividends Policy and vice versa. In this context, only one empirical study has been made in the USA on the Residual Dividends Policy (Baker and Smith, 2006). The current study is the first one to be applied to the UK. It investigates whether companies in the UK follow a Residual Dividends Policy or not. Furthermore, this study tries to provide an idea about the importance of factors that affect management when they set their dividends policy and therefore which will contributes to completing the dividends policy picture in UK.

Added to that, some of the previous studies have dealt with a specific sector in the market (Horne and McDonald, 1971, Brook et al., 1998, Ooi, 2001). They did not examine the relationship between dividends policy and market value for the whole market and for each sector at the same time. Accordingly, they did find the significant differences among these sectors.

The research problem can therefore be summarized by the following questions:

1. Is the Irrelevant Theory is valid (empirically) in the UK? Does the dividends policy affect a company's market value? Does the dividends policy affect a company's market value according to different industrial sectors?

2. Is there any relationship between dividends policy and investment policy in the UK? Do companies follow a Residual Dividend Policy in the UK? What is the impact of industrial sector on a residual dividends policy?

3. What factors affect management decisions when dividend policy is set in the UK?

1-3 Research objectives

This study aims to test the relationship between the dividends policy and the market value of tested companies in the UK. This relationship is analyzed in three stages. The objective of the first stage is to assess the Irrelevant Theory by testing the direct relationship between dividends policy (cash dividend, share dividend and share buyback), earnings and retained earnings with a company's market value in the UK. The second stage aims at having another assessment to the Irrelevant Theory concept in UK by verifying whether companies in the UK favor investment policy to dividends policy or not, through investigating if these companies adopt a residuals dividends policy or not. The third stage attempts at providing a vision and a perspective on the factors that are taken into consideration by management when preparing a dividends policy.

These stages can be achieved through the following objectives:

1. Testing if there is a relationship between dividends policy (cash dividend, share dividend and share buyback), earnings and retained earnings and market value of companies in the UK in order to judge the validity of the Irrelevant Theory in the UK market.

2. Examining whether the UK companies follow up the residual dividends policy or not, in order to determine the relationship between dividends policy and investment policy.

3. Exploring the importance of the factors that companies take into account when preparing their dividends policy in order to provide a clear picture of those considerations for investors to make use of them when they take their investment decision.

1-4 Research hypotheses

To achieve the research objectives, the following main null hypotheses[1] are tested:

1. There is no significant statistical relationship between dividends policy and market value of the sample companies in the UK.

2. The companies in the UK follow a residual dividends policy.

3. There are no statistically significant differences between finance managers' responses about factors that are taken into account when they set their dividends policy.

1-5 Research importance

The importance of this study stems from its coverage as it sought to assessment of the Irrelevant Theory in the UK by studying the possible relationship between dividends policy (cash dividend, share dividend and share buyback) and market value. It determines the importance of investment policy compared with dividends policy in the UK by defining how companies adopt a Residual Dividends Policy

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[1] Talib (2007) argues in his example about a black swan in Australia, that proving a fact is difficult (alternative hypothesis), but it is easy to prove a denial for these facts (null hypothesis). In line with this, the researcher believes that the existence of a relationship between dividend policy and market value is fact (the alternative hypothesis), and the lack of this relationship is the null hypothesis. This belief comes is based Irrelevant Theory which is dependent mainly on the assumption of efficient market, which is not fully present in any financial market. In statistics, the only way of supporting the hypothesis is to refute the null hypothesis. Rather than trying to prove the idea (the alternative hypothesis) the null hypothesis has to be proved wrong—— the null hypothesis has to be 'refuted' or 'nullified'. Unfortunately, the alternative hypothesis has to be assumed to be wrong evidence is found to the contrary (Berenson et al., 2009)

and identifies the key factors that UK company management take into consideration when preparing a dividends policy.

Besides that, the prior knowledge of dividends policy in the UK in general and in various economic sectors in particular help investors in the UK draw their investment policy more clearly through the identification of investment tools that suit their investment objectives.

1-6 Contributions of the study

This study provides a number of significant contributions to Irrelevant Theory literature in the UK. First, in examining the validity of the Irrelevant Theory, it employs the general concept of dividends policy, which consists of all types of dividends (cash dividend, share dividend and share buyback) at the same time. Second, all the previous studies exclude companies which do not make dividends or those whose dividends are intermittent; this study, however, uses all companies that follow any type of dividends or even without dividends since a zero dividend is still a dividend. Third, this study is the first study in the UK that seeks to investigate whether companies follow a Residual Dividend Policy which helps to explore the relationship between dividends policy and investment policy and give indication about management preference for any of these policies. Fourth, this study also attempts to provide a comprehensive picture about dividends policy in the UK by added to the above contributions, the exploration of the importance of factors that affect management when they set their dividends policy. Moreover, this study tries to explain if there is any affect on the nature of business by testing each research model by complete market and by sector. Finally, this study

employs a large sample size for the period 1998-2007. The sample size consists of 7,240 firm year observations for a sample of 362 UK firms over a 10-year period (1998-2007) in the first model; 35,400 firm year observations for a sample of 590 UK firms over a 10-year period (1998-2007) in the second model; and 208 respondents for the management questionnaire in the third model. The sample size in most previous studies has been smaller, thus limiting the ability of making generalizations about any conclusions.

1-7 Research methodology

This research investigates three main issues in the UK context: 1) the impact of dividends policy on market value; 2) the extent to which companies follow a Residual Dividends Policy; and 3) the main factors that have to be taken into account when financial managers/directors set a company's dividends policy.

This section explains the methodology employed and describes the test instruments used in the empirical analyses (Chapters Three, Four and Five).

1-7-1 Research philosophy

Research philosophy aims to promote understanding of the way in a specific area (Saunders et al., 2007). Typically, there are three main ways of thinking about research philosophy, namely epistemology, ontology and axiology.

1-7-1-1 Epistemology

Epistemology can be defined as a philosophy of knowledge. In other words, epistemology is concerned about how the researcher comes to know (Bryman,

2008). Hopper and Powell (1985) state that epistemology is concerned with the nature of knowledge in terms of what form it can take and how it can be acquired and transferred. There are two epistemological aspects: positivism and interpretivism.

1-7-1-1-1 Positivism

Positivism is defined by Bryman as "an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond" (2008: 13). According to this point of view, the essential objective of the theory is to generate hypotheses that can be tested. Therefore, the role of research is to examine theories and thereafter develop them (Bryman and Bell, 2003). Due to this, the researcher would use an extremely structured methodology to facilitate replication (Gill and Johnson, 2002) .

1-7-1-1-2 Interpretivism

Bryman defines interpretivism as follows (2008:16):

[It] usually denotes an alternative to the positivist orthodoxy that has held sway for decades. It is predicated upon the view that a strategy is required that respects the differences between people and the objects of the natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action.

Therefore, interpretivism is necessary for the researcher to understand the differences between humans in their roles as social actors (Saunders et al., 2007). Interpretivism is more inclined towards qualitative research as this requires that

researchers need to use their intuition to feel and understand the assumed relationships between the social actors (Saunders et al., 2007). Some researchers use post-positivism as a substitute to interpretivism. They believe that natural science cannot understand the social world (Blumberg et al., 2005).

1-7-1-2 Ontology

Ontology is a theory of the nature of social entities reality (Bryman, 2008). Thus, ontology deals with the nature of reality and is concerned with the researchers' underlying assumptions about how the world functions (Saunders et al., 2007). Research ontology can be divided into two types: objectivism and subjectivism.

1-7-1-2-1 Objectivism

Objectivism assumes that social phenomena confront us with external facts that are beyond our research or influences (Bryman, 2008). According to objectivism, organization is a tangible object consisting of rules and regulations (Bryman, 2008). This research uses objectivism ontology to underlie the existence of the effect of dividends policy on reality.

1-7-1-2-2 Subjectivism

According to the *Oxford Advanced Learner's Dictionary* (p.1529), subjectivism is "the theory that all knowledge and moral values are subjective to rather than based on truth that actually exists in the real world". Some authors have seen subjectivism as an ontological position that emphasizes that entities are created from the insight and consequent action of those social actors responsible for their creation (Saunders et al., 2007, Bryman, 2008). The researchers seek to

understand the world in which they live and try to develop subjective meanings of their experiences. These meanings change and therefore researchers should look for the complexity of views rather than narrowing meanings of the phenomenon (Creswell, 2003) .

1-7-1-3 Axiology

Axiology is "a branch of philosophy that studies judgments about values" (Saunders et al., 2007). Axiology is a crucial point in research methodology because of the impact of the researchers' values on their decisions during research and therefore on the credibility of their outcomes.

1-7-2 Research approach

Typically, researchers can answer their research questions and generate theories by deduction, induction or a mix of the two (Zikmund, 2000). The deductive approach is used to arrive at a logical conclusion through logical generalization of a known fact (Sekaran, 2003). There are seven steps of the hypothetico-deductive method of research (Sekaran, 2003):

1. Observation

2. Preliminary information gathering

3. Theory information

4. Hypothesizing

5. Further scientific data collection

6. Data analysis

7. Deduction

Chapter One: Research Introduction

On the other hand, the inductive approach is used to arrive at the conclusion by observing certain phenomena (Sekaran, 2003). There are seven steps of the hypothetico-inductive method of research (Zikmund, 2000):

1. Assessment of relevant existing knowledge

2. Formulation of concepts and propositions

3. Statement of hypotheses

4. Designing the research to test the hypotheses

5. Acquisition of meaningful empirical data

6. Analysis and evaluation of data

7. Providing explanation and stating new problems raised by the research

This research is based on the Irrelevant Theory. It aims to understand the relationship between dividends policy and market value for UK companies by using three approaches to investigate this relationship. The first approach adopts the regression model for panel data to investigate the relationship between dividends policy (cash, share and repurchases), investment policy and earnings announcement with company market value. The second approach tries to find if companies in the UK follow a Residual Dividend Policy or not, while the third approach explores the main factors that affect management when they set their dividends policy.

According to the above discussion, the objectivist ontological and the positivism epistemological positions have been adopted. A hypothetico-deductive methodological approach has been used to formulate hypotheses and to examine them empirically. Departing from an objectivist ontological position, multiple

sources secondary data has been used to conduct the research. A longitudinal (panel-data) approach was used to investigate the relationship between dividends policy (cash, share and repurchases), investment policy (REPS) and earnings announcement (EPS) with company market value (Chapter Three). According to Bryman and Bell, "[a] longitudinal design allows some insight into the time order of variables and therefore may be more able to allow causal references to be made" (Bryman and Bell, 2003). The secondary data was also used to find if companies in the UK follow a Residual Dividend Policy or not (see Chapter Four).

Furthermore, a questionnaire survey was used to gather information from the UK companies financial managers / directors to investigate the importance of the main factors that affect them when they set their dividends policy (see Chapter Five). The research approach is depicted in figure 1.1 as follows:

Figure 1-1 Research Philosophy and Models

```
┌──────────────────┐      ┌──────────────────┐      ┌──────────────────┐
│   Epistemology   │◄────►│     Ontology     │◄────►│      Frame       │
│   ──────────     │      │   ──────────     │      │   ──────────     │
│    Positivism    │      │    Objectivism   │      │   Naturalistic   │
└──────────────────┘      └──────────────────┘      └──────────────────┘
         │                         │                         │
         └─────────────┐           ▼           ┌─────────────┘
                       ▼                        ▼
                ┌──────────────────────────────────┐
                │           Methodology            │
                │         ──────────────           │
                │      Hypothetico-Deductive       │
                └──────────────────────────────────┘
                                  │
                                  ▼
                ┌──────────────────────────────────┐
                │            Technique             │
                │         ──────────────           │
                │          Multiple source         │
                └──────────────────────────────────┘
```

Panel Data OLS	ANOVA	Survey
Model 1	Model 2	Model 3
The relationship between dividends policy (cash, share and repurchases), investment policy and earnings announcement with company market value	Seeking to find if the companies in the UK follow a Residual Dividends Policy or not	The importance of the main factors affecting companies' management when they set their dividends policy

1-8 Structure of the study

The remainder of the thesis is divided into five chapters.

Chapter Two: Theoretical structure of the dividends policy

The second chapter discusses the theories and studies connected with the dividends policy. Dividends policy is dealt with in general, with emphasis on cash dividends policy and factors which influence it. It also covers the theories that affect dividends policy, together with the theories that affect the relationship

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between dividends policy and market value, the irrelevant theory, the bird in hand theory, the taxation effect theory, the client theory, the signaling theory and the agency theory. Additionally, shares dividends policy and shares repurchasing policy are tackled. The last section of this chapter is concerned with investment policy and dividends policy.

Chapter Three: The dividends effects on the market value

The third chapter focuses on the Irrelevant Theory by following the methodology of the Panel Data to examine the relationship between dividends policy (cash dividends, shares dividends and shares repurchase), earnings and investment policy with market value of companies in the UK. To achieve this objective, the annual and semi-annual financial reports and data stream of 362 companies listed on the London Stock Exchange (LSE) for the period 1998-2007 were gathered.

Chapter Four: The residual dividends Policy

The fourth chapter attempts to explore the relationship between investment policy and dividends policy by verifying whether or not companies in the UK follow a Residual Dividends Policy by calculating the standardized free cash flow (SFCF) for UK companies. The annual data taken from the data stream of 580 UK companies listed on the London Stock Exchange (LSE) for ten years for the period from 1998 to 2007 using the SPSS has been made use of.

Chapter Five: The perspective of management about the dividends policy Chapter Five focuses on the importance of the factors that management takes into account when making their dividends decisions. For this purpose, a questionnaire was sent

to1319 finance managers/ directors of UK companies. The response rate was 15.77% (208 responses). The questionnaire was designed with two sections. The first section includes information on the economic sector in which the company operates and the directors' beliefs as to the importance of each type of dividend to shareholders; managers' preferences for the dividends types; and the reasons for such a preference as well as inquiring if management has studies of the shareholders preferences regarding dividends. The second section includes 18 questions on Likert scale about the importance of the following factors: market value of the company; financing decisions; investment decisions; agency theory; signal theory; and structure of the shareholders.

Chapter Six: Summary of results, limits and recommendations

The sixth chapter provides a summary of the results of the study, limits and recommendations for future studies.

Chapter Two: Literature Review for Dividend Policy

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2-6 Investment Policy and Residual Dividend Policy

2-7 Conclusions

Chapter Two: Literature Review for Dividend Policy

2-1 Introduction

Dividend policy has drawn attention from a number of researchers. One of the most famous studies in this respect is Miller and Modigliani's (1961), whose hypothesis asserts that the cash dividend policy is not important because it has no affect on a company's value and thus does not affect a company owner's wealth. This is due to the fact that companies follow a Residual Dividend Policy which is based on reinvestment of corporate profits in the available investment opportunities with a positive net present value (Saxena, 1999, Baker, 2009, Chen and Dhiensiri, 2009) and then the distribution of the surplus cash as a cash dividend to shareholders.

Miller and Modigliani's hypothesis aroused controversy among researchers. An important study opposing Miller and Modigliani is that of Partington (1985) which claims that in practice companies do not follow the residual dividend policy as dividend decisions are taken independently from the investment policy. However, even today controversies continue without arriving at any decisive results.

This chapter will review the literature on public dividend policy to shareholders, which is considered to be one of the most important financial decisions, in view of its direct relationship to shareholders, along with financing and investment decisions in the company. The chapter will also review the literature on alternatives to be addressed consisting of general dividend policy and theories that link cash dividend policy with company market value, and therefore the company

owners' wealth, in addition to share dividend policy and buy back policy, besides the cash dividend policy and its relationship with the investment policy.

2-2 General Dividend Policy

The board of directors suggests the dividends to shareholders at an annual meeting (Pike and Neale, 2009). The main aim is to suggest acceptance and secure a fair dividend for shareholders consistent with the rate of dividend decided by the company's management. Therefore, in preparing dividend distribution, managers not only look at the current year profit but also at expected future earnings and hence the ability of the company to maintain a stable rate of dividend, taking into consideration the systematic growth of this ratio. On their part, investors are aware of this truth, and they look for a profit increase in a positive vision expecting throughout a stability of future dividends. If a company achieves high profits for a particular year and do not expect the same level of profit in the following years, they will make a normal dividend and give an additional dividend so as not to disappoint the investors' hopes in the future. The profits are then divided into two dividends, a normal and an incremental dividend, to notify investors that this type of dividend is unexpected and would not continue in the future (DeAngelo et al., 1996).

There are several alternative for the profits dividend may be distributed. The company may distribute profits in the form of either regular cash dividends or it may distribute profits in the form of shares dividends to shareholders. However, both forms may be distributed at the same time. Moreover, shareholders can also

Chapter Two: Literature Review for Dividend Policy

obtain profits when the company repurchases its shares, and considers the regular cash dividend as something quite common (Broyles, 2003).

The percentage of the profits distributed by a company is governed by several considerations. In addition to the law which prohibits distribution of profits unless the company achieves a profit after deducting reserves, the contracts of the bonds, in cases where the company issues bonds, often prevents companies from increasing the proportion of cash dividend beyond a certain level in order to secure the rights of bondholders (Black and Cox, 1976).

Thus, the general dividend policy may be seen as the basis of differentiating between cash dividends and shares dividend through the capitalization of profits, or through buying back the company's shares. This is due to the fact that the investment policy is fixed. The company will thus detain profits in order to finance capital spending on growth and expansion or debt repayment, or extinguish the bonds if any, and distribute the remaining cash as a cash dividend, and also to finance any deficit in capital spending by issuing new shares or through outside borrowing. The company could detain the necessary funds to finance capital expenditure and buy back shares issued and distribute the remaining as a cash dividend.

These alternatives will not affect the company's value, and therefore the wealth of shareholders, if the company is operating in market characterized by ideal, efficiency and deep (Miller and Modigliani, 1961, Black and Scholes, 1974, Peter, 1996). In case such characteristics are absent of the market, one can expect

arguments about the impact of dividend policy, particularly cash, on the value of a company and therefore the wealth of shareholders. Other critics (Gordon, 1959, Blume, 1980, Dyl and Weigand, 1998, Koch and Shenoy, 1999) believe that increasing the percentage of cash dividends would increase a company's value, thus increasing the shareholders' wealth. Another group of critics (Litzenberger and Ramaswamy, 1979, Blume, 1980, Litzenberger and Ramaswamy, 1982, Ang and Peterson, 1985) believe that increasing the percentage of cash dividend will lead to a decline in the value of a company, thereby reducing the wealth of shareholders. These groups together with their theories will be discussed when dealing with the policy of cash dividends is discussed later in this chapter.

Profits are transferred to a retained earnings account, which is used for purposes determined by the board and approved by the General Assembly of the company. This account is usually used to maintain a stable amount of cash dividends (a systematic dividend policy). During the years where a company cannot meet the amount of normal dividend, they will tend to the return earnings account to insure any shortfall. The General Assembly of the company has full authority to use this account for normal or abnormal cash dividend in whole or in part. It can also be used for company repurchase of shares or for capitalization this account and distribution of share dividends to shareholders. On their part, shareholders can obtain their profits through a set of policies that can be combined in a single year, but it often takes one of the following alternatives (Broyles, 2003, Pike and Neale, 2009) :

- Cash dividend policy;
- Shares dividend policy;

- Buy back shares policy.

2-3 Cash Dividend Policy

The impact of cash dividend policy on the current prices of company shares is considered to be very important, not only for policy makers, but also for investors, portfolio managers, and economists interested in the performance of capital markets (Okpara, 2010). The questions raised here are: Can managers maximize the wealth of the owners of the company through a particular dividend policy? Are the companies with high dividend sold with premium? Should the shares of companies that retain their profits or distribute a percentage of its profits, be sold at a lower price? Such questions have been the subject of a number of studies and there seems to be no consensus on the answers to these questions. This may be due to the presence of other relevant factors that affect the market value of the shares that do not enable us to measure the impact of dividend policy on profits alone.

The arguments among researchers about dividend policy focus on the part of the cash dividend to be distributed to shareholders and its impact on the company's value and therefore the wealth of the owners of the company. Miller and Modigliani (1961) believe that the cash dividend does not affect the value of the company as the company's value will not be affected by how earned profits are divided; but rather affected by the ability to achieve profits. Thus, instead of deciding how to divide profits between dividends and retained earnings, , while thinking must be directed towards maximizing these profits through the optimal

investment policy as the way by which the cookie is divided will not lead to increase its size .

However, in the opinion of others (see: Olson and McCann, 1994, Lipson et al., 1998), the manner in which profits are divided between dividends and retained earnings affect the company's value through an increase or decrease in the demand for the company shares, as the investors with high incomes usually prefer companies without cash dividend if the value of taxes on cash dividend exceeds the taxes on capital gains, while investors who do not pay taxes or have a low tax bracket typically prefer companies that cash high dividends. Also, investors in growing companies may not ask the company to distribute high levels of cash dividends but instead accept low cash dividends. This is because the internal return rate in these companies is usually greater than the costs of obtaining funds from sources other than retained earnings, and thus maximizes the wealth of shareholders through the retention of all or most of the profits in order to use them to finance projects which have a positive present value. Meanwhile, investors in non-growth companies, on their part, look for high dividends (see, Walter, 1963).

From the above discussion, it is viewed by many scholars believe that the relationship between cash dividend policy with investor wishes will affect the market value, due to any increase or decrease for the company shares, which is reflected in the price of its shares.

The decision of cash dividend policy, particularly its cash portion, is one of the challenges facing company managers, because the distribution decision defines

the funds to be given company's shareholders, and therefore the funds to remain for managers in the company to reinvest (Lumby and Jones, 1999).

The cash dividend policy can be considered as an action plan for a company to follow when it needs to make a decision regarding cash dividends. The plan can provide several options from which the company can choose to reach the desired result. When such a plan is laid out, the following two main goals are taken into account: maximizing the wealth of shareholders and meeting the company needs to finance its investments (Smith and Watts, 1992).

There are several factors affecting the decision to choose the most appropriate alternative among the most suitable alternative to follow. These factors are: legal, contractual, internal shareholders and market considerations, and will be considered in more detail later. These considerations reduce the available alternatives for the company in order to achieve its aims through a cash dividend policy practice. Such alternatives include the range of cash dividend policies the company could follow (Moyer et al., 1995, Ross et al., 1999) . These include:

- Fixed dividend policy rate;

- Regular dividend policy;

- Regular low fixed dividend with special or added dividend;

- Remaining cash dividend policy.

Each of these policies will now be discussed in detail.

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Fixed Dividend Policy Rate

The fixed dividend policy rate is determined by apportioning the dividends on profits earned. A percentage distribution of 80% of net profits derived means that a company will distribute 80% of its profits and reserve 20% for retained earnings. Since corporate annual profits are not fixed, adopting this policy will lead to a fluctuation in the amount of dividends because the stability of the dividends rate from non-fixed profit leads to a difference in the amount of the annual dividends. This is the main criticism of this policy. Since fluctuations in the level of dividends is one of the benchmarks that measure the risks of the company and because the non-fluctuation of profits is usually seen as something positive for current and future performance of the company, the prices of company shares that follow such a policy may be adversely affected by this policy.

Regular Dividend Policy

According to this policy, the company pays a fixed rate of dividend each year. For example, it may pay US$0.20 per share each year, which will be fixed over the next few years. This policy gives a positive indicator about the company because of the stability of the level of dividends, leading to reduced risks of uncertainty. Companies that follow such a policy tend to increase the dividends rate whenever they feel that the increase in profits is steady and continuing in the future.

Low regular fixed policy with special or added dividend

Some companies follow a policy of systematic low dividends with additional dividends when the company's profits are unstable and highly volatile. It is

therefore difficult to maintain a regular high-level profits distribution policy. The company, therefore, seeks to pay consistent low dividends and then pay other additional dividends in the years when it achieves high profits. The company is thus able to achieve consistency and continuity in the level of dividends, which is an indicator of great importance on the part of investors who consider this necessary for building confidence with the company.

Remaining cash dividend policy

The optimal cash dividend rate for any company is best determined by the differentiation between a numbers of factors (Baker, 2009):

1. Shareholders' preference for cash dividend or capital gains;

2. Investment opportunities available to the company;

3. Optimal structure mix for the company's capital (funding sources);

4. External financing costs.

The last three factors combined affect the remaining dividend policy. It is based on distributing cash dividends that exceed the company's ability to finance all the company's investment opportunities that have a positive present value.

The company should take the following three steps when applying the remaining cash dividend policy (Baker, 2009):

1. Identify all the available investment opportunities which have positive present value and in which the company wishes to invest;

2. Determine the optimal structure mix of capital that achieves the lowest cost;

3. Use profits to finance new projects with a positive present value because of their low cost in comparison to raising new share issues in case they represent the best combination of capital.

Based on this concept, as long as the money needed by the company to reach the optimal mix of the capital structure is the equity fund, and not money borrowed, and as long as the need for funds exceeds the company's achieved profits and retained earnings, the company will not make any dividends distribution to shareholders. However, where required funds are less than retained earnings, the company will take its cash needs and distribute any excess money as a cash dividend for shareholders (Saxena, 1999, Baker, 2009) .

Moreover, if the optimal capital structure mix does not make it incumbent upon the company for financing or allowing to borrowing without leading to the level of damage risks of the company, the company then may distribute profits to shareholders because of lack of need and also because these profits are considered as surplus (Chen and Dhiensiri, 2009).

2-3-1 Factors Affecting Cash Dividend Policy

A combination of factors affects the cash dividend policy and puts pressure on management when a dividends proposal is submitted to the General Assembly. The most important of these factors are: legal, contractual, internal, growth and the expected expansion, shareholders' preferences for cash dividend or capital gains, and capital market considerations. These factors are explained below in detail.

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Legal restrictions

Cash dividends should not exceed the total of retained earnings plus net profits for the current year. This is known as the Impairment of Capital Rule (Ballantine and Hills, 1935). If a company's net profits equal to US$500,000 and it retained earnings of US$2 million, then it should not distribute profits of more than US$2.5 million. However, if it had a retained loss within equity amounting to US$200,000, then it should not distribute more than US$300,000.

Contractual restrictions

Usually borrowing contracts restrict the amount of profits, allowing the company to distribute to shareholders to ensure the rights of the lenders. When a company issues borrowing bonds (Black and Cox, 1976), the contracts usually include both permissions and restrictions from date of issuance of bonds until repayment of the bonds. The bonds contract often will not allow the company to distribute cash dividends unless they exceed the amount earned in a certain amount. The contract might also prevent the company from increasing the percentage distribution of normal profits or may determine the profits that could be distributed by the company's net profits for distribution. The company accepts such conditions on themselves to reduce the risks of borrowing from the viewpoint of the lender, thus reducing borrowing costs. There are also restrictions on cash dividends imposed upon issuance of the preferable shares of the company. In this respect, it is natural to restrict the distribution of any dividends to ordinary shareholders unless they pay all preferable share profits.

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Internal constraints

A company's ability to pay cash dividends is affected by the quantity of liquid funds available, not only by profits and return earnings (Kato et al., 2002). Although a company could resort to borrowing in order to finance the cash dividend or issue new shares to finance the dividend process, companies do not usually do so because of the high costs for this decision. A company can use it in urgent cases to stabilize the level of dividends, since fluctuations in the value of dividends may convey a cost that could be higher than the distribution finance costs. Thus, a company's ability to pay cash dividends or its desire to distribute is often constrained by the liquid funds available.

Company expected growth and expansion

The volume of capital expenditure required for financing expansion and growth significantly affects the cash dividend policy adopted by a company (Smith and Watts, 1992). If a company is in continuous expansion and development using modern technology, then it will need all the funds available to finance operations. On the other hand, the companies that have reached the stage of maturity are more able to distribute cash dividends than companies in growth.

Shareholders' preference for cash dividends or capital gains

One of the management functions is to maximize the company owners' wealth. Therefore, owners' interests need to be taken into account when preparing the cash dividend policy. A company's ability to distribute cash profits and its desire to do so are often constrained by several important factors affecting the interests

of company owners (see: Brudney, 1980, Moyer et al., 1995, Pike and Neale, 2009) :

1. Tax status of a company's owners: If the company's owners are affluent and are in high tax brackets, the company will resort to a dividend policy whereby it can reduce the impact of taxes on the shareholders' profits.

2. Investment opportunities available for company owners: If shareholders can obtain returns for re-investing their profits exceeding the company's returns, the company must distribute a greater proportion of profits to enable shareholders to maximize their wealth by reinvesting these profits. However, if the company's returns are more than shareholders' returns, then the company must transfer the maximum part of their profit to retain earnings for reinvestment in order to maximize shareholders' wealth.

3. The steady control of former shareholders: If a company tends to distribute all or most of the profits achieved over the years, it will be forced to issue new shares to finance expansion and development projects. This would first lead to minimizing the control of the company's former owners of the company; and reducing then the profits to be gained due to the issuance of new shares because of the increasing number of company owners. This situation could be remedied through the allocation of shares, for example, by allowing old shareholders to subscribe to new shares according to his/her contribution and giving them priority in this respect. Alternatively, the company could reduce the proportion of cash dividends if they want to retain full control over old shareholders and show no inclination towards increasing the number of shareholders.

4. A stable and clear dividend policy: Investors give special importance to the stable and clear dividend policy. Also, they give special importance for the continuity of these dividends because they believe that the stability, increase and continuity of dividends would surely lead to reduced risks from the standpoint of investors. Therefore, investors tend to disregard the returns of companies whose policies of distribution are characterized by stability, increase and continuity at a discount rate. This means that they value highly these companies; in other words, they ask for a lower rate of return, thereby reducing the company's capital costs.

5. Profit information content: Investors are interested in the informational content of profits. Through these profits, they can read the management forecasts for company future profits. As the managers have more precise information about company investors, they give special attention to the informational content of profits.

2-3-2 Theoretical Framework for Dividend Policy and its Impact on Market Value

We can clarify the theoretical framework for the relationship between dividend policies (cash, shares and repurchase) and market value of the company through the Irrelevant Theory introduced by Miller and Modigliani in 1961. They suggest that there was no relationship between dividend policy and market value. While many researchers support this theory, others have suspicions about it. The advocate's researchers believe that companies should follow residuals dividend policy while the opponents' researchers' are divided into two camps. One believes

that there is a positive relationship between dividend policy and company market value, while the other thinks that this relationship is negative.

The relationship between dividend policy and company market value is also affected by other dimensions which have created a number of other theories., where we find that the uncertainty created a Bird in the Hand Theory; the presence of taxes helped to creates a Tax Effect Theory; and shareholders' loyalty creates a Clientele Effect Theory. If management try to send some information through the dividend policy, this is covered by the Signaling Effect Theory while the separation of management and owners (shareholders) has creates the Agency Cost Theory. Therefore, we can draw the theoretical framework for the study through the following form:

Figure 2-1 Dividend Policy Theoretical Framework
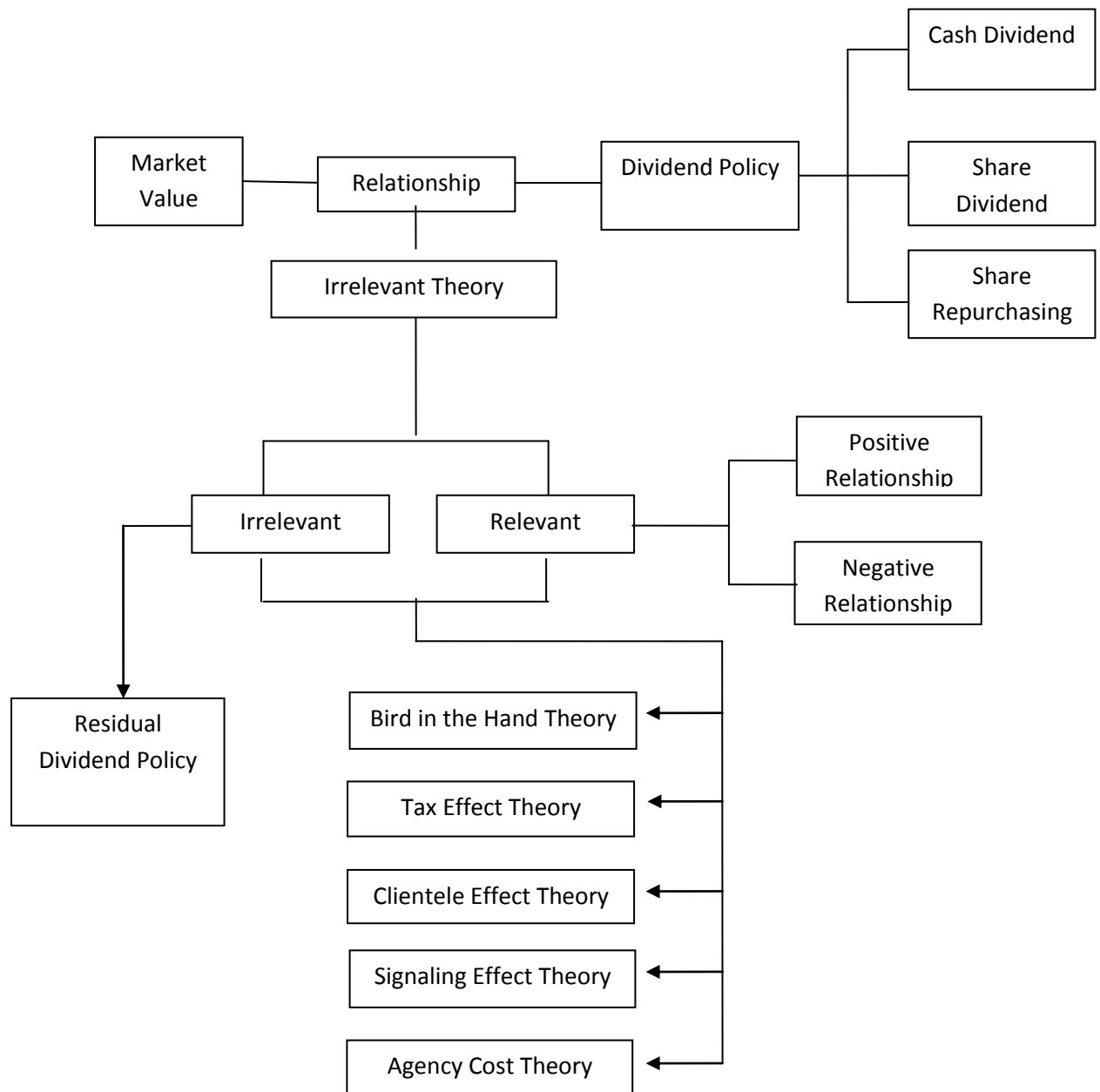
2-3-2-1 Irrelevance proposition

Many finance and economics specialists believe that cash dividend policy is unimportant because it is not relevant and does not affect the owners' wealth. The source of this belief is a study conducted by Miller and Modigliani (1961). This study concludes that dividend policy has no effect on a company's value, and therefore managers will not be able to maximize owners' wealth through a dividend policy.

The irrelevance proposition concept for dividend policy on the owners' wealth stems from the fundamental idea that companies which distribute continuous high cash dividends to shareholders therefore secure a higher share price (Lumby and Jones, 1999). As a result, investors' capital gains are very limited in such a company as they receive the same returns as other investors holding another company's shares with low dividends while its prices become high because of the retained earnings. These investors obtain high capital gains which compensates the limited cash dividends. In both cases, the shareholder's wealth is the profits obtained by cash dividend plus capital gains realized from rising share prices. In case there are no taxes or where taxes on capital gains are equal to dividends taxes, the investor will not be affected, whether or not the company has paid cash dividends or kept the profit in retained earnings and the investor has obtained capital gains when selling his/her shares as a result of the rise in the price of the company's shares through undistributed profits and with no change in the other effective factors.

This theory is based on the following assumptions (Miller and Modigliani, 1961):

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- There are no taxes, or the tax rate on cash dividends and tax rate on capital gains are equal;

- There is no transactions cost for the process of selling or buying shares so if the investor needs cash, he/she will be able to sell his/her shares without losing commissions and fees instead of cash dividends;

- The investor is absolutely rational in his/her decisions;

- There are no agency costs. This means that company managers who distribute low cash dividends do not use company profits to achieve personal goals that may harm the company (Jensen, 1986);

- The company operates under a full and efficient market. That is to say, which means that the information is available and accessible to all at the same time without any costs, and the stock prices reflect this information and is influenced by it at the moment provided;

- There is no information gap and the company operates in a full and efficient market. The future outlook on the performance of the company is homogeneous among all investors, including information and expectations among managers and investors.

According to the irrelevance proposition, dividend policy affects only the level of external financing required to finance future projects with a positive net present value. This means that each dollar distributed to shareholders represents a capital loss of a dollar. According to this hypothesis, the only constraint on the company's market value is the company's investment policy, not which dividend policy the company follows. This is because the investment policy is responsible for future profits (Miller and Modigliani, 1961). Accordingly, the company's

decision on the distribution of cash or non-profit distribution would not affect the market value of the company and therefore would not affect the owners' wealth. This hypothesis recommends that managers should give greater importance to the investment policy and let the dividend policy follow the investment policy; which is known the Residual Dividend Policy.

The advocates of the irrelevance proposition hypothesis (Black and Scholes, 1974, Miller and Scholes, 1978, Merton and Myron, 1982, Merton, 1986, Peter, 1996) adopt the idea that an investor can build his/her own cash dividend policy regardless of the company's dividend policy. This is known as the Homemade Dividend (Miller and Modigliani, 1961) where investors can obtain income through selling part of his/her shares equal to the value of cash profits that could have been distributed by the company if the company does not have cash dividends and the investor himself wishes to receive cash dividends to meet his consumer needs. The investor may wish also to reinvest cash dividends distributed by the company if he/she shows no desire for cash dividends. By following this method, the investor will not be affected by the company's dividend policy, and therefore would not be compelled to abandon the stocks of companies following a dividend policy which is not consistent with his/her wishes.

One of the criticisms of the irrelevance proposition hypothesis is that it cannot be practically acceptable. The theory of building a dividend policy for each investor based on an efficient market, with no transaction costs for buying and selling, is not practical (Dempsey and Laber, 1992). In addition, the investor will pay taxes on cash dividends or capital gains, making the adoption of a specific dividend

policy for each investor a costly process. In addition, investment in companies whose cash dividend policy is consistent with investors' needs is less expensive than building a special dividend policy. Irrelevance proposition hypothesis is built on the basis that the investor is rational when taking his/her decisions. However, psychological tests prove that human beings are not one hundred per cent rational with regard to decision-making. Shefrin and Statman (1984) in their study argue that investors have an unreasonable preference regarding profit dividends; this is not consistent with irrelevance proposition hypothesis. Irrelevance proposition hypothesis is also criticised for assuming equality between cash dividends and capital gains. The two are not equal as a cash dividend is cash in the hand without any uncertainty risk, while a capital gain is cash in the future with considerable risk. So, how can they be equal?

The irrelevance proposition hypothesis has been built on a set of assumptions that have already been indicated. It is understood here that any change in these assumptions would naturally lead to a change in the basic hypothesis and therefore to a change in the results. Accordingly, and in practical terms, financial markets in general do not agree with these assumptions.

2-3-2-2 Bird in the Hand theory

The aim sought by the proponents of the irrelevance proposition hypothesis argues that cash dividend policy has no effect on the company value or the capital cost. Consequently, cash dividend policy will not affect the returns on capital required. Many other theorists (Lintner, 1962, Gordon, 1963) believe that the returns on capital required rise when the cash dividends ratio decreases because

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investors are less sure of their resulting capital gains than the return earnings and rising stock prices from obtaining these cash dividends. These theorists think that investors evaluate the dollar, which they received from cash dividends more than the dollar they receive from capital gains. The reason is that the dollar received from cash dividends today is less risky than the future dollar received from capital gains. It is known that investors evaluate share prices through a predictable future cash flow per share and then discount it at a rate reflecting the risks. This discount rate has a positive relation with risks, therefore the discount rate which is used to determine share price with future capital gains will be greater. As a result, the company's share price which has a low cash dividend and high return earnings for future capital gains will be less than the share price which has high cash dividends. Therefore, the share price will drop when retained earnings increase for future capital gains.

A preliminary reading of the bird in the hand theory shows that it seems acceptable on the basis that shares with high cash dividend are less risky. With the stability of other factors affecting share price, less risky stocks are more expensive. The question to be raised here is: Has the dividend policy affected the company's risk level? Or do the risks affect the dividend policy?

In his study on how companies with high risk distribute low cash dividends, Rozeff (1982) proposed that managers are aware that these companies' profits have uncertainty risks. Thus, managers prefer low cash dividends because they do not want to find themselves forced in the coming years, with uncertain profits, to reduce cash dividends rate which is familiar for shareholders because they are

evaluate the consistency in the cash dividend level more than cash dividend itself (Gombola and Feng-Ving, 1993). This means that high risk for a company leads to a reduction in cash dividends rate distribution. Also, the decrease in cash dividends is a result of the company's high risks and not vice versa.

To sum up, the bird in hand theory proposes that capital gains are more risky than cash dividends and investors prefer companies that distribute cash dividends to companies that hold profits to convert them into capital gains. Due to this preference, investors pay higher prices for a company's shares with cash dividends compared to a company that holds their profits when other factors are fixed. In other words, this theory indicates that if the company wants to maximize their share price, then they should adopt a high dividend ratio (Baker and Powell, 1999).

However, according to one of their assumptions, Miller and Modigliani (1961) do not accept this concept and say it is a Bird in the Hand Fallacy. Bhatacharya (1979) says that the future cash flow risk for any project determines its risk; therefore, any incremental increase in cash dividend now will decrease shares price after the cash dividend is paid and sill also the decrease in future cash flow risk which will not increase a company's value.

An accurate reading of the bird in the hand theory, as stated by Gordon (1959), shows that this theory tends to consider investment policy rather than cash dividend policy as it seems from an initial reading. The conclusion that can be drawn from this theory is that companies that distribute low cash dividends are

often high risk investment companies. Due to high investment risks, investors would discount future cash flows of low cash dividends at a higher discount rate when they evaluate these companies' shares prices. Therefore, they are willing to pay a lower price for shares of companies that have the stability of other factors. In other words, the discount rate used to determine these companies' shares price depends solely on the risk level, regardless of the dividend policy followed by these companies. Thus, the cash dividend policy is the inevitable result of the company's risk level, and not the reason for it.

2-3-2-3 Tax Effect theory

In brief this theory assumes that if there is no tax for capital gains, or if the capital gains tax is less than the cash dividend tax, investors prefer companies that do not distribute cash dividends and retain profits in the form of undistributed profits. Whenever the cash dividends percentage decreases at the expense of undistributed profits, the owners' wealth will maximize with other factors being constant. Therefore, investors will ask companies that distribute high cash dividends for a greater return, in comparison to the returns of companies that have no cash dividends in order to cover the taxes they will pay for cash dividends (Brennan, 1970, Litzenberger and Ramaswamy, 1982). In other words, investors accept returns prior to taxation which are lower in cases of companies that provide capital gains instead of cash dividends. The investors, on the other hand, would pay a higher price for the company's shares that provide returns in the form of capital gains instead of distributing them as cash dividends if other factors affecting the share price are fixed. This is where the role of dividend policy and its impact on a company's value and shareholders' wealth comes into play. Through

the retention of profits and converting them into capital gains, the company's value and the shareholders' wealth can be affected positively.

Tax effect on dividend policy differs depending on the tax system. In the USA for example, cash dividends are subjected to double taxation. After the company pays taxes on its profits, the cash dividends received by shareholders are considered to be part of the taxable income at the individual level (Litzenberger and Van Horne, 1978). In other countries such as Australia, company profits are subject to taxation at a specified rate decided by law (Cannavan et al., 2004). After the distribution of cash dividends to shareholders, these dividends are subject to the personal tax rate, applicable to every investor taking into account the taxes paid by the company; therefore, these dividends are not subject to double taxation. If the company's tax rate is 30% and the personal tax rate for shareholders is 38%, then the shareholder will pay 8% for their cash dividends. If the shareholder's personal tax rate is 25% then he/she will get tax refunds of 5%. This is known as an Imputation Tax System.

Similarly, in the UK the tax system aims to eliminate some of the tax consequences of dividend policy by operating an Imputation Tax System (Ashton, 1991). The companies pay a tax (at the basic rate) on the grossed up to dividend to the Inland Revenue (higher rate taxpayers pay an additional tax on the dividend). However, the government treats this withholding tax as part of the company's corporation tax. Therefore, from the perspective of the basic rate taxpayer, there are only two taxes on corporate income: corporation tax and capital gains tax.

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Tax Effect theory supporters—in the countries where taxes on cash dividends are greater than the capital gains tax rate—believe that cash dividends cause damage to the investor who receives them because it is subject to a tax rate higher than the taxes applicable to the other alternatives for cash dividends. Therefore, cash dividends lead to a decrease in the company's value and reduce the owner's wealth (Brennan, 1970). As a result, shareholders would be in a better position if the company retained their profits and transferred them to capital gains rather than repurchasing their shares.

We can determine the positive or negative impact of cash dividends on shareholders' wealth because of the tax difference between cash dividends and capital gains as follows (Levy and Sarnat, 1994):

- If the decline in the share price after the share has become dividends free is equal to the value of the cash dividends, the investor will not be affected regardless of whether the return takes the form of cash dividends or capital gains, and there is no tax effect on the shareholders' wealth.

- If the decline in the share price after the share has become without dividends is less than the cash dividends, then the tax rate on cash dividend will be greater than the tax rate on capital gains, and the investor will be in the best position if the return takes the form of capital gains.

- If the decline in the share price after the share has become without dividends is greater than the cash dividends, then the tax rate on capital gains will be greater than taxes on cash dividends, and the investor will be in the best position if the return takes the form of cash dividends.

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This example is related to taxes on cash dividends and capital gains, but what would be the case if the company tended to retain profits and reinvested them instead of distributing them to shareholders? Would this lead to a maximizing shareholders' wealth?

The maximized wealth shareholders' through a company dividend policy that have a surplus of funds depends on the personal tax rate level of individual shareholders, and the tax rate imposed on the company's profits. It is presumed here that both the company and the shareholders can reinvest the profits at the same return rate. However, if the personal tax rate for shareholders is less than the company's tax rate, the shareholders will be in a better position if the company seeks to distribute cash dividends, and shareholders reinvest their dividends by themselves. However, if the company's tax rate is less than the shareholders' tax rate, then the shareholders would be in a better position if the company retains the profits, reinvests them, and then distributes the dividends with the returns to shareholders, assuming that risks and returns on investment are equal in both cases.

The important question to be asked here is: Does the above concept mean that investors in high tax brackets will not buy shares in companies with a cash dividend? Despite the tax effect, many researchers (Miller and Scholes, 1978, Auerbach, 1979, Feldstein and Green, 1983) have found that investors in high tax brackets still buy shares even if the company pays a cash dividend.

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In countries where tax rates on cash dividends is higher than tax rates on capital gains resulting from the purchase and sale of shares, tax effect theory considers that the cash dividend inflicts damage on the shareholders' wealth in cases where there is another alternative known as capital gains. In their study, Miller and Scholes (1978) found that the negative impact of cash dividends tax could be avoided by two steps. First, the investor could invest in stocks with high cash dividends by borrowing so that the amount of cash dividends is equal to the amount of loan interest. Since interest payments are considered to be a reduction in income for tax purposes, while cash dividends are exposed to taxes, the taxes would cancel each other out. As a result, the investor would not pay taxes on cash dividends, but the portfolio risk as a result will be high because of the borrowing. In the second step, the investor invests a sum of funds equal to the loan value in a tax-deferred account to reduce borrowing risks. The result is the investor would not suffer from the negative impact of taxes even though he/she had already invested in high-cash dividends shares.

However, the researcher believes that Miller and Scholes (1978) did not give treatment to the negative impact of the cash dividend on the wealth of shareholders since the capital gains alternative is available. It offers a solution for owning shares with a cash dividend without paying tax for these cash dividend regardless of the impact on final net cash flow. For the investor using Miller and Scholes's solution, the final net cash flow would be equal to what he/she gets from the tax-deferred account because the share return will be used to pay the interest. Moreover, it is known that the returns on these investments are less than the returns on share investments; therefore, the researcher believes that the

investor would be better if he/she invested his/her money in stocks distributed cash dividends with tax effect rather than following Miller and Scholes.

Also, tax effect theory supporters believe that investors who will purchase company shares without cash dividends or depressed cash dividends in order to reduce the high tax impact of cash dividends. In case the investor's desire to obtain continuous cash dividends fails to covers his/her requirements, he/she can sell part of his/her shares equal to the value of cash dividends obtained if the company tended to distribute the cash dividends, thereby avoiding high taxes. This is known as homemade dividends (see, Ross et al., 1999, Pike and Neale, 2009) .

The researcher believes that such a proposition is practically not correct as it does not maximize the shareholders' wealth as continuing and repeated sales processes are expensive due to the transaction costs associated with them. If the capital gains tax is added to these costs, it is possible to come to the conclusion that cash dividends are the cheapest way to obtain the necessary cash flow for the shareholder to meet his/her needs rather than by capital gains.

In addition, the researcher is not in favour of the view that cash dividends contribute to damaging shareholders' wealth as the tax rate on cash dividends is higher than the tax rate on capital gains. This is because there are shareholders who buy shares of companies that make cash dividends. Connected with this, the researcher believes that there should be greater benefits than damages that

stimulate investors to buy those shares, the most important of which is represented by the low risks associated with cash dividends; sometimes the risks become nil.

2-3-2-4 Clientele Effect Theory

In their study, Black and Scholes (1974) found that each investor has his/her own implicit calculations regarding preference between high cash dividends benefits or their retention according to the circumstances he/she is experiencing such as the tax category into which he/she falls. As a result, some investors prefer companies with high cash dividends, whereas others prefer companies with low cash dividends or without any cash dividends and retention of profits for investment. In other words, investors will invest only in companies which have dividend policy consistent with their special desires, requirements and conditions. This is known as the Clientele Effect.

Pettit in his study which analyzed 914 investment portfolios (Pettit, 1977), it has been found that older investors and lower-income investors tend to acquire company shares with high cash dividends more than younger investors with more income. The elderly and lower-income investors are exposed to a low tax category or they enjoy tax exemptions. The cash dividends may represent an important source of income for them to cover their cash flow requirements or they may want to enjoy their wealth before they die; therefore, they tend to invest in high cash dividends companies when compared with those younger and more affluent investors who fall in a high tax category. In their attempts to avoid paying taxes on these dividends, the latter tend to invest in companies with low or without cash dividends, especially if we know that young people have not yet reached the

retirement age. Therefore, the cash dividends often do not constitute a source of funding immediate consumer needs; in addition, they are more susceptible to endure the uncertainty risks of capital gains and their aspirations and long-term projects such as educating children and owning housing, etc.

Through a proper understanding of the Clientele Effect theory according to Black and Scholes (1974), which stipulates that investors will invest their money in companies which follow cash dividend policy consistent with their wishes with no effect on the company's value, companies that do not distribute cash dividends or distribute only low cash dividends would not face a negative effect on their shares because they attract investors who only desire this. Similarly, companies that distribute high cash dividends should not suffer reduced shares value in the market due to negative tax impact because they attract investors who show a desire for high cash dividends.

An important question to be raised is: Is the impact of the Clientele Effect so strong as to cancel the cash dividends effect on the company's value? If the influence is strong enough to the extent that it cancels the relationship between cash dividend policy and the company's value, then the share return will not be affected by cash dividend policy.

Black and Scholes (1974) attempted to answer this question in a study that covered a period of 35 years (from 1931 to 1966). They created 25 investment portfolios from companies listed in the New York Index and classified them into five groups according to the cash dividend policy they followed. Then they

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divided each group into five categories according to risk (beta coefficient). Examining the investment portfolios returns compared with the cash dividends (cash dividends distribution policy in place), they did not find any statistically significant relationship between the cash dividends and the total portfolio return.

Litzenberger and Ramaswamy conducted a study in 1979 to determine whether the total portfolio return in the ex-dividend month of distribution has any relationship with cash dividends. They found that there is a strong direct correlation between the portfolio total return and cash dividends. This supports the theory that investors do not prefer cash dividends because of the negative impact of taxes on these dividends. They also found that the impact of the tax rate difference on cash dividends and capital gains reaches up to 23%. This means that investors pay less for the company shares that distribute cash dividends or demand greater returns on these shares to offset the negative impact of the different tax rate between cash dividends and capital gains. This means that the clients' effect was not strong enough to force the cancellation of the cash dividend policy effect on the company's value.

Miller and Scholes's study (1982) accused Litzenberger and Ramaswamy's (1979) study of being distorted in that it is affected by cash dividend increases or a lack of information. In Miller and Scholes's study, they excluded all companies that announced their profits and distributed them in the same month in order to mitigate the impact of the dividend declaration. They came to the conclusion that portfolio total revenue is in direct proportion to the cash dividends, but that the impact of the difference between the tax percentage on cash dividends and capital

gains is not 23%, but only 4%. This influence in terms of statistical significance does not differ from the impact of zero, which means there is no effect regarding the difference of tax rate on cash dividends and capital gains. However, the direct relationship between the total portfolio returns and cash dividends could reflect the share price increase due to an unexpected increase in cash dividends and not the negative impact of the taxes. This means that the clientele effect is a force strong enough to neutralize the impact of the cash dividend policy on the company's value.

The clientele effect theory involves two important concepts:

1. The company tends to choose clients (investors) through a cash dividend policy consistent with their aspirations. Therefore, investors would not punish the company, or work to reduce the company's shares price because of that policy as it harmonizes with their wishes. On that basis, the investment process is performed in that company.

2. Since the company chooses its customers through the cash dividend policy. Also, the company can transform from a dividend policy to another without impacting the company's value (if the change in the dividends rate does not result in future financial difficulties). If the company reduces the cash dividends rate, investors who want a higher dividend rate will sell their shares and turn to another company. On the other hand, investors who prefer low dividends percentage will take their place.

This implied meaning of the Clientele Effect theory might be acceptable in theory. However, from a practical perspective, it might encounter some problems. The

company's ability to choose clients without affecting the company's value is presumably based on the assumption that the market is deep and the company will find enough clients to cover their shares offers to keep the share price balanced. But what would happen if the percentage of companies that distribute high cash dividends constitutes 10% of the total shares on offer, while companies that distribute low cash dividends is 90% of market size? Likewise, what could be the case if the percentage of investors who prefer high cash dividend is 70% of the total volume of investors, while the percentage of investors who prefer low cash dividend is 30% of the total volume of demand for equities? The answer is that the shares of companies that offer low dividends will be greater than the demand for these shares. This will naturally lead to a decline in the price of these shares in order to become more acceptable to investor. To be sure, the market will be balanced at that lower price. Offers of shares distributed by companies with high cash dividends are less than their demand. The result is that the shares prices of these companies would rise to become less attractive from the investors' points of view, and therefore the demand would decrease while the market would be balanced at that relatively high price. On the other hand, the company's ability to change the cash dividend policy without affecting the company's value and shareholders' wealth is also based on the assumption of the market's depth and efficiency. If the company changes the cash dividend policy, all or most investors will abandon the company's shares and will tend to invest in shares of other companies that have cash dividends policies consistent with their desires. The resulting process of large selling is liable to increase the supply of these stocks significantly, leading to a drop in prices. If the market is deep, the decline will be only temporary, but if the market is shallow, where there is a lack of investors

who favour the new policy, then the provisional decline in equity prices of these companies may turn into a permanent decline, which would be reflected negatively on the company's value and shareholders' wealth. It may also expose investors to transaction costs when they buy and sell, in addition to the possibility of being subjected to capital gains taxes, which will be reflected negatively on shareholders' wealth.

2-3-2-5 Signaling Effect Theory

According to the Signaling Effect theory, managers use the change in cash dividends distributed rates as a means to deliver information to investors about the company (Denis et al., 1994). Supporters of this theory believe that the increase in the cash dividends rate is an effective means of delivering information to investors because competitors cannot follow the company's policy unless they have the same capacity to achieve future profit (see: Charest, 1978, Asquith and Mullins Jr, 1983, Kalay and Loewenstein, 1986, Impson, 1997, Doron and Ziv, 2001) .

When (Miller and Modigliani, 1961) introduced their hypothesis about the Irrelevance Proposition about the effect of a company's cash dividend policy on the company's market value, one of their assumptions is that all investors have the same information and ability to understand and analyze the available information. Therefore, all investors have the same outlook concerning the company. Also, investors and managers have the same information and therefore they have the same expectations for the company. In practice, however, because of what is known as asymmetric information (Dewenter and Warther, 1998), investors have

different expectations and information with respect to the company's future profits and risks. Furthermore, by virtue of their position within the company and the nature of their work and career interests and duties, the managers have better and more accurate information and expectations than external investors regarding the company's profits and performance. As managers have information that may not be available to external investors, they can use the change in the cash distributed dividends rate as a way to deliver such information to investors to reduce the information gap between managers and investors with the aim of creating a greater demand for the company's shares, thereby influencing the company's market value and shareholders' wealth.

Among the findings of Aharony and Swary's study (1980), a company's shares price usually rises when the company suddenly or unexpectedly increases cash dividends. Similarly, these prices are reduced when the company suddenly or unexpectedly reduces the cash dividends. Also Kwan in his study in 1981 came to the same results, adding that companies usually do not increase their cash dividends unless they expect an increase in future profits on an ongoing basis sufficient to cover any cash dividends increase and continue on the same good level in the coming years without being compelled to reduce the cash dividends rate in the coming years. Ross and others (Ross et al., 1999) find that it is not expected that companies that do not expect future profits to increase the cash dividends rate because the costs of this process are too high and have future negative effects that exceed the temporary positive effects expected from increase cash dividends for companies that do not expect future additional profits. As such, the future increase in the cash dividends is a positive indicator of the company's

future performance. If a company increases its cash dividends, it will generate positive conclusions for investors about the company's future profits, leading to an increasing demand on the part of investors on these shares, which leads to a rise in their prices.

The supporters of the Signaling Effect theory believe that a cash dividend is the ideal means to deliver specific information about the company to investors. However, many others argue that cash dividends are not the best way to communicate such information to investors. Born and Rimbey (1993) find that change in the cash dividends rate may give incomprehensible and misleading signals unless the market finds itself able to distinguish between growing companies that tend to retain their profits for investment and growth and companies that have exhausted all available investment opportunities and therefore seek to distribute their profits via dividends. When Florida Power & Light Company announced a reduction in their first quarter dividend in 1994 by 32%, the market's reaction was to reduce the share price by 20%. After it became clear that the reduction in cash dividends was not a result of the expected future financial difficulties, but was due to a strategic decision to improve the company's financial flexibility and growth opportunities, the share price witnessed a gradual rise. This example gives evidence that cash dividend distributions sometimes may be a misleading indicator. Sending a positive signal, the increase in cash dividends may involve negative repercussions for the company if these are misunderstood. For example, if a company is growing and accomplishing noticeable improvement and high returns on investment yet did not distribute any dividends during the previous period, the dividends distribution might be looked at by shareholders as a

negative indicator. This change can be explained by the company's inability to find new investment opportunities or that the investment opportunities available to the company are no longer profitable as is the case before. Such an understanding of cash dividends increase would lead to a decline in the company's shares value.

Through a proper understanding of the Signaling Effect theory, it is clear that the positive or negative expectation of investors on a company's future performance leads to an increase or decline in the company's share price, and not an increase or decrease in the cash dividends rate. The change in the ratio is only a means by which investors can anticipate the company's future performance. The study by (Miller and Modigliani, 1961) asserts that investors' reaction to a change in cash dividend policy does not necessarily mean that investors prefer cash dividends to capital gains as they are proof of the importance of the information content of the cash dividend policy.

Empirical studies (such as :Kwan, 1981, Asquith and Mullins, 1986, Kalay and Loewenstein, 1986, Denis et al., 1994, Amihud and Murgia, 1997, Brook et al., 1998, Grullon and Michaely, 2004) examining the information content of dividend policy, or the Signaling Effect theory, have, in many cases, produced inconsistent results as is the case with all theories of dividend policy. However, all studies agree on the existence of an information content for the dividend policy leading to an increase in stock prices if the company tends to increase the cash dividends ratio unexpectedly, and a reduction in the price of shares in case the company seeks to reduce the cash dividends. However, studies differ on the reasons for the increase or decrease in stock prices between the information

content reasons alone or the information content effect along with investors'

wishes for cash dividends and their preference for companies that distribute cash

dividends.

At this point, a basic question should be raised: Does the change in the distributed

cash dividends rate represent the most efficient means available for the company

to deliver information to investors, with the aim of influencing the market's

value? The answer for this question with regard to small companies that do not

have sufficient means to communicate information to investors might be yes, in

that the cash dividends could be the most efficient means of communicating

information in such companies. With respect to large companies, which are

supposed to possess sufficient means of communicating information to multiple

investors with a view to narrowing the information gap between what investors

know and what the company wants investors to know, the change in the cash

dividends may not be the least costly or the most efficient way of delivering such

information. For example, analytical reports published by the company may have

the same change effect in proportion to cash dividends.

2-3-2-6 Agency Costs Theory

No agency costs was one of the Irrelevance Proposition hypothesis assumptions

(Miller and Modigliani, 1961) which asserts that managers are full agents for

shareholders without any flaws. However, decisions taken by managers are not

always in the interest of shareholders, as many of them focus on achieving

personal interests they are seeking to achieve. Since shareholders are aware of this

fact, they may develop means of controlling managers' behaviours (Jensen and

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Meckling, 1976, Fama and Jensen, 1983, Jensen, 1986, Shleifer and Vishny, 1997).

The most common agency costs are the costs of monitoring managers. The duties undertaken by managers are numerous and often are a specialized quality based on resolutions that may not be understood by normal shareholders. Therefore, it is extremely difficult for them to control managers' performance. As such, the presence of an efficient and specialized outsider for monitoring managers' performance on behalf of shareholders would be more effective. One of the means by which shareholders may resort to an external party is external financing by increasing the cash dividends rate (Rozeff, 1982a, Dempsey and Laber, 1992, Schooley and Barney Jr, 1994) to avoid keeping large liquidity in the company. This would lead managers to resort to external financing, and thus keep the company under the control of external financing.

The points that contribute to making high cash dividend policy a tool for monitoring and controlling managers' performance are summed up as follows:

1. This policy puts considerable pressure on managers to secure sufficient profits to be distributed for shareholders. In this respect, the managers do not wish to reduce the distributed cash dividends rate, as the unexpected and sudden reduction gives negative signals about the managers' performance, and therefore the company's future performance (Dempsey and Laber, 1992, Schooley and Barney Jr, 1994). The high cash dividend policy followed must lead managers to increase efforts to achieve the required cash dividends ratio to be distributed to shareholders.

2. This policy reduces the amount of cash in the managers' hands. This, in turn, would force them to resort to borrowing to finance the company's projects, something which shareholders prefer because it puts the company under the additional control of external financiers (Rozeff, 1982b).

3. High cash dividends lead to a reduction in the free cash available to managers which could potentially be misused if there were free cash in large quantities (Easterbrook, 1984). This is liable to lure managers to spend this money on projects that may not have been studied properly. The existence of large amounts of free cash, after the company has exhausted all projects with a positive net present value, pushes managers to choose one of two alternatives: the distribution of these funds to shareholders or investing them in any way just to get rid of them. The latter scenario is given in the following examples:

- To invest in projects with a negative present value, although this policy is a violation of generally accepted principles of investment. Jensen's study (Jensen, 1986) confirms that many managers resort to choose projects with a negative present value rather than distribute cash dividends to shareholders. This policy is common in oil and tobacco companies. Moreover, managers can resort to this policy to reduce their company's attractiveness to takeovers by other companies.

- Purchase other companies: Mergers are usually made at prices higher than market value. As mergers entail high costs, many researchers believe that mergers may not be profitable for the company even when the process of integration is carried out to achieve correct objectives (Roll, 1986). Thus, companies tend to merge or purchase another

company rather than distribute dividends to shareholders with the aim of satisfying the managers' desires to increase the size and scope of their empires and the scope of their control. Such a tendency is not prone to succeed and therefore constitutes agency costs. The high cash dividend policy is considered as a means to reduce the managers' willingness for over-investment (Michael et al., 1995).

- Purchasing of financial assets: For companies that have surplus cash for positive present value (Easterbrook, 1984), the reinvestment strategy of these funds in financial assets depends on the shareholders' personal tax rates and the cash dividends tax rate. If the personal tax rate is lower than the cash dividends tax rate, then to maximize the shareholders' wealth requires distributing dividends in order for the shareholders to reinvest them themselves. If the managers retain profits and reinvest them, then this would be considered one of the agency costs that shareholders must undertake.

In brief, the separation of management from ownership leads to a conflict of interest between managers and shareholders. Such a conflict can expose shareholders to additional costs called agency costs which take several forms including managers control costs in order to ensure their behaviour and performance or the costs of directors' expansion (or over-investment) in order to maximize their assets through investment in some projects such as merging with other companies, the acquisition of other companies or some form of investment in projects with a negative present value to make the company less attractive to investors who want to take it over. The cash dividend policy can serve as a way of

monitoring and controlling managers' performance with the aim of reducing the agency costs. Through increasing cash dividends, the company can be kept in the need of external funding. Such a move is liable to keep managers under the control of external financiers. In addition, the increasing cash dividends would lead to withdrawing cash from the control of managers, which reduces the likelihood of the misuse of the funds. The pattern of cash dividends among companies can in effect be justified by the trade-offs between the costs of external financing and the benefits of increasing cash dividends and the resulting reduction in agency costs. This can result in an optimal dividend policy even if we ignore tax considerations (Rozeff, 1982a).

2-4 Stock Dividend Policy

This policy consists of dividends distribution to existing shareholders in the form of shares instead of cash (Ross et al., 1999). A company usually resorts to this policy when it is in a rapid growth phase or restructure, so that these stages require a large capital expenditure motivating the company to maintain all possible liquidity to achieve this aim (Pike and Neale, 2009).

In the accounting process, share dividend policy is the transfer of funds between equity accounts (Levy and Sarnat, 1994). It does not include any outside cash flows; therefore, the shareholders do not receive anything in fact (Broyles, 2003). This is due to the fact that the market value per share, after the share dividend announcement, will go down. However, the total shareholders' wealth will not be affected because the number of shares owned will be increased to cover the decline in market value per share (Moyer et al., 1995, Pike and Neale, 2009).

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Also, the volume of the company's shareholders control would not be affected, because the percentage of equity held will not be affected since the share dividends are in the same percentages of as proportion to the existing old equity (Ross et al., 1999). As long as the rate of a company's returns is fixed, the rate of return per share will decline due to an increase in the number of shares with the stability of the overall rate of return. The total shareholders' revenue, however, will not be affected owing to the increase of the number of shares owned by shareholders to compensate for the decline in dividends per share. In addition, it is not expected that the share dividend policy would have any impact on the company's value as long as the investors understand that the replacement of cash dividends by shares is for the sake of reinvesting this money and not because of financial difficulties or to meet outstanding payments (Ross et al., 1999).

Usually, the share dividend policy is looked upon as part of the general dividend policy (Broyles, 2003). However, in reality, it is no more than a small split, as the share dividends leads to an increase in the number of shares issued without affecting the company's risks, revenues or cash flows.

There are several studies on the share dividend policy impact on a company's market value and consequently on shareholders' wealth. These studies come to the following conclusions (see: Barker, 1958, Fama et al., 1969, Chottiner and Young, 1971, Woolridge, 1983, Grinblatt et al., 1984, Lakonishok and Lev, 1987)

- Usually a company's shares prices rise immediately after they announce the shares dividend.

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- The shares dividends process has an information content understood by investors in a certain way. The reason shares prices of companies that announce these dividends increase is not due to the shareholders' preference of shares to cash. It is that the information content of the shares dividends gives a positive signal about the level of future profits expected by the managers of these companies. In addition, companies' managers who believe that future profits will be better than current profits are the only companies that distribute the shares. On their part, investors are aware of this fact; therefore, they ask for these shares not just for additional shares which do not affect the company's value, but also because the content of information engendered by such a process.

- If the companies that have announced shares dividends do not increase cash dividends in the short period following the share dividend announcement, their share prices will go down to reach the level prior to the shares dividends announcement.

- The shares dividends process leads to increased costs associated with sales and purchases (Ross et al., 1999), as fees and commissions are charged by broker on the absolute amounts if the values attributed to the original buyer or sales are higher when the original price decreases. In addition, the margin between the selling and purchasing prices as a proportion of the sale or purchase assets price is higher whenever the assets price decreases. This means that dealing in low price shares is more costly than dealing with high price shares, if the fees and commissions amounts are absolute. As the shares dividend policy leads to a decline in stock market value per share, this may lead to low liquidity of these shares because of the relatively high cost.

However, a low share price increases the number of investors who have the ability to buy these shares, more than could lead to increasee liquidity.

Grinblatt and others (1984) give two reasons for an increase in the share price of companies that use shares dividends:

1. There is an ideal price for a company's share prices, which most companies believe is between US$20 and US$50. Companies believe that investors look for stocks with a price less than US$20 as being at risk which causes concern. At the same time, they look for stocks with a price greater than US$50 as being a high price. Therefore, companies try to keep the prices of their shares within that range through a share dividend policy seeking to reduce the market's value per share.

2. The importance of information content to the shares dividend process to shareholders. Although the nature of the information issued by the shares dividends is not entirely clear, the study also states that the distribution process aims at raising questions about the company on the part of financial analysts, leading to the discovery of information that the management always tries to deliver to investors.

Brennan and Copeland (1988) gave an interpretation of the information content contained in the shares dividends as follows: Assuming that managers have more precise information on the company's future status more than the investors, and assuming the existence of two companies (a) and (b) similar in everything except in the manager's expectations for future performance of the company which is managed by the director of company (a). He knows that the company's

performance in the future will be better than the expected performance, while the current director of company (b) thinks that the company's performance in the future will be the same as the current performance. According to the study, the two directors know if they would decide to distribute the shares, the shareholders will bear the additional costs associated with the distribution of shares. The company's director (a) knows that the company is on the verge of a better future compared with the current situation. Therefore, he may tend to distribute shares to shareholders on condition that profits should cover the additional future costs associated with this process. The director of company (b) knows that the future performance will remain within the current situation, and thus the process of shares distribution will lead to increase costs without a return to cover these additional costs. Accordingly, the distribution of shares dividends of company (a) to shareholders makes them look into this procedure as additional future profits to cover the additional costs resulting from the shares dividends. This practically leads them to request the purchase of shares of those firms and result in increased demand for its share with the survival of the stable supply, leading to increasing prices and hence the company's market value

The reason for the price increase, as shown by (Brennan and Copeland, 1988), was not the desire of shareholders for stock dividends, but rather the meanings behind this process which investors understand to be that the company expects to perform better in the future than the current performance. It is unreasonable that company (a) would charge additional costs due to shares distributions if they are not aware that future returns will be greater than the current ones so as to compensate these costs.

2-5 Shares Repurchase Policy

A company's shares repurchase to become treasury shares is one of the most well-known alternatives to profit dividends. The most common methods used by companies to buy back shares are (Copeland et al., 2005):

1. Repurchase Tender Offer

2. Open Market Purchases

3. Repurchase by Negotiated Basis

1- Repurchase Tender Offer

There are many empirical studies that deal with stock repurchases by tender offer (see: Masulis, 1980, Dann, 1981, Vermaelen, 1981, Vermaelen, 1984, Dann et al., 1991, Chhachhi and Davidson, 1997). In stock repurchase by tender offer, a company announces its desire to purchase a number of shares at a fixed price during a specified period of time. If there is no enough number of shares available during the specified period, the company might resort to extending the period or cancelling the offer. This method is used when the company wants to purchase a large quantity of shares.

2. Open Market Purchases

Other empirical studies deal with stock repurchase by open market (see: McNally, 1999, Baker et al., 2003, Liano et al., 2003). In open market stock repurchases, a company tends to repurchase its shares through the Stock Exchange at the market prices. This method enables the company to choose both the prices and the appropriate times to buy back shares as it gives the company greater flexibility in

selecting the appropriate times, numbers, and price. Furthermore, this method is used for the repurchasing of small quantities of shares.

3. Repurchase by Negotiated Basis

The company here individually negotiates with certain shareholders to achieve certain prices through which the company can purchase those shareholders' shares. Although this method is not commonly observed, it is used to control and get rid of shareholders who cause trouble to the management.

Recently, the shares repurchase policy increased as an alternative to the cash dividend policy primarily due to its characteristics in comparison with the cash dividend policy (Asquith and Mullins, 1986). The following are some of these characteristics (Copeland et al., 2005):

- The cash dividends distributed to shareholders constitute a burden on a company and its management where the management finds itself bound by continuing to have to pay this level on an annual basis. Any reduction in that percentage leads to a negative impact on the company's value because of the information content inherent in cash dividends. However, repurchasing shares is looked upon as an alternative to cash dividends and also as a non-recurring cash outlay. Companies that do not expect to continue to make profits at the same level prefer the repurchasing method instead of distributing cash dividends to shareholders so as not to commit themselves to follow the same level in the coming years.

- The existence of a large offer of a company's shares in a market with low demand reduces the price of the company's shares keeping them low. The

company's repurchasing stock policy leads to an alternative to the cash dividends to get rid of the extra shares offer so that there will be no shareholders in the company but those whose shares willing to retain its shares. Such a process leads to a rise in the shares prices due to the reduced offer, thus positively affecting the company's market value and shareholders' wealth.

- When a company wants within a short period of time to change the capital structure to reach the optimal mix with the aim of reducing its financing costs, the buyback policy serves as an effective means to achieve this aim. When the equity fund in the capital structure increases beyond the optimum ratio, it leads to an increase in the financial costs; therefore the repurchasing policy operates to reduce equity funds in the mix by reducing the number of shares issued and arriving at the optimal mix and thus to reduce financial costs.

- The buy back stock policy as an alternative for cash dividends protects shareholders from wealth damage because of exposure to taxes imposed on dividends (Copeland et al., 2005). Since the taxes imposed on cash dividends in most countries of the world are higher than taxes on capital gains, the buy back shares policy seeks to mitigate the impact of taxes on shareholders' wealth through the conversion of cash dividends to capital gains. This occurs only if shareholders sell their shares and secure capital profits.

- There is a positive information content associated with the shares repurchasing policy when the company wishes to buy shares (see: Dann, 1981, Vermaelen, 1981, Asquith and Mullins, 1986, Ofer and Thakor,

1987, Constantinides and Grundy, 1989, Grullon and Michaely, 2004). In response to this, the investors understand that the company's share price is undervalued. The management, which is fully aware of this, tends to buy these shares. Such an understanding of the buy back shares announcement leads to increase the investors' demand for the company shares, which raises the market value. In their study, Ikenberry and others (Ikenberry et al., 1995) tested the information content of the buy back stock policy and concluded that the shares prices of companies that have repurchased their shares were better than the shares prices of similar companies that did not repurchase their shares.

- The buy back stock policy focuses on controlling the company by reducing the number of shareholders in the company (Copeland et al., 2005). This means that the shareholders who do not sell their shares will have a greater part of the company after each process of buying back shares.

- The buy back stock policy works to strengthen the prices of the company's shares. After the US financial market collapse in 1987, companies sought to buy their shares to reduce price deterioration by creating a demand for shares and sending positive signals about the company. A number of empirical studies (Dann, 1981, Vermaelen, 1981, Comment and Jarrell, 1995, Ikenberry et al., 1995) find evidence that managers repurchase shares when they believe that their firms share price is undervalued.

Due to the characteristics of the buying back shares policy, until a short time ago finance and economy writers believed that the buy back stock policy was

preferred as an alternative to cash dividend policy, whether these dividends are regular or extraordinary additional dividends (Scholes, 1972, Kolodny and Suhler, 1985, Asquith and Mullins, 1986, Masulis and Korwar, 1986, Mikkelson and Partch, 1986). This is because this policy is flexible for a company and protects shareholders from paying taxes on cash dividends. However, when examining the signals emanating from the buy back stock policy might be misunderstood by investors. In this respect, companies that buy back shares as an alternative to cash dividends may give the impression that they are uncertain about future cash flows. Therefore, they do not wish to maintain the level of cash dividends, and so may find it difficult to maintain in future. This reading of the signals emanating from the buying back stock policy leads to a negative impact on the company's market value, even if it were not correct.

Studies such as (see, Gustavo and David, 2000, Fama and French, 2001) were conducted on the buyback company shares policy as an alternative to cash dividends to shareholders. They conclude that the benefits of tax avoidance and positive information content, flexibility and lack of commitment on the part of the company to pursue the buy back shares policy exceeded the damage caused by any signals issued by these policies and which may be understood by shareholders in a non-valid manner.

The buy back shares policy depends on the philosophy of reducing the number of issued shares, thus reducing the number of claimants' profits (Copeland et al., 2005). This means increasing the profits realized per share if the company used the profits earned or retained for financing buying back shares without recourse to

borrowing. If the company, on the other hand, tends to finance the shares buy back process through borrowing funds, the profits realized per share will increase because the borrowing costs are less than shares bought. The company, however, should take into account the tax shield of the interest paid on the borrowed money, so that the increase in the profits realized per share is equal to the difference between the profits per share for repurchased shares and the cost of borrowed funds to finance the repurchase process taking into account the tax shield divided by the number of remaining shares following the repurchase. If the cost of borrowing is more than the profitable shares purchased, taking into account the tax shield, the profits realized per share will be less after buying back the shares.

However, there are a number of criticisms that can be directed to the buy back stock policy (Copeland et al., 2005):

1. There may be negative information content for the buy back stock policy. This policy might suggest that the company is unwilling to commit to a certain level of profits, as the management cannot be certain of its ability to achieve this level of profits continuously.

2. There are a number of investors who cannot be neglected or underestimated, namely those who would prefer cash dividends rather than capital gains, because they rely on it as a source for meeting their consumer and investment needs. Therefore, a company's adoption of the buy back stock policy may push those investors to abandon their shares

3. When a company announces its desire to repurchase shares, the shareholders who wish to sell their shares may request a higher price for

the shares. Also, a company's request for purchasing a large number of shares at one time would lead to higher demand for the shares, thus leading to higher prices. This indicates that the company will pay a higher value than the real value of the shares, resulting in damaging the remaining shareholders' wealth.

2-6 Investment Policy and A Residual Dividend Policy

The relationship between investment and cash dividend policy was established through the differing priorities of the use of available funds (Lumby and Jones, 1999). In this respect, management is trying to achieve high returns through the use of funds available to them through various types of projects and investment opportunities available in case these opportunities are attractive from an economic perspective; in other words, if these investment opportunities engender positive future cash flows. Shareholders, on their part, do not oppose this approach provided that it has no effect on revenues derived from cash dividends.

The management always tries to follow the so-called residual dividend policy (West and Bierman, 1968) by giving priority to investments over cash dividends and distributing any surplus cash on investment. Many studies have supported this trend; the most important of which is (Miller and Modigliani, 1961).

However, other studies, for example, Partington (1985), state that companies in practice separate dividend policy from investment policy, because management will finance their investment projects from a cash dividends surplus fund — the priority of cash dividend — and thus financing the deficit from equity or

borrowing funds. Other writers such as (Ross, 1977) mention that other companies may not adopt this policy mainly because of the existence of motives for distributing cash dividend from surplus reduced funds available, the most important of which is to send positive signals about the future financial position of the company.

2-7 Conclusions

There are three basic policies for general dividends policies:

1. Cash dividend policy

2. Share dividend policy

3. Buy back stock policy

Moreover, there are six theories related to cash dividend policy:

- Irrelevance Proposition: The supporters of this theory think that cash dividends are not related to the company market value because the investor can make his/her own dividend policy, regardless of the policy adopted in the company.

- Bird in the Hand Theory: The supporters of this theory believe that the company market value will improve if the company increases cash dividends because investors consider cash dividends as a 'bird in hand', while the capital gains are 'a sparrow in the tree'.

- Tax Effect Theory: The supporters of this theory understand that cash dividends are exposed to a higher tax rate than the capital gains tax rate, so investors prefer companies that retain profits and provide them to investors

as capital gains. These supporters believe retention of the company's cash dividends will maximize market value.

- Signaling Effect Theory: Investors look to cash dividends as a positive indicator of managers' expectations for both performance and the company's future profits. Therefore, investors prefer to invest in companies that distribute high cash dividends; the company can maximize its market value by increasing the cash dividends rate.

- Clientele Effect Theory: The supporters of this theory argue that the company seeks to attract investors who see that the company's policy of cash dividends agrees with their consumer and investment needs and also their tax position. As a consequence, the cash dividend policy will not affect the company's value because investors chose a company motivated by the specific dividend policy it adopts.

- Agency Cost Theory: The supporters of this theory think that cash dividend policy is an ideal means for reducing costs arising from interest conflicts because of separating management from ownership. In so doing, the company can maximize the market value by reducing agency costs through increasing the cash dividends percentage.

From studying these theories one could easily notes that they provide conflicting and contradictory advice for managers which affect their duties to increase the company's value and thereby maximizing the company owners' wealth. The question to be raised here is: Which one of these theories should be followed to positively influence a company's value? Several experimental studies have been conducted to test these theories and to ascertain their practicality. The results of

these studies, however, did not clearly prefer any one of these theories. This can be attributed to the following reasons:

1. Statistically, these studies assume stability of other factors affecting the company's value. This means the companies studied were similar in everything except the dividend policy. This assumption is unrealistic in practice.

2. The absence of a mechanism for determining, measuring and forecasting ownership cost accurately: as the existence of identical companies in all factors that affect the company's value and different only in the cash dividend policy is something impossible, and due to the difficulty of determining ownership accurately, it is hard to determine the relationship between the cash dividend policy and ownership costs, and therefore understand the impact of dividend policy on the company's value.

3. The absence of a unanimous agreement among investors on one cash dividend policy preference: there is a group of investors who strongly prefer high cash dividends and also prefer profits as cash dividends. At the same time, there is another group of equally-important investors who strongly prefer low cash dividends and prefer profits as capital gains. These different investors' preferences explain the difficulty of determining an optimal cash dividend policy and hence favouring a specific theory. Despite difference in the results of these studies on investors' preferences and therefore determining the policy through which the company's value can be maximized, the studies unanimously agree that investors prefer any dividend policy that is stable and clear, which makes it easy for investors to predict, regardless of the policy followed itself.

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Thus, it can be said that according to the agreed points among these theories, cash dividend policy is a trade-off between (a) the damage caused to its profits as a cash outflow and the benefits of giving signals, and (b) the security of cash dividends and the negative impact of taxation.

From a purely accounting point of view, share dividend policy is in fact no more than a fund transfer between equity accounts without affecting total wealth. However, share dividend policy may well be looked at from another perspective as it is a means of low-cost delivery of positive information to investors about the company's future performance, and also a means to keep the shares price within a range suitable for a larger number of investors through a reduction in the market value per share due to an increase in the number of shares, leading to an increase in the liquidity of shares.

The buyback policy can be used as an alternative to the cash dividend policy as it is flexible for the company and protective to shareholders from damages caused by taxes on cash dividends and also it has positive information content.

Furthermore, there is a connection between cash dividend policy and investment policy as some companies tend to distribute the excess funds available after exhausting all investment opportunities when it adopts the residual dividend policy. Others do not follow this policy because they argue there is no link between the two policies.

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Chapter Three: Dividend Effects on Market Value

3-1 Introduction

Management in general and financial management in particular try to realize their targets by applying a number of procedures and policies. The maximization of the owner's wealth is considered to be one of the main targets the management must try to realize through the application of such procedures and policies (Ward, 1993).

Although owners' wealth maximization comes as a result of profit realization, the concepts of financial management prove that the maximization does not mean attaining top profits so much as maximizing the market value of the project owners or shareholders (Ward, 1993).

Due to the complexity of the business world and the huge variety of investment opportunities, there are many different paths management may follow in order to fulfil their policies and procedures. These policies and procedures, however, develop and diversify according to the circumstances of each management.

Dividend policy is one of the most important financial policies used by financial management to achieve the main target described above (Baker, 2009). Such importance is intensified if we take into account the circumstances surrounding the companies, as well as investment opportunities in the business world which can constitute alternatives to a dividend policy. Although cash dividends are one of the most important types of dividend, particular circumstances may motivate management to use other types of dividend such as share dividends or buy back stock (Broyles, 2003), or to use them simultaneously with cash dividend.

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Dividend policy has been studied extensively by researchers to measure the financial impact on a company's share market value and consequently the extent of its contribution to achieve a management's target, namely maximizing the market value of the shares and thus maximizing the owner's wealth.

One of the most important studies is that of Miller and Modigliani (1961) which examines the relationship between dividend policy and the market's value of the company. It developed the so-called "Irrelevant Theory", which argues there is no relationship or link between dividend policy and market value of a company in efficient market conditions. This is because information available to management is also available to investors and this is reflected in the share price, thus dividend policy is the result of that information. Therefore, dividend policy does not have any effect on the share price of a company; rather it is affected by investment policy. In other words, there is no change in the market value of a company's stock, regardless of whether or not a company distributes dividends.

Researchers in the field of finance disagree over Irrelevant Theory. While a number support the theory, for example Black and Scholes (1974), Higgins (1974), Miller and Scholes (1978 & 1982), Merton and Rock (1985) and Peter (1996), many other critics oppose it, for example Koch (1999) and Dyl and Weigand (1998) provide evidence of a statistically strong relationship between dividend policy and the market value of a company.

The dividend and earnings announcement process at a same or a close time is add another difficulty for empirical studies wishing to highlight the impact of dividend

policy on the market value of shares. This is because the market reaction addresses two new pieces of information: the earnings announcement and the dividend. Therefore, finance researchers use a number of tools to isolate the impact of dividend policy from the earnings announcement. Pittit (1972), for example, uses a methodology in order to discover the influence of dividend policy on earnings. To achieve this goal, he divided his sample into several portfolios according to the degree and direction of change for both the dividend and earnings. In their study, Aharoni and Swairi (1980) test a sample where the dividend and earnings were declared on different dates in order to isolate the impact of dividend from the impact of earnings.

On the other hand, it is found that other studies such as those of Brown, Finn and Hancock (1977) and Kane, Lee and Marcus (1984) examine the market reaction to simultaneous dividend and earnings announcements.

It is noted here that most previous studies exclude companies accused of preventing dividends (see Lobo et al., 1986; Doron and Ziv, 2001). They rely mainly on one type of dividend (often cash) (see: Miller and Modigliani, 1961, Horne and McDonald, 1971, Partington, 1985, Holder et al., 1998). Furthermore, the sample size is not sufficient to be generalized (see: Marsh and Power, 1999), with no discrimination regarding the nature of activity of the companies.

This study attempts to overcome these problems as it examines the relationship between dividend policy and market value of companies in UK through the adoption of dividend policy as a general concept for three distinct types (cash

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dividend, share dividend and share repurchase). It includes companies that did not issue dividends based on the concept that no dividend is a dividend as well. The study uses the Panel Data of a ten year (twenty periods) time series, where the fixed-effect (within) regression model is used to examine the hypothesis, which takes the dividend policy through three types of dividend as well as the retained earnings, which is an indicator of the investment policy and profits as an indicator of the current year earnings. In addition, a total asset as proxies for size is used as control variables.

The data collection process was undertaken in several stages. The first stage sought to identify the companies for which data are available on the announcement of the dividend date (as they determine the dependent variable: share price as a proxy for market value). The number of companies is 423. The second stage was to collect data related to those companies. First, annual data (collected through the DataStream) and semi-annual data (collected through the websites) of the companies identified. This was done by direct contact with the companies to obtain the data. The researcher was able to obtain complete data for 362 of the companies across various sectors of the economy.

The data was analysed using the STATA program for the full UK market, as well as for each economic sector. A positive significant relationship was found between cash dividend, stock buyback, earnings per share (EPS) and retained earnings per share (REPS) with market value for the full UK market; however, this result was different when based on individual economic sectors.

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This chapter is organized as follows: section 3-2 is a review of previous studies and is followed by section 3-3 which is dedicated to methodology and variables. The details of the statistical sample are included in section 3-4. The presentation and discussion of the results are given in sections 3-5 and 3-6, while the last section, section 3-7, is devoted to the conclusions together with a summary section.

3-2 Prior studies

The relationship between dividend policy and market value has drawn the attention of a number of researchers. One of the most famous studies in this respect is Miller and Modigliani's hypothesis (1961), which asserts that the cash dividend policy is not important because it has no effect on a company's value, and as such it does not affect shareholder wealth. Therefore, managers cannot maximize shareholder wealth through dividend policy. This is called the Irrelevant Theory.

Irrelevant Theory indicates that in light of market efficiency conditions, companies that distribute consistently high cash dividends will reduce their share capital gains as a result of higher share price in a low percentage. Another shareholder, however, gets little dividend while his share prices rise sharply as a result of retained earnings; thus he could gain high capital gains that would compensate him for the high dividend due to the rising share price. Consequently, the two investors gain the same yield as their fortune is represented in the cash dividend received and capital gains resulting from a high share price. Meanwhile, Irrelevant Theory argues, in cases where there is an impact by dividend policy on

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market value this is a result of asymmetric information. This effect is due to the information conveyed by the dividend policy about future earnings.

Watts' (1973) empirical study on the information contained in the dividend tested the relationship between unexpected dividend changes, future earnings and abnormal returns on shares in companies that announce unexpected changes in dividend. In his sample he used 310 firms over a 23 year period from June 1945 to June 1968 based on information in COMPUSTAT tapes.

Watts (1973) found that the unexpected change in dividend provides little information about future earnings and there is no abnormal return around dividend announcements month.

In their study, Black and Scholes (1974) attempted to find the impact of dividend policy on stock prices by creating 25 investment portfolios from companies listed in the New York Index and then classified the companies into five groups according to the cash dividend policy they followed. Each group was then further divided into five categories according to risk (beta coefficient). The study covered a period of 35 years from 1931 to 1966.

Black and Scholes (1974) found that companies that increase their dividend can expect that such an increase would not affect the share price. They also found that prices may change temporarily in response to a change in the dividend because the market might think that this change suggests something about future earnings.

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When the picture becomes clear that the dividend change was not due to estimates of future earnings, then the temporary change in the price will go away.

Miller and Scholes (1978 and 1982) in their research on dividend and taxes confirm the validity of Irrelevant Theory and the absence of any effect of dividend policy on the market value of a company. Instead, the effect comes from the investment and finance policies. Merton and Rock's (1985) study concludes that the dividend is a mechanism for conveying missing information on earnings to the markets. Therefore, the impact of the dividend is in fact a response from the markets to unexpected earnings rather than the dividend per share. Furthermore, the earnings information implicit in the dividend gives the dividend an expectation about future earnings.

Peter's (1996) analysis suggests that dividend yields have no particular significance as a stock market forecasting device. He used Ibbotson large-cap total return series and dividend yields on the S&P 500.

Peter (1996) concludes that the dividend is not important, and that if companies do not pay any dividend for a long time, there would be either no impact on shareholders' wealth or the impact would be very limited.

Conroy, Eades and Harris (2000) studied the pricing effects of simultaneous earnings and dividend announcement in the Japanese market. Their sample was 3,890 observations for the period 1988 to 1993.

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Conroy, Eades and Harris (2000) they found that there is a control of the impact of earnings on the impact of dividend in their explanation of market reaction. Also they find that earnings announcements can provide sufficient information to the markets making dividends sound like an additional mechanism for signals. Moreover, their findings indicate that the expectations of dividend provide additional information to that contained in the current earnings announcement or future earnings expectations.

Chen, Firth and Gao's (2002) study, conducted in China, concerns the announcement and contains information about earnings, cash dividend and share dividend. They used 1,232 announcements of listed companies for the period 1994-1997.

Chen, Firth and Gao (2002) study concludes that movements in stock prices is closely associated with unexpected earnings and that cash dividends play only a limited role regarding this signal, while share dividends are used to promote or modify signals of previous profits.

In spite of the results of the above studies, the researcher believes that Irrelevant Theory is unrealistic. This is mainly because of its assumption of and reliance on financial market efficiency. The theory is based on symmetrical information between management and investors, no taxes, no transaction costs and investors are correctly advised when taking their investment decisions. The researcher believes that there is no financial market that is 100% efficient and, consequently,

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this theory is inapplicable. This, however, explain why many empirical studies prove that dividend policy has an effect on market value.

Gordon's study (1959) is one of the most important of the empirical studies. He hypothesised that there are three reasons why investors buy shares, namely: 1) dividend and earnings; 2) dividend; and (3) earnings. He evaluated the three hypotheses by deriving the relationship between variables that follow each theory. He tests the above hypotheses by using data from four industries over two years (1951-1954). There are eight samples and the number of corporations in each industry is as follows: Chemicals: 32; Food: 52; Steel: 34; and Machine Tools: 46.

Gordon tested his sample by using cross section, price data, dividend and earnings of the companies at a point in time that was used to measure the relationship. He found that it was difficult to infer the existence of a logic in the pricing of common stocks for the first hypothesis (dividend and earnings) but the second hypothesis (dividend) gave the interpretation that if growth is valued highly, an increase in the dividend with a corresponding reduction in retained earnings will not increase the value of a share as much as when a low value is placed on growth. In addition, the change in price with dividend can be predicted with much greater accuracy when retained earnings are held constant than when the increase comes out of retained earnings.

According to the third hypothesis (earnings), the investor obtains income per share when he acquires a share of stock and he can receive the cash dividend and gets the retained earnings if he sells the share because it is in share value.

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However, the different tax treatment of dividend and capital gains creates a stockholder's preference for retained earnings.

The paper specifies that the dividend hypothesis is correct regardless of whether or not the earnings hypothesis is correct. Further, it is concluded that a dividend increase will lead to an increase in the market value of a company and a reduction in the cost of equity.

In addition to the above study, Gordon (1962 & 1963) also asserts that the Irrelevant Theory is not correct. He found that the dividend policy and investment policy are interconnected and that investment policy cannot alone and in isolation from dividend policy affect the market value of a company. Linter (1962) stresses that the value of one dollar received by shareholders as dividend is more than the value of one dollar in retained earnings; therefore dividend policy is relevant and has an impact on shareholders' value.

Pettit (1972) tried to provide evidence for the hypothesis that changes in dividend levels convey important information to market participants. He collected the announcement dates of all dividend changes for a set of 625 New York Stock Exchange (NYSE) firms for the period January 1964-June 1968. There were around 1,000 dividend changes announcements by these firms during this period. He divided his sample into several portfolios according to the degree of dividend change and trends of earnings change. He tested the abnormal return around the dividend announcement date for 14 portfolios of multiple aspects of dividend and earnings.

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Pettit found that the market reacts primarily to significant increases or decreases in dividends announcement. He showed that the current prices in efficient markets reflect all the information published. This means that the expected returns on shares at a given time is independent of all the available information from earlier periods because it has already been reflected in the share price. Thus, the announcement of a change in the dividend would be quickly reflected in the share price, either increasing or decreasing according to the change in dividend.

Brown, Finn and Hancock (1977) examined the relationship between dividend, earnings and abnormal returns by testing sample from Australia for the period 1963-1972. They used an event study to test abnormal returns around the dividend announcements by applying regression analysis. Due to the fact that dividend and earnings announcements are simultaneous in Australia, the study compared the dividend and earnings as one group.

Brown, Finn and Hancock's findings indicate that although a change in both dividend and earnings have a positive relationship with abnormal returns, only the impact of dividend is statistically significant.

In his study, Blume (1980) examines the relationship between dividend policy and total returns on a risk-adjusted basis by using cross-sectional regressions.

He finds that over 41 years to 1976, the risk-adjusted returns on dividend-paying stock increased in anticipation of the dividend yield, while the average return on all dividend-paying issues was about the same as on non-dividend paying issues.

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Moreover, Blume finds that the total returns on non-dividend paying stocks tended to exceed the returns on most dividend paying stocks.

Aharony and Swary (1980) tried to ascertain if quarterly dividend changes provide information beyond that already provided by quarterly earnings announcements. They tried to assess the sole impact of dividends by controlling the impact of earnings through testing a sample in which earnings and dividends were announced on different dates.

In order to isolate the impact of dividend from the impact of earnings, they distinguished samples in which the earnings announcement preceded the dividend announcement from those where earnings announcement followed the dividend announcement.

Aharony and Swary found that the market's reaction to a dividend increase is positive, and negative for dividend decrease. In addition, the market's response to a decrease in the dividend is greater than its response to a dividend increase. Furthermore, their findings did not indicate any difference in the market reaction in the case of earnings announcement before the dividend announcement and the earnings announcement after the dividend announcement.

Agreeing with the findings of Aharony and Swary (1980), Asquith and Mullins (1983) tested the initial dividend where they find that the market's reaction to initial dividend appears smaller when the earnings announcement within ten days

from the dividend announcement. They find that the information provided by both the dividend and earnings are partly reciprocal.

Kane, Lee and Marcus (1984) studied the market's reaction to earnings and dividend announcements advertised within ten days of each other. They used a sample consisting of 352 observations of quarterly dividend and earnings announcements between fourth quarter, 1979 and second quarter, 1981.

Kane, Lee and Marcus arrived at important results as they find that changes in dividends and earnings have a significant positive relationship with the cumulative abnormal return around the announcements. They also find that the market tends to evaluate both the dividend and earnings announcements jointly. Furthermore, the impact of the interaction can be perceived in both dividend and earnings announcement.

Another study by Ang and Peterson (1985) investigates the relationship between stock returns and yield in the context of ex-ante data by examining the role of dividend as a proxy for risk. They used a long-run expectation data on return and yield from *The Value Line Investment Survey* for the companies from 1973 to 1983.

Ang and Peterson find that the return for companies that distribute high cash dividends will be high, which means that its shares price will be less than the company's shares price that achieves the same profit level its cash dividend is less with the stability of other factors.

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Baskin's (1989) study used both cross section and time series analysis to measure the effect of dividend policy on the volatility of common stocks in the US for the period 1967-1986. Baskin's data is for all 2,344 firms on the 1986 COMPUSTAT tapes in six industries which represent a very broad and diverse cross-section of US public corporate.

Baskin (1989) found out that there is a strong and robust inverse relationship between dividend yields and stock price volatility.

Marsh and Power (1999) investigate the relationship between stock prices and dividend for a panel sample of 56 large UK companies over the period January 1968-December 1996. Their results indicate that there is a significant co-integrating relationship between share prices and share dividend.

In their study on UK simultaneous announcements, Lonie and Abeyratna (1996) examine capital market reactions to a variety of combination of simultaneous dividend and earnings announcement. They separated the impact of dividend and earnings by dividing the sample into six portfolios according to changes in earnings and dividend: 1) dividends and earnings increase; 2) dividends increase and earnings decrease; 3) dividends decrease and earnings increase; 4) dividends and earnings decrease; 5) dividends no change and earnings increase; and 6) dividends no change and earnings decrease.

Lonie and Abeyratna (1996) conclude that a company's announcements on increases in both earnings and dividends earned the largest abnormal returns,

while its announcements on the decline in earnings and dividends earned the largest negative abnormal returns.

By adopting regression analysis, Amihud and Murgia (1997) studied the impact of dividend and earnings announcement in the German market to test if price movements were linked to the dividend and earnings, based on a sample of 200 companies during the period 1988-1992.

They found unexpected dividends and earnings have an interpretation power on share prices movement. Even though earnings announcement precedes dividend announcement in Germany, Amihud and Murgia's results imply that the dividend announcement is a greater signal about current earnings than the early earnings announcement.

Dyl and Weigand (1998) investigate the changes in a company's risks which follow the cash dividend payment. Their study stems from the information implied in a cash dividend because managers will only increase the dividend when they think that corporate profits level will grow continuously. Dyl and Weigand's hypothesis about the initiation of cash dividend indicates that a firm's earnings and cash flow have become fundamentally less risky and decrease in risk comes from a reduction in earnings volatility and earnings surprises. They selected firms that paid no dividend for at least four years preceding the announcement of the initial dividend, whose returns data were available for at least one year before and after the announcement date and had quarterly earnings data available for 12 quarters preceding and following the quarter in which the initial dividend was

announced. They used regression analysis to show that the excess return observed around the announcement is related to the observed future changes in risk for their sample of 240 firms for the period January 1972-December 1993.

Dyl and Weigand (1998) provided evidence that the cash dividend indicates that corporate profits and cash flow will be less risky, meaning that there is a statistically strong significant relationship between dividend policy and a company's market value.

Azhagaiah and Priya (2008) examine the relationship between dividend policy and shareholders' wealth in the Indian chemical sector by analyzing the impact of variation in dividend policy on shareholders wealth of dividend paying and non-paying companies and the impact of retained earnings and past performance in the presence of dividend policy on shareholders wealth.

They used regression analysis for their sample of 21 companies from the National Stock Exchange and 28 companies from the Bombay Stock Exchange for the period 1997-2006. Azhagaiah and Priya (2008) find that in the long-run, the wealth of shareholders of dividend paying chemical companies increased significantly when compared to that of their dividend non-paying counterparts, and the initiation of dividend payments had a significant positive impact on the shareholders' wealth during the study period.

3-3 Model and hypotheses

Dividend and retained earnings are two alternative options available to a firm to dispose of its earned profit. Profit may be either paid as a dividend to shareholders or held in retained earnings for future growth. While the payment of a dividend gives an immediate return on shareholders' investments, retained earnings do not give shareholders immediate and certain returns. Instead, it is an increase in the firm's capital which can lead to an increase in the firm's share price. Thus, shareholders have two options: an increase in dividend which assures them of a regular present income; or retained earnings which may appreciate their capital in the future but with a degree of uncertainty.

A number of the studies described above (for example, Gordon, 1959, Kane et al., 1984, Amihud and Murgia, 1997, Dyl and Weigand, 1998, Conroy et al., 2000, Chen et al., 2002) predominantly deal with event study methodology. Event study methodology is relevant for the short-run impact of dividend policy on stock returns. It both calculates abnormal returns in the post-dividend announcement period and checks the impact of dividend prior to the ex-dividend period. Event study methodology is extensively used to analyze the impact of dividend on stock price.

However, Baskin (1989) takes a different approach and examines the influence of dividend policy on stock price volatility against the returns by using simple cross-section regression for the analysis. He suggests the following control variables in testing the significance of the relationship between dividend yield and price

volatility: operating earnings; size of the firm; level of debt financing; payout ratio; and level of growth.

3-3-1 Derived Model:

When testing the relationship between dividend policy and share price, it should be studied from two perspectives: that of management and that of shareholders. Management requires sufficient profit retention to satisfy the firm's long-term needs such as investment demand and liquidity needs. This places a focus on the firm's preference for dividend-retention configuration against dividend only. Such a configuration varies across companies depending on circumstances surrounding its activities.

On the other side, shareholders' preferences depend mainly on their income level which is affected by many factors such as tax effect, as discussed in previous chapter. Therefore shareholders tend to invest in firms whose dividend policies match their preferences.

The differences between management and shareholders' preferences create different scenarios regarding dividend policy and preferences for management and shareholders which affect market value.

Let us assume typical company has a full vision about shareholders' preferences scenarios in relation to dividends policy. Each scenario shown below indicates the level of utility that comes from alternative dividend-retention configuration. Therefore, the dividend policy preferences function can be represented as:

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$$U = f (D, R) \hspace{4cm} (1)$$

Where D and R are the dividend policy and retention net of all taxes at all levels.

The utility level can be seen as related to the preferences of the management with respect to the shareholders' preference. This utility is the result of a process of accounting for their relative performances and the factors influencing such preferences as well.

The next step is to represent the hypothesis that dividend policy affects share prices or market value of the firm. The utility function can be represented as the function for optimizing the market value of the firm. The market value of the firm can be represented as:

$$\text{Market value of the firm} = f\left(Net\ profit,\ Dividends, \text{Re}\,tained\ earnings\right) \hspace{1cm} (2)$$

The market value of the company here is represented on the basis of accounting earning analysis. The net profit is derived from the current investment of the company. The higher the net profit, the higher will be the share price. In addition, the market value of the company also depends upon the dividend paid to shareholders representing the dividend policy and the retained earnings representing the investment policy which will contribute to future profit.

The changes in the market value of the company are guided by the preferences of the shareholders for dividend or retained earnings. If majority of the shareholders of a company prefer dividend but the policy of the company changes in favour of

retained earnings, then one can expect the market value to fall. On the other, if the majority shareholders of the same company expect higher retained earnings and the company policy moves towards more retained earnings, then the market value is likely to go up. So the market value of the company can be represented as follows:

$$V_t = f(D_t, Y_t, R_t) \tag{3}$$

Where:

V_t = market value of the firm,

D_t = dividend policy

Y_t = net profit of the firm, and

R_t = retention earning

With a view to normalizing we divide throughout by par:

$$V_t/V_o = f(D_t/V_o, Y_t/V_o, R_t/V_o)$$

Where V_t/V_0 is share price of the firm, D_t/V_0 is the rate of dividend (dividend per share), Y_t/V_0 is the rate of the profit (earning per share) and R_t/V_0 is the rate of retained earnings (retained earnings per share). In other word, the equation can be represented as:

$$P_t = f(d_t, y_t, r_t) \tag{4}$$

Which reiterates the fact that the share price index (P_t) depends upon the rate of profit (y_t), the dividend rate (d_t) and the retention earning (r_t). We have assumed

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the above function in equation (4) for the stock (A) which can be represented as the following:

$$P_t = A(d_t^{\beta_1}\, y_t^{\beta_2}\, r_t^{\beta_3})e^u \qquad (5)$$

Alternatively, equation (5) can be expressed as:

$$P_t = A + \beta_1 d_t + \beta_2 y_t + \beta_3 r_t + u \qquad (6)$$

Since we are using a cross-section and time-series data, we can write the above equation as:

$$P_t = A + \beta_1 d_{it} + \beta_2 y_{it} + \beta_3 r_{it} + u_{it} \qquad (7)$$

Where:

$A = \alpha$

$i = 1 \dots N$

$t = 1 \dots T$

And because there are many types of dividend policy (cash, shares, repurchase) with different effect on company market value, the firm management can use one or more of them in the same time. Therefore, equation (7) can be represented as:

$$P_{ti} = A + \beta_1 cd_{ti} + \beta_2 sd_{ti} + \beta_3 repd_{ti} + \beta_4 y_{ti} + \beta_5 r_{ti} + u_{ti} \qquad (8)$$

Where:

cd = cash dividend

sd = share dividend

repd= share re purchasing

3-3-2 Control Factors

In keeping with previous studies (Baskin, 1989), the following control factors will be applied in this study:

- Size: There is a link between size and market value. Small companies are less diversified in their activities and there is less scrutiny into the company by investors. Information on the stocks of smaller companies could be less informed and illiquid in nature. As small companies are subject to bigger price change as a result of the above factors, there is a need to introduce a size control variable.

- Liquidity: There is a link between liquidity with dividend policy and market value. Companies with less liquidity are expected to be less able to increase their activities by new investment and less able to continue their dividend, leading to less scrutiny by investors into the firm. Such companies are subject to bigger price change as a result of the above posed factors, thus there is a need to introduce a liquidity control variable.

3-3-3 Use of Panel Models:

We will attempt to study the impact of dividend yield on stock price through panel data estimation as this allows us to observe company effect and time effect through the sample period. The company effect refers to factors affecting the behaviour of an individual company if constant over time. The time effect refers

to the economic condition at a particular time point; it varies over time. So now equation (8) can be stated as:

$$P_{ti} = A + \beta_1 cd_{ti} + \beta_2 sd_{ti} + \beta_3 repd_{ti} + \beta_4 y_{ti} + \beta_5 r_{ti} + \beta_6 Z_{ti} + \beta_7 L_{ti} + u_{ti} + \varepsilon_{it}$$

Where:

Z = Company Size

L = Liquidity

μ_i = Firm specific component

ε_{it} = Disturbance term

Why Panel Data Models?

Panel data, which is called longitudinal data or cross-sectional time series data (Hsiao, 2003, Davidson and Mackinnon, 2004, Gujarati and Porter, 2009), where multiple cases (countries, companies, people, etc) are observed at two or more time periods. In other words Panel data consist of observations on the same cross-sectional, or individual, unites over several time periods (Gujarati, 2003).

Baltagi (2008) states the following advantages achieved using panel data:

1- It considers heterogeneity explicitly by taking into account individual-specific variables;

2- It gives more information, more variability, and less collinearity between variables by combining both time series and cross-section observations;

3- It is more suitable for studying the dynamics of change, as well as studying more complicated behavioural models;

4- It is better able to measure and identify effects that are simply not detectable in pure cross-section or pure time series data;

5- It enables more complicated behavioural models to be studied;

6- It minimizes the bias that may occur if firms are aggregated into broad aggregates.

The panel data can be short or long panel data. In short panel data the number of cross-sectional data are greater than the number of time periods, while the number of time periods are greater than cross-sectional data in long panel (Gujarati and Porter, 2009).

There are two possibilities for the estimating techniques that can be used, regardless whether or not we have short or long panel data (Gujarati and Porter, 2009):

1- The least squares dummy variable (fixed effect) approach which assumes that the individual constant is a group specific constant term in the regression model; and

2- The generalized least squares (random effect) approach which assumes that the individual constant is a group specific disturbance similar to the error term, except for each group.

However, the question is: which one is better, fixed effect or random effect?

3-3-4 Fixed Effect or Random Effect?

The main advantage of the fixed effect estimator is that it assumes the time effect is independent for each entity that is possibly correlated with the regression. This is because the fixed effect soaks up much of the explanatory power of the relatively time-invariant explanatory variables (Buddelmeyer et al., 2008).

However, it is common practice in economic research to choose between fixed effect or random effect according to the Hausman (1978) specification test. This test facilitates the differentiation between random and fixed effects models by testing for correlation between the x variables and the individual random effects εi. The Hausman test checks for strict exogeneity. If no correlation is found, random effects should be employed but if correlation exists, fixed effects should be employed.

In this study, the Hausman (1978) test is used to check this assumption and to test the appropriateness of using the fixed effect estimation or the random effects estimation.

3-3-5 Variables Definitions

We will use the following variable definitions for the variables in the model derived in section 3-3-1.

3-3-5-1 Dependent Variable

- Market value: The share price on earnings and dividend announcement day is used as a proxy for market value (Azhagaiah and Priya, 2008).

3-3-5-2 Independent Variables

- Profit: the year net earnings per share (EPS) is used as a proxy for the profit.

- Dividend policy: three types of dividend (cash, share and repurchase) per share are used as a proxy for dividend policy as the following proxy:

  o The amount of cash dividend per share as a proxy for cash dividend.

  o The percentage of share dividend per share as a proxy of share dividend.

  o The percentage of the cost of shares repurchase to the outstanding share as a proxy for share repurchase.

- Investment policy: Return Earnings per Share (REPS) is used as a proxy for the investment policy.

- Size: the company's total assets are used as a proxy for size.

- Liquidity: the company's debt to equity ratio is used as a proxy for company liquidity.

3-3-6 The Hypotheses

The main null hypothesis for this chapter is:

There is no significant statistical relationship between dividend policy and market value of the sample companies in the UK.

A sub-hypothesis for each economic sector in the UK is used to test if there is any effect of the company's sector on the relationship between dividend policy and

market value. In the London Stock Exchange (LSE) there are 14 sectors, so we will have 14 sub-hypotheses for the following sectors:

1- Banking sector

2- Basic Materials sector

3- Consumer Goods sector

4- Consumer Services sector

5- Health Care sector

6- Industrials sector

7- Insurance sector

8- Oil and Gas sector

9- Technology sector

10- Telecommunications sector

11- Utilities sector

12- Real Estate Investment and Service sector

13- Real Estate Investment Trusts sector

14- Financial Services sector.

3-4 Data and Sample Selection

3-4-1 Data

There are many weaknesses in previous studies regarding sample size, characteristics and timeframe. Therefore, this study seeks to tackle these weaknesses by obtaining the strongest possible sample to represent the study components as adequately as possible over the longest possible period of time.

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Previous studies excluded from their sample companies that did not distribute dividend during the period covered by the study (see: Lobo et al., 1986, Doron and Ziv, 2001). This means that the selected sample could not be looked upon as neutral; in other words, the sample was addressed in only one direction. On the other hand, the short periods of time covered by these studies (see: Gordon, 1959, Pettit, 1972, Grinblatt et al., 1984, Kalay and Loewenstein, 1986) do not make it possible to generalize the results because these periods may be affected by any emergency during that short period of time.

The researcher relied on the fact that the decision taken not to distribute dividend in any of the years covered by the study is an outcome decision of the dividend policy. In another words, zero dividend is still a policy. Therefore, the researcher found it prudent not to exclude these companies from the sample which includes equity companies in the UK pound for the period 1998-2007. The year 2008 is excluded from the sample period because it has been affected, in its later months, by the global financial crisis. It has been found that the number of companies that meet the above criteria is 691 across 15 sectors.

3-4-2 Selected Sample

There were several stages of data collection. The first stage was collecting the sample through the following criteria: active equity companies in the UK pound whose base date goes back to 1/1/1998 (in order to obtain ten years of data from 1998 to 2007). 2008 was excluded from the sample period because of the impact of the global financial crisis, which had the potential to distort the results. The number of companies that met the above criteria was 691 across various sectors.

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The second stage in data collocation was identifying the companies for which data are available on the dividend announcement date (as this determines the dependent variable—share price as a proxy for market value). It was found that the number of these companies was 423. The next phase was to collect data related to those companies. The collection comprised annual and semi-annual data through DataStream (for annual data) and corporate websites (for semi-annual data). As some semi-annual data were not available on the websites, the researcher made direct contact with the companies concerned in order to obtain it . Complete data for 362 companies across various sectors of the economy was obtained.

All data was collected according to each firm's financial year. Most sample firms start their financial years on January 1 and end in December 31. But many also have different financial years, for example beginning in April. Combining data from different financial years into our sample was done in the following manner: first data was collected for each company according to its own financial year, and then placed into calendar years. That would correspond most to the firm's own financial year. The data collected is presented in the Table 3-1.

Table 3- 1 The Sample by Economic Sectors

This table presents the sample data (annual and semi-annual) obtained from (DataStream and companies website) of the UK companies covering the period 1997 to 2008.

	Sector	Sample	Available	Percentage
1	Banks	7	4	57.14%
2	Basic Materials	33	17	51.52%
3	Consumer Goods	76	42	55.26%
4	Consumer Services	121	67	55.37%
5	Health Care	31	11	35.48%
6	Industrials	200	116	58.00%
7	Insurance	14	11	78.57%
8	Oil & Gas	25	13	52.00%
9	Technology	56	27	48.21%
10	Telecommunications	4	3	75.00%
11	Unclassified	19	0	0.00%
12	Utilities	12	5	41.67%
13	Real Estate Investment & Service	34	13	38.24%
14	Real Estate Investment Trusts	15	11	73.33%
15	Financial Services	44	22	50.00%
	Total	**691**	**362**	**52.39%**

By reviewing the sample's characteristics, it was found that the cash dividend is the most widely used type of dividend. Only a small percentage of companies did not pay any cash dividend, while no companies used a share dividend or share buyback regularly throughout the study period. Accordingly it can be concluded that the cash dividend is more important than other types of dividend (see Table 3-2).

Table 3- 2 The Sample Dividend Frequency by Sectors

This table presents the frequency of payment (full period, intermittent, and no dividend) for each type of dividend (cash, share and buy back) by economic sector for the sample of 362 UK companies from 1997 to 2008.

No.	sector	No of companies	Cash Dividend			Share Dividend			Buyback		
			Full Period	Intermittently	No Dividend	Full Period	Intermittently	No Dividend	Full Period	Intermittently	No Dividend
1	Banks	4	4	0	0	0	4	0	0	0	4
2	Basic Materials	17	10	5	2	0	17	0	0	13	4
3	Consumer Goods	42	30	12	0	0	38	4	0	29	13
4	Consumer Services	67	57	8	2	0	63	4	0	43	24
5	Health Care	11	1	9	1	0	8	3	0	7	4
6	Industrials	116	88	24	4	0	116	0	0	74	42
7	Insurance	11	8	2	1	0	7	4	0	3	8
8	Oil & Gas	13	11	2	0	0	13	0	0	7	6
9	Technology	27	19	2	6	0	27	0	0	23	4
10	Telecommunications	3	2	0	1	0	2	1	0	0	3
11	Utilities	5	4	1	0	0	2	3	0	1	4
12	Real Estate Investment & Service	13	5	2	6	0	13	0	0	10	3
13	Real Estate Investment Trusts	11	9	2	0	0	11	0	0	11	0
14	Financial Services	22	20	2	0	0	22	0	0	21	1
	Total	362	268	71	23	0	343	19	0	242	120

3-5 Empirical Results

3-5-1 Model Test

Before analyzing the regression model, the reliability of the model was tested through stepwise regression, regression assumption and the Hausman test.

3-5-1-1 Stepwise Regression test

In deciding on the 'best' set of explanatory variables for a regression model, researchers often follow the method of stepwise regression in order to help find the best regression model (Berenson et al., 2009). There are two methods available for stepwise regression: either by introducing the X variables one at a time (stepwise forward regression) or by including all the possible X variables in one multiple regression and rejecting them one at time (stepwise backward regression) (Gujarati and Porter, 2009) .

In this study, the stepwise forward regression is used to determine the best model by comparing R^2 value for the possible model as shown in the table no. 3-3 below:

Table 3- 3 Stepwise regression

This table presents the stepwise regression for all independent variables (cash dividend, share dividend, share buy back, EPS, REPS, total assets and D/E ratio) which will help in determine the best model for the sample of 362 UK companies from 1997 to 2008.

Cash Dividend	Share Dividend	Share Buy Back	EPS	REPS	Total Assets	D/E Ratio	R^2
-0.00187							0.00%
-0.00190	-52.8027						0.00%
-0.00174	-37.9292	947.641					0.81%
-0.00233	-17.8037	826.703	108.222				3.44%
-0.00177	36.8472	564.977	87.6039	42.2873			7.53%
-0.00175	36.0338	565.647	87.4067	42.1720	3.48E-07		7.58%
-0.00144	44.9441	563.410	83.1154	40.3129	3.28E-07	0.30383	7.21%

As can be seen from the above table, the best model that can be achieved is by remove the D/E ratio (control variable) from the model. This is because the R^2 value of the model without D/E ratio is the highest R^2, 7.58%.

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3-5-1-2 Regression Assumptions test

There are four critical assumptions for regression model: collinearity, normality, homoscedasticity and linearity (Gujarati, 2003, Berenson et al., 2009).

1. Collinearity Test

One of the most important problems facing the use of multiple regression analysis is the probability of collinearity between independent variables, so that they cannot be fully independent (multi-collinearity) (Berenson et al., 2009). This collinearity occurs when there is a strong correlation between one or more independent variables with each other, although usually there is no new information added to the regression model. In addition, the relationship tends to distort the model results because of the difficulty of isolating the impact of relationship between the supposedly independent variables.

One of method used to test collinearity between independent variables is Variance Inflation Factor (VIF) for each independent variable. VIF can be calculated through the following equation:

$$VIF = 1 / (1 - R^2)$$

The decision rule is that if the VIF coefficient for any independent variable is equal to one, that variable independent of other variables; i.e. collinearity has no significant effect on the relationship between the independent variable and the dependent variable. The independent variable is considered to be independent and in collinearity with other independent variables if the VIF coefficient of the variable is greater than five (Berenson et al., 2009).

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The researcher conducted a collinearity test between the independent variables (cash dividend per share (CDPS), share dividend per share (SDPS), stock re purchase per share (SRPS), earning per share (EPS), retained earnings per share (REPS) and total assets (TA)) to examine the possibility of collinearity between the independent variables with a significant effect on the relationship between the independent variables and the dependent variable. The STATA programme was used for calculating the correlation between independent variables using the Pearson Matrix (see Table 3-4).

One of the most important problems facing the use of multiple regression analysis is the probability of Collinearity between the independent variables, so that they cannot be fully independent (Multi-Collinearity) (Berenson et al., 2009) . This collinearity comes out when there is a strong correlation between one or more independent variables with each other. Usually there is no new information added to the regression model. Added to that, it tends to distort the model results because of the difficulty represented in isolating the impact of relations between variables that are supposed to be independent of the dependent variable.

Table 3- 4 Pearson matrix for correlation coefficient

This table presents Pearson matrix of the independent variables (cash dividend, share dividend, share buy back, EPS, REPS and total assets) which will help in calculating the VIF for the sample of 362 UK companies from 1997 to 2008.

	CDPS	SDPS	SRPS	EPS	REPS	TA
CDPS	1.0000					
SDPS	-0.0029	1.0000				
SRPS	-0.0017	-0.0191	1.0000			
EPS	0.0010	-0.0130	0.0816	1.0000		
REPS	-0.0010	-0.0305	0.1297	0.1594	1.0000	
TA	-0.0005	0.0011	0.0086	0.0206	0.0337	1.0000

From the above results, the VIF value between independent variables can be calculated as shown in Table 3-5.

Table 3- 5 Variance Inflation Factor (VIF)

This table presents the VIF between the independent variables (cash dividend, share dividend, share buy back, EPS, REPS and total assets) for the sample of 362 UK companies from 1997 to 2008.

	R	**R^2**	**$1-R^2$**	**VIF $1/(1-R^2)$**
CDPS, SDPS	- 0.0029	0.00000841	0.99999159	1.00000841
CDPS, SRPS	- 0.0017	0.00000289	0.99999711	1.00000289
CDPS, EPS	0.0010	0.00000100	0.99999900	1.00000100
CDPS, REPS	- 0.0010	0.00000100	0.99999900	1.00000100
CDPS, TA	- 0.0005	0.00000025	0.99999975	1.00000025
SDPS, SRPS	- 0.0191	0.00036481	0.99963519	1.00036494
SDPS, EPS	- 0.0130	0.00016900	0.99983100	1.00016903
SDPS, REPS	- 0.0305	0.00093025	0.99906975	1.00093112
SDPS, TA	0.0011	0.00000121	0.99999879	1.00000121
SRPS, EPS	0.0816	0.00665856	0.99334144	1.00670319
SRPS, REPS	0.1297	0.01682209	0.98317791	1.01710991
SRPS, TA	0.0086	0.00007396	0.99992604	1.00007397
EPS, REPS	0.1594	0.02540836	0.97459164	1.02607078
EPS, TA	0.0206	0.00042436	0.99957564	1.00042454
REPS, TA	0.0337	0.00113569	0.99886431	1.00113698

Based on the results, all the VIF values between the independent variables are very close to 1. Therefore, it can be concluded that there is no collinearity between the independent variables that has a significant effect on the relationship of the independent variables and the dependent variable, to a 95% confidence level.

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2. **Normality Test**

The other important assumption of regression models is that the variables should follow a normal distribution, In this context, the more the data follows the normal distribution, the more accurate the results (Berenson et al., 2009). The researcher sought to test whether or not the independent variables and the dependent variable follow a normal distribution by calculating skewness and kurtosis. The skewness measures the loss of consistency in the data and how it follows a normal distribution. If skewness is zero then that the data follows a normal distribution; but if it is positive, then it refers to the deviation of the data to the right, while a negative value indicates a deviation to the left. The value of kurtosis refers to the concentration of data in the middle. If kurtosis is zero the data is a bell-shaped distribution, but if the value is negative then the data is flatter than a bell-shaped distribution, while if the value is positive, then it is sharper than a bell-shaped distribution (Berenson et al., 2009) .

Table 3-6 displays the value of skewness and kurtosis for all the variables over the ten year period. All the variables for a period of ten years move away from a normal distribution. The researcher thus resorted to Log Transformation in order to overcome the violations of the assumptions of the regression model (Berenson et al., 2009).

Table 3- 6 Descriptive statistic for variables

This table displays the value of the mean, standard deviation, median, skewness and kurtosis for all the variables (market value, cash dividend, share dividend, share buy back, EPS, REPS, and total assets) for the sample of 362 UK companies from 1997 to 2008.

Panel	_	Market Value (P0)	Cash Dividend	Share Dividend	Stock Buyback	EPS	REPS	Total Assets
	Mean	368.2508	0.04769	0.024943	0.001018	0.109724	0.454782	4078521
	Standard Deviation	1129.439	0.092675	0.124273	0.011345	1.080632	4.406273	1.96E+07
1	Median	182.56	0.027	0	0	0.08	0.288547	167866
	Skewness	13.08952	10.25002	11.0478	14.01401	-16.8879	-6.88141	7.775847
	Kurtosis	205.0874	156.0035	165.6552	213.9348	414.8657	188.3352	74.20745
	Mean	411.5382	0.052932	0.025307	0.003052	0.134092	0.564959	4527164
	Standard Deviation	1218.89	0.108252	0.106175	0.044601	0.399624	3.744686	2.13E+07
2	Median	198.435	0.028	0	0	0.079	0.318422	187424.5
	Skewness	13.00326	8.970474	5.862267	22.51317	4.112104	-1.10474	7.525409
	Kurtosis	219.7567	120.1794	39.79615	551.7129	84.79439	139.1433	68.84002
	Mean	444.6838	0.052186	0.025026	0.005624	0.135082	0.661501	6365877
	Standard Deviation	1631.006	0.104441	0.097979	0.045159	0.478547	4.001269	3.14E+07
3	Median	205.5	0.028	0	0	0.08	0.398113	221157
	Skewness	16.20801	9.347495	6.155666	11.54499	1.625977	-1.25038	7.177523
	Kurtosis	289.7671	133.9085	47.20296	160.5413	56.06016	144.6328	59.65525

4	Mean	400.0069	0.053088	0.022271	0.004991	0.102228	0.724023	6829959
	Standard Deviation	1264.972	0.113647	0.111284	0.059131	0.426235	3.753056	3.43E+07
	Median	202.71	0.027	0	0	0.063	0.445283	239586
	Skewness	12.14223	9.665831	9.204043	19.83449	2.922551	2.947164	7.559127
	Kurtosis	166.2615	137.2627	115.4412	437.1153	42.57796	137.5759	66.65853
5	Mean	280.4226	0.051539	0.017996	0.006116	0.050094	0.704099	7256944
	Standard Deviation	578.2506	0.119266	0.093938	0.05213	0.642069	3.704285	3.76E+07
	Median	158.61	0.026	0	0	0.054	0.431167	236273
	Skewness	10.52738	11.82091	9.706988	13.1911	-5.79716	3.496372	7.927168
	Kurtosis	150.4798	194.99	122.6797	199.446	129.0546	127.9427	73.57518
6	Mean	319.3158	45.89673	0.016123	0.004146	0.098064	0.779731	7865650
	Standard Deviation	595.8949	1126.165	0.082197	0.021817	0.713934	4.608778	4.18E+07
	Median	190	0.029665	0	0	0.0635	0.40067	248428.5
	Skewness	9.809662	26.47694	7.548831	8.051832	4.191329	-0.07226	8.013342
	Kurtosis	136.4193	707.7602	66.39971	83.85947	98.27007	133.9841	74.44861
7	Mean	348.0828	4.235933	0.013903	0.006106	-0.02855	0.829048	8658209
	Standard Deviation	482.6302	112.57	0.058212	0.026524	3.030204	4.757136	4.88E+07
	Median	222.125	0.028	0	0	0.076	0.419922	270645.5
	Skewness	5.77342	26.85145	7.565891	6.932271	-18.6399	-0.24664	8.898524
	Kurtosis	54.02752	722.0008	78.33244	62.61918	356.1091	125.3297	92.42071
8	Mean	415.5555	0.058819	0.019248	0.015491	0.067639	0.93871	1.09E+07

	Standard Deviation	601.3624	0.091359	0.085153	0.074152	2.803109	5.023385	6.85E+07
	Median	266.655	0.031	0.000118	0	0.0925	0.463644	292078
	Skewness	6.246868	4.263089	7.756425	8.632435	-25.1917	-0.98887	10.16171
	Kurtosis	63.14877	29.13242	74.46427	93.50561	662.0345	112.3202	118.313
	Mean	499.9001	0.062771	0.01619	0.030464	0.23254	1.250588	1.19E+07
	Standard Deviation	734.0888	0.09826	0.060595	0.148495	0.708198	5.842273	7.60E+07
9	Median	306.075	0.034	0.000633	0	0.1095	0.532292	323052
	Skewness	5.734905	4.334766	7.863253	8.969349	-1.59298	1.194995	10.27629
	Kurtosis	51.23563	29.66433	83.37934	108.2815	95.92368	87.8829	120.1912
	Mean	512.4564	0.066848	0.017066	0.032951	0.289924	1.538414	1.49E+07
	Standard Deviation	741.6073	0.095797	0.066385	0.185101	0.76013	6.469473	1.08E+08
10	Median	299.625	0.0375	0.000754	0	0.12	0.603361	403832
	Skewness	5.494696	3.785778	7.092258	11.66466	6.685957	2.762652	12.43484
	Kurtosis	51.07387	24.54043	64.70495	180.2199	65.4921	84.95142	180.8162
	Mean	400.0213	5.057854	0.019807	0.010996	0.119084	0.844585	8333511
	Standard Deviation	971.2053	357.9381	0.091137	0.086299	1.443107	4.722586	5.54E+07
Total	Median	213	0.03	0	0	0.079	0.414286	257755.5
	Skewness	16.1631	82.72949	9.155508	18.56773	-36.4238	0.484186	15.44673
	Kurtosis	379.2098	6956.378	125.8412	513.5282	1655.697	127.8728	344.1257

Table 3- 7 Descriptive statistic for Log variables

This table displays the log value of the mean, standard deviation, median, skewness and kurtosis for all the variables (market value, cash dividend, share dividend, share buy back, EPS, REPS, and total assets) for the sample of 362 UK companies from 1997 to 2008.

Panel		Log Market Value (P0)	Log Cash Dividend	Log Share Dividend	Log Stock Buyback	Log EPS	Log REPS	Log Total Assets
1	Mean	2.227136	-1.55424	-1.97363	-1.5609	-1.0569	-0.48054	5.296057
	Standard Deviation	0.506032	0.503201	0.867282	0.593211	0.534458	0.641612	0.990803
	Median	2.261405	-1.52288	-2.05836	-1.74757	-1.01773	-0.41379	5.224963
	Skewness	-0.04736	-0.25423	0.025089	-0.23577	-0.18261	-0.50639	0.40105
	Kurtosis	3.977769	3.212178	2.878474	2.55557	4.002667	3.736168	3.490855
2	Mean	2.286596	-1.502	-2.05961	-1.59309	-1.05774	-0.42133	5.350877
	Standard Deviation	0.489554	0.483643	0.8963	0.800097	0.535605	0.603336	0.989378
	Median	2.297618	-1.48149	-2.1578	-1.75933	-1.01323	-0.36841	5.272822
	Skewness	0.007034	-0.07802	0.348239	-0.12336	-0.37518	-0.64162	0.419335
	Kurtosis	4.353937	3.55561	2.54154	3.153174	4.1034	5.491625	3.458073
3	Mean	2.301707	-1.47606	-1.98577	-1.4049	-1.0323	-0.34909	5.45277
	Standard Deviation	0.501212	0.473853	0.903187	0.672558	0.561682	0.578179	0.958113
	Median	2.312812	-1.44977	-2.05572	-1.50143	-0.98299	-0.31122	5.344701
	Skewness	0.038325	-0.07249	0.117439	0.081772	-0.50061	-0.59938	0.647404

	Kurtosis	3.944936	3.368395	2.462489	2.44814	4.3704	4.875496	3.516599
4	Mean	2.267188	-1.46471	-2.09549	-1.59154	-1.04825	-0.27395	5.49762
	Standard Deviation	0.499914	0.468415	0.863206	0.78352	0.557185	0.53809	0.954765
	Median	2.306875	-1.44982	-2.15692	-1.65404	-0.98089	-0.25253	5.37946
	Skewness	-0.05423	0.020354	0.33815	-0.46457	-0.44383	-0.74582	0.592489
	Kurtosis	4.087233	3.419026	2.943596	4.085486	4.14618	6.65563	3.573725
5	Mean	2.161875	-1.46871	-2.19656	-1.65625	-1.08892	-0.28163	5.508404
	Standard Deviation	0.502055	0.467293	0.84824	0.845404	0.528635	0.537043	0.962286
	Median	2.200328	-1.45593	-2.29276	-1.59194	-1.058	-0.24789	5.373414
	Skewness	-0.38864	-0.08274	0.442272	-0.19865	-0.13251	-0.3779	0.554149
	Kurtosis	4.600577	4.080835	2.807958	2.446103	3.57232	4.534284	3.588356
6	Mean	2.250649	-1.42538	-2.31026	-1.7725	-1.05831	-0.26699	5.514921
	Standard Deviation	0.478418	0.571645	0.857108	0.662626	0.535746	0.55918	0.971956
	Median	2.278754	-1.42022	-2.39209	-1.77815	-1.05061	-0.22696	5.395173
	Skewness	-0.61208	2.857157	0.546647	-0.31616	-0.16561	-0.2473	0.53082
	Kurtosis	5.853889	30.21534	3.02336	2.555576	4.153401	4.144177	3.618206
7	Mean	2.309514	-1.4379	-2.25579	-1.923	-1.00231	-0.24386	5.544521
	Standard Deviation	0.479848	0.514755	0.810161	0.709675	0.530798	0.560138	0.970671
	Median	2.346596	-1.42022	-2.2973	-1.92707	-0.97469	-0.20358	5.432398
	Skewness	-0.80683	1.120809	0.348804	-0.16162	-0.40086	-0.30349	0.529773
	Kurtosis	6.05482	16.28006	2.798565	2.39552	4.056382	4.735483	3.645602

8	Mean	2.366133	-1.39596	-2.26734	-1.76749	-0.95394	-0.18423	5.583973
	Standard Deviation	0.502693	0.476431	0.833586	0.840102	0.567078	0.543505	0.981375
	Median	2.425948	-1.38722	-2.27965	-1.74986	-0.93181	-0.18558	5.465492
	Skewness	-0.68864	-0.1771	0.321712	-0.30976	-0.41767	0.082652	0.500581
	Kurtosis	4.852187	3.228979	2.97187	2.783277	3.899697	3.591253	3.811756
9	Mean	2.424749	-1.36392	-2.24197	-1.71352	-0.88616	-0.15227	5.626718
	Standard Deviation	0.537142	0.469215	0.774866	0.884841	0.591057	0.635446	0.97319
	Median	2.485828	-1.33724	-2.31503	-1.72491	-0.86487	-0.12539	5.509259
	Skewness	-0.82133	-0.14868	0.277125	0.035042	-0.35277	-0.86499	0.515421
	Kurtosis	4.996724	3.313967	2.832811	2.504334	3.705837	6.915997	3.808451
10	Mean	2.418818	-1.33138	-2.26396	-1.54169	-0.84492	-0.08972	5.68059
	Standard Deviation	0.562656	0.471979	0.766233	0.870981	0.589222	0.604587	0.97157
	Median	2.476578	-1.30103	-2.35732	-1.48846	-0.82102	-0.08138	5.606201
	Skewness	-0.86039	-0.27962	0.441727	-0.24492	-0.29458	-0.39499	0.548271
	Kurtosis	4.914485	3.380693	3.082747	2.903878	3.849927	4.958205	3.815858
Total	Mean	2.301437	-1.44344	-2.17701	-1.7	-1.00097	-0.27507	5.505645
	Standard Deviation	0.512336	0.494868	0.843196	0.81985	0.559241	0.591987	0.978221
	Median	2.32838	-1.42597	-2.25957	-1.72365	-0.97062	-0.23941	5.411208
	Skewness	-0.40148	0.456118	0.342701	-0.13648	-0.29145	-0.47875	0.507861
	Kurtosis	4.546561	9.737147	2.825094	2.794729	3.94201	5.012748	3.631894

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As shown in Table 3-7, the value of skewness and kurtosis is calculated for all variables for the ten year period after the Log Transformation. It is shows that the data is closer to a significantly normal distribution. This allows the possibility of drawing on the results of the regression model.

3. Homoscedasticity Test

The homoscedasticity assumption means that variance of the error terms is constant for each observation (Berenson et al., 2009). There are two methods for testing hetroscedasticity; Cameron and Trivedi's decomposition of IM test and Breusch-Pagan/Cook-Wesberg. The Breusch-Pagan/Cook-Wesberg is used to test hetroscedasticity in this study as shown in the table no. (3-8) below:

Table 3- 8 Breusch-Pagan / Cook-Wesberg test

This table presents the results of Breusch-Pagan/Cook-Wesberg test for the sample of 362 UK companies from 1997 to 2008.

Test	Chi-square	Prob>chi2
Breusch-Pagan / Cook-Wesberg	2.89	0.0890

The above test indicates that errors have a constant variance. In other words the data does not suffer from hetroscedasticity

4. Linearity Test

The relationship between the dependent and independents variables should be linear. To ensure this occurs, the residuals versus the independent variable values can be plotted. If linearity exists, there will be no obvious clustering of negative residuals or a clustering of positive residuals (Berenson et al., 2009).

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Using STATA, the linearity plots for residuals and each independent variable are displayed in figures (3-1 to 3-6):

Figure3- 1 Residuals against Log Cash Dividend

This figure shows the linearity plots for residuals against log cash dividend for the sample of 362 UK companies from 1998 to 2008.

```
plot res  logcashdiv
  .676122 +
          |                       *
          |
          |
          |                 *  *            *            *
          |            *        *        *
     R    |          *  *   *          * * * **      *
     e    |          *   * **    ***  * * *            *         *
     s    |           **  *  **   ** * *** ****  * *
     i    |       ** * *  ****** **  *  * ***** *    *            **
     d    |    * * *    * ***  **** ***** *** ****** *** ***
     u    | *         *       ** ** ************** * *** **  *
     a    |     **      ** * **  **** * ****** *    *  **
     l    |        *       *  * **    *   ** *** ** * **   * *
     s    |          *       * ***      * *** * *  *  *
          |         **   ** *       ****  * **         *
          |          *       * *        *       *  * *          *
          |     *            *          *    *     *
          |                             *       *
          |                                        *
          |     *                                    *
 -.703991 +                                                    *
          +-------------------------------------------------------+
          -2.69897              Log Cash div          -.088842
```
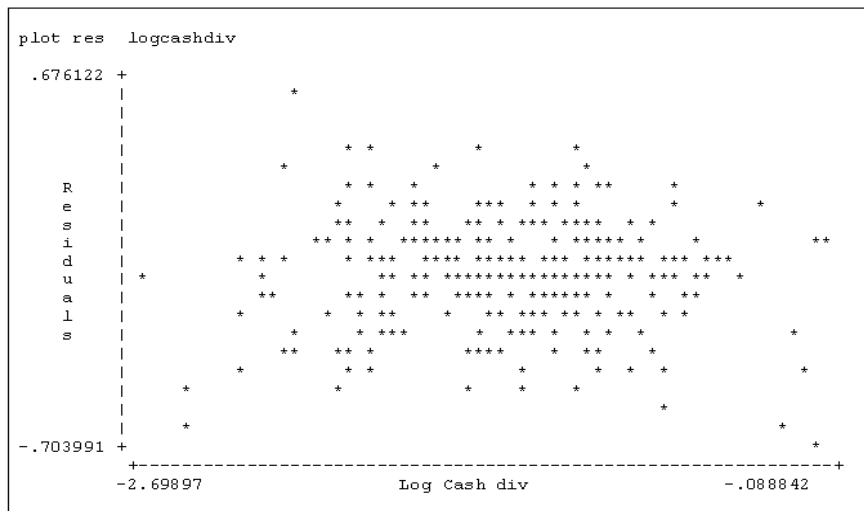
Figure3- 2 Residuals against Log Share Dividend

This figure shows the linearity plots for residuals against log share dividend for the sample of 362 UK companies from 1998 to 2008.

```
. plot res  logsharediv
  .676122 +
          |    *
          |
          |
          |            *        * * *
          |              *         * *
     R    |          *      * * * *      *    *       *         *
     e    |         ***    * *   * ****            *    *
     s    |      *    *     *** ** * ** * * *   **      *       *
     i    |      * * *  * **  ****  * *  * ********* *   **  *
     d    | * *     *    *  **** ** ******** **** *** **   ***  ** * *
     u    |       * ** *** ********* ** * * *** *    *   *
     a    | *     * * * **   ****  *  ** ** ** * *  * *           **
     l    | ** * *  *      *** * *   *   *  * **   **       *
     s    |       *  *      ** * *** *** ** **   *    *     *     *
          |    *      *  *  *** *    *  *     ** *      *
          |             *      * ***  *      *       *
          |     *     *         *           *         *
          |               *
          |               *           *        *
 -.703991 +                      *          *
          +-------------------------------------------------------+
          -3.85284              Log Share Div          -.36614
```
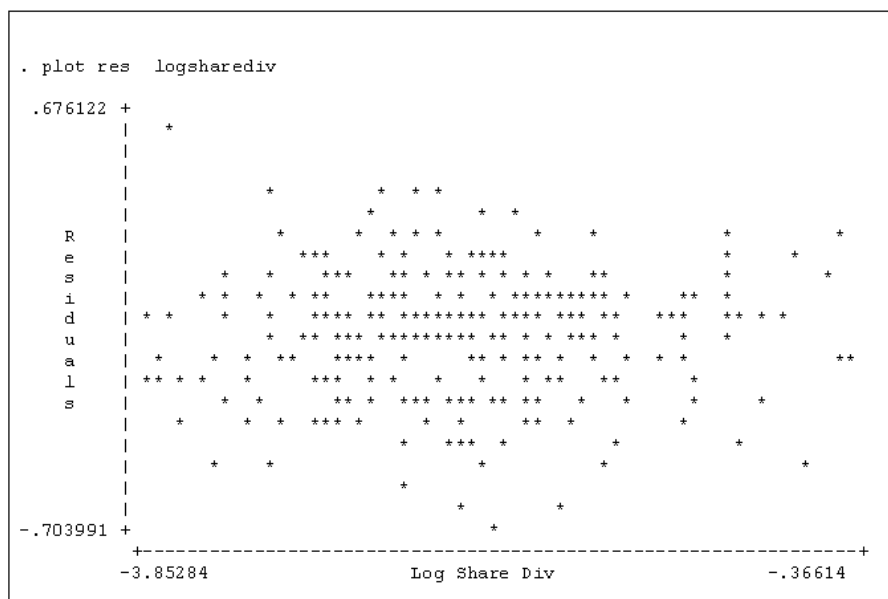
Figure3- 3 Residuals against Log Buyback

This figure shows the linearity plots for residuals against log buyback for the sample of 362 UK companies from 1998 to 2008.

```
. plot res  logbuyback

 .676122 +
         |                                        *
         |
         |
         |                *        *  *        *
         |          *                    *  *
       R |        *              *    **        *       **    *   *
       e |          *  *   *    *      **  **   * *      **
       s |          *    *        * * **** ** *    * ***
       i |      *              ** * ** * *  ***    * *** ****** *
       d | *              * ***** ****************** ***    *      **
       u | *          *   *   * *** * ******* * ** **    *  *  *
       a |  *          * * **   * * ** ** ** *** *   *        ** *
       l |       **        *       **     ** ** ** * *     * *   *   *   *
       s |       *  *   *  *  ***  ** * **     * *     ** *      *
         |       *     *        *  * * **      *     *** *      *
         |                            *  *    * **       *   *
         |                 * *         *
         |                          *
         |                 *                      *
  -.703991 +                                              *
         +--------------------------------------------------+
          -3.91306          Log Buyback          .011499
```
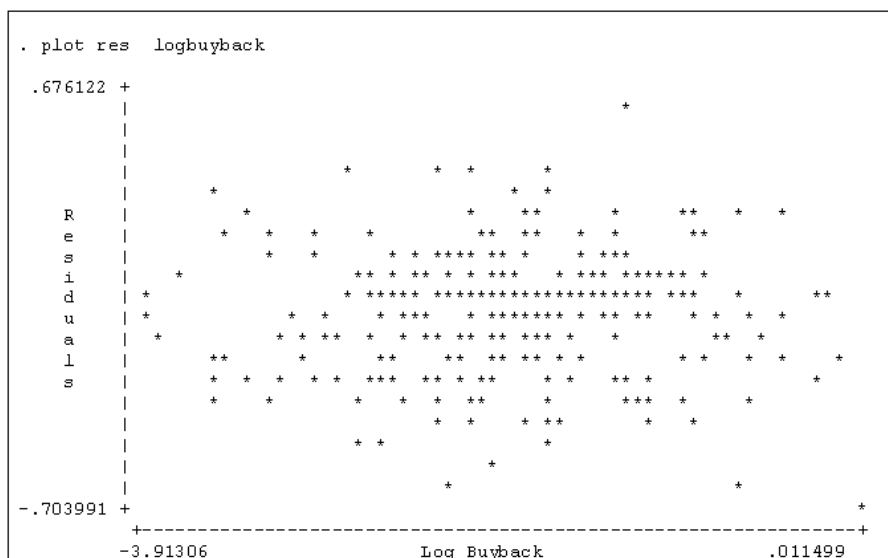
Figure3- 4 Residuals against Log EPS

This figure shows the linearity plots for residuals against log EPS for the sample of 362 UK companies from 1998 to 2008.

```
. plot res  logeps

 .676122 +
         |                       *
         |
         |
         | *          *           *     *
         |                     *        *    *
       R |        *          *       *    **      *   *
       e |              * * *******  *            *
       s |        *  **           *** *  **** * ***   *
       i |              *        ***** *****  ** *** **    * *      *     *
       d |            ** *     ** ** ****** *** ****    *   ****
       u |          * *      * * ** * ********* **** *  *   * *
       a |   *      *      *  ** ** ****  * **** * *  **         *
       l |           * **   *  * ***** * *** ** * **    *
       s |           * **  ***   ** *** *    **      * **  *
         |               *  ** * * ** ***    *   *
         |            *         * *       ****
         |         *      **         *         *
         |               *
         |            *                    *
  -.703991 +                                        *
         +--------------------------------------------------+
          -2.52288            Log EPS          .828595
```
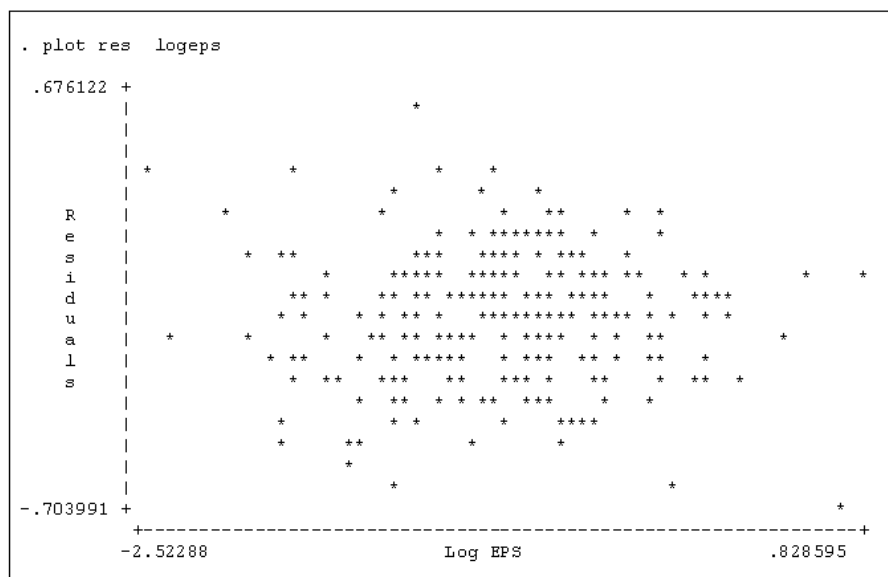
Figure3- 5 Residuals against Log REPS

This figure shows the linearity plots for residuals against log REPS for the sample of 362 UK companies from 1998 to 2008.

```
. plot res  logreps

  .676122 +
          |                                   *
          |
          |
          |        *          *  *          *
          |                  *    *
      R   |           *         *  * **   *   *                    *
      e   |                       ** * ******     *     *
      s   |           *      *   *****  *****   ****
      i   |             **  *** ********  ***   * *  *      *      *
      d   |        *    ******  * ****** *  ***********  **
      u   |          *  *  ** *     **** ***** ****  *   *   *
      a   |             **  * * ***** ********   *    **   *
      l   |        *      *  * **** * *    **** *  *       *
      s   |           *       **    * ******* *   *** *   *        *
          |               *   ** * ** *  ****    *
          |                   **     * *   *** *
          | *          *             * *   *
          |
          |                *
          |             *
 -.703991 +             *                          *        *
          +---------------------------------------------------------+
            -1.81991                 Log REPS              1.80151
```
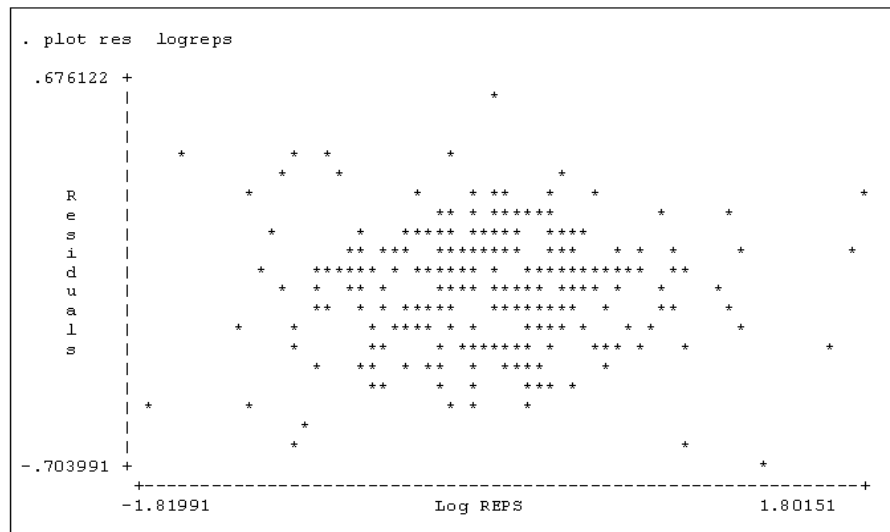
Figure3- 6 Residuals against Log Total Assets

This figure show the linearity plots for residuals against log total assets for the sample of 362 UK companies from 1998 to 2008.

```
. plot res  logtotalassets

  .676122 +
          |                      *
          |
          |
          |                 * * *      *
          |               *    **
      R   |               *  *  ** * **
      e   |        *   ****  * * * *     *   *
      s   |        *  *** *** *    **** **  ** *
      i   |      *** ** *  ** ** ***** ***   *****     *      *
      d   |    * *  ********** ** ********   ** * ****      **
      u   |        *  *********** ***   * **    ** *
      a   |          **  ** ******* ***  * *** **        *       **
      l   |    *   *  *  * ** *  * ** **  *  * *   *        *   *
      s   |        *       * **** * **** * * *   *           **
          |             * * * **** **                     **
          | *     *        ** *   *      *
          | *         *   *    *
          |                     *
          |       *                    *
 -.703991 +                            *
          +---------------------------------------------------------+
            4.04356              Log Total Assets          9.06381
```
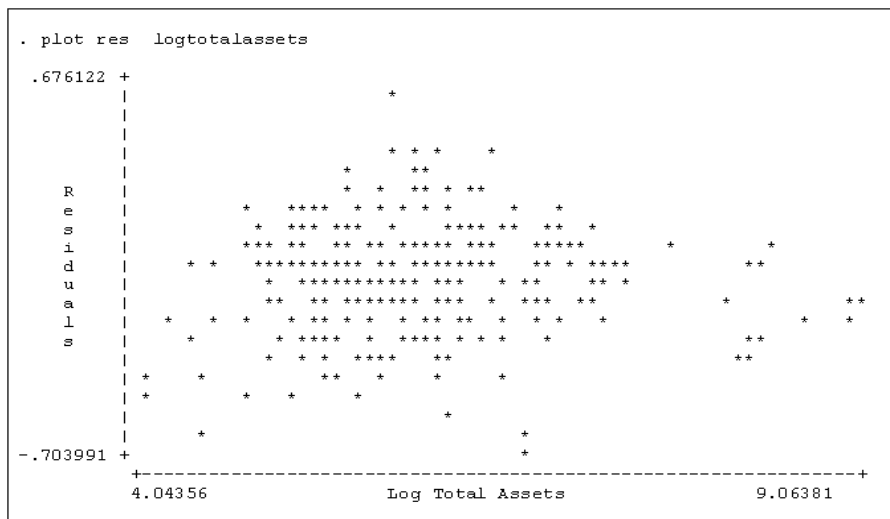
From the above figures it can be concluded that the linear model is appropriate for

the data of this study.

According to the results of the previous assumptions test, we can conclude that the

multiple regression analysis can be relied on to interpret the dependent variable.

3-5-1-3 Hausman Test

The Hausman test (1978) helps to determine the use of fixed effect model or random effect model by calculating the value of Prob>chi2. The decision rule is if Prob>chi2 is lower than the study confidence level of 5%, then the assumptions for the random effects estimation are violated and fixed effect should be used, and vice versa.

Table 3- 9 Hausman Test

This table present the Hausman test result for the sample of 362 UK companies from 1998 to 2008.

Test	Chi-square	Prob>chi2
Hausman Test	0.0022	20.52

Table 3-9 shows the results of the Hausman test, giving the calculated value of Prob>chi2 as 0.0022 (less than 0.05), which means the assumptions for the random effects estimation are violated and the fixed effect estimation should be used.

3-5-2 The Main Hypothesis Test

The main null hypothesis states that there is no statistically significant relationship between dividend policy and company market value in the UK, while the main alternative hypothesis indicates that there is a statistically significant relationship between dividend policy and company market value in the U.K, where it has been tested by the fixed-effect (within) regression using the STATA program. Table 3-10 displays the results of the analysis of the independent variables and the dependent variable at 5% level of significance (95% confidence level).

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Table 3- 10 The main hypothesis test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 362 UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price Independent Variables	Coefficient	t	P>t
Log Cash Dividend	0.1834	3.00	0.003
Log Share dividend	0.0187	1.00	0.320
Log Buy Back	0.0989	4.37	0.000
Log EPS	0.1159	2.35	0.020
Log REPS	0.3503	7.47	0.000
Log Total Assets	0.0362	2.45	0.015
_cons	2.9414	26.35	0.000
Adj R-2	73.96%		
F	83.43		

From Table 3-10 there is a statistically positive significant relationship between cash dividend, share buyback, earnings per share and return earnings per share with the market value of the company. However, before the results are explained, the model must be tested to determine the reliability of the results.

3-5-2-1 Model Ability

The ability of the independent variables to explain the dependent variable is tested through the value of R2. In this case R2 amounts to 73.96%, which means that the independent variables explain 73.96% of the dependent variable . In turn, this means that dividend policy and other variables within the model explain 73.96% of the market value of the company. To find out whether this result is statistically significant or not, the researcher conducted an F test by comparing the value of calculated F with its critical value. The decision rule in this case is: if the calculated value of F is greater than its critical value, this means that the value of

R2 has a statistical significance and that we can use the model result and vice versa.

By comparing the critical F value (2.1) with the calculation F Value of 83.43 from Table 3-10, it can be concluded that the model results can be applied. This means there is a statistically significant relationship between independent variables and the dependent variable as a whole. Thus, dividend policy and other independent variables explain 73.96% of the change in the market value of the company at a confidence level of 95%.

3-5-2-2 Results Explanation

β_1, β_2, β_3, β_4, β_5 are called mutable regression coefficients. Studying the signs of regression coefficients, one can determine the relationship direction between the independent variables and the dependent variable.

Table 3- 11 Independent variables coefficients

This table present the regression coefficients for the independent variables (cash dividend, share dividend, stock buy back, EPS and REPS) for the sample of 362 UK companies from 1998 to 2008.

Independent Variables	Coefficients
Cash dividend	0.18341
Share dividend	0.01870
Stock buyback	0.08992
EPS	0.11593
REPS	0.35032

Table 3-11, which highlights the regression coefficients, reveals that there is a direct relationship between all independent variables (the cash dividend, share

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dividend, share buyback, earnings per share (EPS) and retained earnings per Share (REPS)) and the dependent variable (the market value of the company).

To test if these relationships are statistically significant, the researcher tested the regression significance of coefficients individually by using t test. The decision rule here is that if the calculated value of t is greater than its critical value, the null hypothesis is rejected. Therefore, the alternative hypothesis is accepted, which means that there is a statistically significant relationship between the independent variable and the dependent variable. This implies that if the t calculated value is less than or equal to its critical value, then the null hypothesis is accepted which means there is no statistically significant relationship, and therefore the alternative hypothesis is rejected.

Table 3- 12 Independent variables T test

This display the t test results for the independent variables (cash dividend, share dividend, stock buy back, EPS and REPS for the sample of 362 UK companies from 1998 to 2008.

Independent Variable	**Calculated t**	**Critical t**
Cash dividend	3.00	(-1.96 and +1.96)
Share dividend	1.00	(-1.96 and +1.96)
Stock buyback	4.37	(-1.96 and +1.96)
EPS	2.35	(-1.96 and +1.96)
REPS	7.47	(-1.96 and +1.96)

From Table 3-12 the following points can be explained:

1- Regarding cash dividend, the null hypotheses can be refuted while the alternative hypothesis is accepted because the t calculated value is greater than its critical value. This means that there is a statistically significant relationship between cash dividend and market value of the UK companies at a 95% confidence level, taking into consideration the other independent variables.

2- Regarding share dividend, the null hypotheses can be accepted while the alternative hypothesis is rejected because the calculated value of t is less than t critical value. This means that there is no statistically significant relationship between share dividend and market value in the UK at 95% confidence level, taking into consideration the other independent variables.

3- Regarding stock buyback, the null hypotheses can be refuted while accepting the alternative hypotheses because the calculated t value is more than its critical value. This means that there is statistically significant relationship between stock buyback and market value in the UK at 95% confidence level, taking into consideration the other independent variables.

4- Regarding earnings per share (EPS), the null hypotheses can be refuted while accepting the alternative hypotheses because the calculated value of t is more than its critical value. This means that there is statistically significant relationship between EPS and market value in the UK at 95% taking into consideration the other independent variables.

5- Regarding retained earnings per share (REPS), the null hypotheses can be refuted while accepting the alternative hypotheses because the calculated value of t is more than its critical value. This means that there is statistically significant relationship between REPS and market value in the UK at 95% confidence level, taking into consideration the other independent variables.

The same results can be achieved by comparing P-value with the significance level. The decision rule is that if the P-value is greater than or equal to the required level of significance in the study, then the null hypotheses can be

accepted, but if the value of the P-value is less than the significance level required for the study, then the null hypothesis is rejected. This means that there is a statistically significant relationship between the independent variable and the dependent variable.

Table 3- 13 Independent variables P test

This table present the P test results for the independent variables (cash dividend, share dividend, stock buy back, EPS and REPS) for the sample of 362 UK companies from 1998 to 2008.

Independent Variables	P-value	Level of Significance
Cash Dividend	0.003	0.050
Share Dividend	0.320	0.050
Stock Buyback	0.000	0.050
EPS	0.020	0.050
REPS	0.000	0.050

From Table 3-13 it is apparent that the P-value for cash dividend, stock buyback, EPS and REPS is less than the significance level. This means that there is a statistically significant relationship between these variables and market value of the company in the UK, at the 5% level of significance, (95% confidence level). The P-value of share dividend is greater than the level of significance, which means there is no statistically significant relationship between this variable and the market value of the company in the UK. These results are the same as those reached by t testing.

To recognize the importance of each independent variable and how it influences the dependent variable, that is the contribution of cash dividend, share dividend, stock buybacks, EPS and REPS to the change in the market value of the company in the UK, the researcher assessed the Confidence Interval Estimation for each of the independent variables shown in table 3-14 below:

Table 3- 14 Independent variables confidence level

This table shows the results for the confidence interval for each independent variables cash dividend, share dividend, stock buy back, EPS and REPS) for the sample of 362 UK companies from 1998 to 2008.

Independent Variable	Confidence Interval	
	Lower 95%	Upper 95%
Cash Dividend	0.0629030	0.3039170
Share Dividend	-0.0182866	0.0556875
Stock Buyback	0.0494128	0.1304342
EPS	0.0187374	0.2131405
REPS	0.2579656	0.4426877

The independent variables confidence level indicates that the increase of one unit in the dependent variable leads to an increase in the market value of companies at a value ranging between the minimum and maximum of the period of confidence at a confidence level of 95%.

From table 3-13 above, it can be observed that REPS affects the market value more than the other variables. This is followed by the cash dividend. This, in turn, is followed by stock buyback and then EPS.

3-5-3 Sub-hypothesis Testing

The main hypotheses branches into 14 sub-hypotheses for each economic sector. These were tested by the fixed-effect (within) regression using STATA at the level of significance 5% (95% confidence level) for all economic sectors.

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1- **Banking Sector**

Table 3-15 displays the results of the analysis of the independent variables and the

dependent variable in the banking sector at 5% level of significance (95%

confidence level).

Table 3- 15 Banks Sector Test

This table presents the fixed effect (within) regression results between the independent
variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log
total assets) and the dependent variable log share price for the sample of 4 UK banking
companies from 1998 to 2008.The operation definition of dependent variable is the log
share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	-0.1432	-1.27	0.213
Log Share dividend	-0.0222	-0.68	0.502
Log Buy Back	1.2914	0.67	0.505
Log EPS	0.2413	2.90	0.007
Log REPS	0.4935	4.98	0.000
Log Total Assets	-0.2590	-3.28	0.003
_cons	4.8600	7.44	0.000
Adj R-2	71.06%		
F	18.03		

The results indicate that in the banking sector there is no statistically significant

relationship between any type of dividend policy and market value, but there is a

positive statistically significant relationship between both EPS and REPS and the

market value of a company.

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2- **Basic Materials**

Table 3-16 displays the results of the analysis of the independent variables and the

dependent variable in the basic materials sector at 5% level of significance (95%

confidence level).

Table 3- 16 Basic Materials Sector Test

This table presents the fixed effect (within) regression results between the independent
variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log
total assets) and the dependent variable log share price for the sample of 17 basic
materials UK companies from 1998 to 2008.The operation definition of dependent
variable is the log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	-0.6871	-3.52	0.012
Log Share dividend	0.0525	1.68	0.144
Log Buy Back	-0.1367	-3.69	0.010
Log EPS	0.2033	0.70	0.510
Log REPS	1.8126	4.77	0.003
Log Total Assets	0.0214	0.94	0.385
_cons	1.7415	4.84	0.003
Adj R-2	90.09%		
F	137.30		

According to the results of the basic materials sector, there is a negative

statistically significant relationship between cash dividend and stock buy back and

the market value of companies. In addition, there is a positive statistically

significant relationship between REPS and the market value of companies.

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3- **Consumer Goods**

Table 3-17 displays the results of the analysis of the independent variables and the

dependent variable in the consumer goods sector at 5% level of significance (95%

confidence level).

Table 3- 17 Consumer goods Sector Test

This table presents the fixed effect (within) regression results between the independent
variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log
total assets) and the dependent variable log share price for the sample of 42 consumer
goods UK companies from 1998 to 2008.The operation definition of dependent variable
is the log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	-0.4554	-1.30	0.223
Log Share dividend	0.0701	1.86	0.092
Log Buy Back	0.0565	0.70	0.499
Log EPS	0.0718	0.46	0.657
Log REPS	1.0250	4.21	0.002
Log Total Assets	-0.0489	-0.68	0.514
_cons	2.4440	4.00	0.003
Adj R-2	75.38%		
F	13.41		

According to the results, in the consumer goods sector a statistically positive

significant relationship between REPS and market value was found.

4- **Consumer Services**

Table 3-18 displays the results of the analysis of the independent variables and the

dependent variable in the consumer services sector at 5% level of significance

(95% confidence level).

Table 3- 188 Consumer services Sector Test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 67 consumer services UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	0.1837	1.38	0.176
Log Share dividend	0.0105	0.31	0.756
Log Buy Back	-0.0003	-0.01	0.994
Log EPS	0.2371	2.14	0.037
Log REPS	0.2137	2.48	0.017
Log Total Assets	0.0750	2.62	0.012
_cons	2.5949	12.06	0.000
Adj R-2	62.71%		
F	23.88		

According to the results there was no statistically significant relationship between

any type of dividend policy and the market value in the consumer services sector.

However, the researcher found a statistically positive significant relationship

between EPS and REPS and the market value of companies.

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5- **Health Care**

Table 3-19 displays the results of the analysis of the independent variables and the

dependent variable in the health care sector at 5% level of significance (95%

confidence level).

Table 3- 19 Health care Sector Test

This table presents the fixed effect (within) regression results between the independent
variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log
total assets) and the dependent variable log share price for the sample of 11 health care
UK companies from 1998 to 2008.The operation definition of dependent variable is the
log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	0.6012	1.53	0.169
Log Share dividend	-0.0331	-0.17	0.870
Log Buy Back	-0.1210	-0.99	0.357
Log EPS	-0.1173	-0.37	0.724
Log REPS	0.4985	4.05	0.005
Log Total Assets	-0.2741	-1.65	0.143
_cons	4.550	3.77	0.007
Adj R-2	85.53%		
F	29.04		

According to results, in the health care sector no statistically significant

relationship between all types of dividend policy and earnings per share (EPS)

with the market value was found. However, there is a positive statistically

significant relationship between REPS and the market value of companies.

6- **Industrials**

Table 3-20 displays the results of the analysis of the independent variables and the

dependent variable in the industrials sector at 5% level of significance (95%

confidence level).

Table 3- 20 Industrials sector Test

This table presents the fixed effect (within) regression results between the independent
variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log
total assets) and the dependent variable log share price for the sample of 116 industrial
UK companies from 1998 to 2008.The operation definition of dependent variable is the
log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	0.2596	4	0.000
Log Share dividend	-0.0049	-0.14	0.888
Log Buy Back	4.0514	1.06	0.294
Log EPS	0.0628	1.14	0.261
Log REPS	0.28715	2.46	0.018
Log Total Assets	0.1378	2.90	0.006
_cons	2.3323	7.47	0.000
Adj R-2	57.65%		
F	23.48		

According to the results of the industrials sector, a statistically positive significant

relationship between cash dividend and the market value of the company was

found. In addition, there is a statistically positive significant relationship between

REPS and market value.

7- <u>Insurance</u>

Table 3-21 displays the results of the analysis of the independent variables and the dependent variable in the insurance sector at 5% level of significance (95% confidence level).

<u>Table 3- 21 Insurance Sector Test</u>

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 11 insurance UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

<u>Dependent variable Log Share Price</u> **<u>Independent Variables</u>**	Coefficient	t	P>t
Log Cash Dividend	0.1543	1.26	0.213
Log Share dividend	-0.0059	-0.16	0.874
Log Buy Back	0.1481	2.84	0.006
Log EPS	0.0918	0.70	0.487
Log REPS	0.3982	4.64	0.000
Log Total Assets	0.6769	1.20	0.234
_cons	2.8077	7.29	0.000
Adj R-2	80.22%		
F	43.72		

According to the results, in the insurance sector there is a statistically positive significant relationship between stock buyback and market value, as well as between REPS and market value.

8- Oil and Gas

Table 3-22 displays the results of the analysis of the independent variables and the dependent variable in the oil and gas sector at 5% level of significance (95% confidence level).

Table 3- 22 Oil and gas Sector Test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 13 oil and gas UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price Independent Variables	Coefficient	t	P>t
Log Cash Dividend	0.1705	0.40	0.702
Log Share dividend	0.1128	1.00	0.352
Log Buy Back	0.0943	0.87	0.415
Log EPS	-0.0320	-0.25	0.813
Log REPS	0.8273	1.77	0.120
Log Total Assets	-0.0412	-0.38	0.714
_cons	3.6790	6.08	0.001
Adj R-2	70.05%		
F	8.78		

According to the results no statistically significant relationship between any type of dividend policy, EPS and REPS and the market value of companies in the oil and gas sector was found.

9- Technology

Table 3-23 displays the results of the analysis of the independent variables and the dependent variable in the technology sector at 5% level of significance (95% confidence level).

Table 3- 23 Technology Sector Test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 27 technology UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price Independent Variables	Coefficient	t	P>t
Log Cash Dividend	0.3770	2.59	0.020
Log Share dividend	-0.0436	-0.83	0.421
Log Buy Back	3.6784	3.34	0.004
Log EPS	0.0536	0.52	0.609
Log REPS	0.0888	0.51	0.616
Log Total Assets	0.1301	2.74	0.015
_cons	2.1931	4.67	0.000
Adj R-2	81.48%		
F	22.66		

According to the resolute of the technology sector, there is a statistically positive significant relationship between the cash dividend and stock buyback and the market value of the company.

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10- **Telecommunications**

Table 3-24 displays the results of the analysis of the independent variables and the

dependent variable in the telecommunications sector at 5% level of significance

(95% confidence level).

Table 3- 24 Telecommunications Sector Test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 3 telecommunications UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	0.2455	0.98	0.374
Log Share dividend	-0.07267	-0.96	0.382
Log Buy Back	0.0175	0.37	0.726
Log EPS	-0.0760	-0.35	0.742
Log REPS	-0.0711	-0.33	0.755
Log Total Assets	0.3432	5.39	0.003
_cons	0.6919	1.18	0.290
Adj R-2	63.36%		
F	23.18		

According to the results, no statistically significant relationship between any type

of dividend policy, EPS and REPS and the market value of companies in

telecommunications sector was found.

11-   Utilities

Table 3-25 displays the results of the analysis of the independent variables and the dependent variable in the utilities sector at 5% level of significance (95% confidence level).

Table 3- 25 Utilities Sector Test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 5 utilities UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price Independent Variables	Coefficient	t	P>t
Log Cash Dividend	0.4001	4.39	0.000
Log Share dividend	0.0269	1.21	0.230
Log Buy Back	0.1411	0.86	0.396
Log EPS	-0.0706	-1.55	0.128
Log REPS	0.0193	0.39	0.696
Log Total Assets	0.4346	9.51	0.000
_cons	0.5197	1.63	0.108
Adj R-2	70.99%		
F	37.67		

According to the results, there is a statistically positive significant relationship between the cash dividend and the market value of company in utilities sector.

12-   Real Estate Investment and Service

Table 3-26 displays the results of the analysis of the independent variables and the

dependent variable in the real estate investment and service sector at 5% level of

significance (95% confidence level).

Table 3- 26 Real estate investment and service Sector Test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 13 real estate investment and service UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price Independent Variables	Coefficient	t	P>t
Log Cash Dividend	0.2746	2.67	0.009
Log Share dividend	0.0051	0.11	0.912
Log Buy Back	-14.9151	-1.61	0.111
Log EPS	0.3509	3.57	0.001
Log REPS	0.1383	1.27	0.209
Log Total Assets	0.1110	2.29	0.025
_cons	2.8129	7.58	0.000
Adj R-2	52.32%		
F	16.14		

According to the results, in the real estate investment and service sector, there is a

statistically positive significant relationship between the cash dividend and EPS

and the market value of the company.

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13-   **Real Estate Investment Trusts**

Table 3-27 displays the results of the analysis of the independent variables and the

dependent variable in the real estate investment trusts sector at 5% level of

significance (95% confidence level).

Table 3- 27 Real estate investment trusts sector Test

This table presents the fixed effect (within) regression results between the independent variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log total assets) and the dependent variable log share price for the sample of 11 real estate investment trust UK companies from 1998 to 2008.The operation definition of dependent variable is the log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	0.0201	0.18	0.859
Log Share dividend	-0.2303	-1.81	0.095
Log Buy Back	-7.165	-4.65	0.001
Log EPS	0.0555	0.96	0.358
Log REPS	0.2396	3.44	0.005
Log Total Assets	-0.0642	-0.61	0.555
_cons	3.311	4.34	0.001
Adj R-2	46.02%		
F	43.10		

According to the results, in the sector of real estate investment trusts there is a

statistically negative significant relationship between stock buyback and the

market value of the company but there is a positive significant relationship

between REPS and the market value of the company.

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14-   **Financial Services**

Table 3-28 displays the results of the analysis of the independent variables and the

dependent variable in the financial services sector at 5% level of significance

(95% confidence level).

Table 3- 28 Financial services sector Test

This table presents the fixed effect (within) regression results between the independent
variables (log cash dividend, log share divided, log buy back, log EPS, log REPS and log
total assets) and the dependent variable log share price for the sample of 22 financial
services UK companies from 1998 to 2008.The operation definition of dependent variable
is the log share price on dividend announcement date.

Dependent variable Log Share Price **Independent Variables**	Coefficient	t	P>t
Log Cash Dividend	0.2341	3.32	0.002
Log Share dividend	0.0240	1.21	0.235
Log Buy Back	66.1765	1.90	0.067
Log EPS	0.1579	2.49	0.018
Log REPS	0.0241	0.41	0.687
Log Total Assets	0.1296	2.15	0.040
_cons	2.0806	4.91	0.000
Adj R-2	63.42%		
F	24.13		

According to the results, there is a positive statistically significant relationship

between cash dividend and EPS and the market value of the company in the sector

of financial services sector.

Accordingly, the regression results and equations for the various economic sectors

are assessed below.

3-5-3-1 Economic Sectors Models Ability

The ability of the independent variables to explain the dependent variable in the

models of the various economic sectors is tested through the value of R^2 and F test

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by comparing the calculated F with its critical value in order to find out if the result R^2 is statistically significant or not. The decision rule is that if the value of the calculated F is greater than its critical value there is a statistically significant relationship between the independent variables and the dependent variable, and that the R^2 result is statistically significant, and vice versa, as show in table no. 3-29 below:

Table 3- 29 Sectors F test

This table presents the results of the F test for each of the economic sectors for the sample of 362 UK companies from 1998 to 2008.

	Sector	R^2	Calculated F	Critical F	Note
1	Banks	71.06%	18.03	2.42	R^2 is significant statistically
2	Basic Materials	90.09%	137.30	4.28	R^2 is significant statistically
3	Consumer Goods	75.38%	13.41	3.22	R^2 is significant statistically
4	Consumer Services	62.71%	23.88	2.31	R^2 is significant statistically
5	Health Care	85.53%	29.04	3.87	R^2 is significant statistically
6	Industrials	57.65%	23.48	2.34	R^2 is significant statistically
7	Insurance	80.22%	43.72	2.35	R^2 is significant statistically
8	Oil & Gas	70.05%	8.78	3.87	R^2 is significant statistically
9	Technology	81.48%	22.66	2.74	R^2 is significant statistically
10	Telecommunications	63.36%	23.18	4.95	R^2 is significant statistically
11	Utilities	70.99%	37.67	2.27	R^2 is significant statistically
12	Real Estate Investment & Service	52.32	16.14	2.23	R^2 is significant statistically
13	Real Estate Investment Trusts	46.02	43.10	3.00	R^2 is significant statistically
14	Financial Services	63.42%	24.13	2.42	R^2 is significant statistically

According to the results, the calculated F for all sectors is greater than the critical value. This means that the independent variables and dependent variable are statistically significant for each economic sector. Thus, the dividend policy and other independent variables are explained by the value of R2 for each sector of change in value market of the company at a confidence level of 95%.

3-5-3-2 Economic Sectors Results Explanation

The researcher calculated the regression coefficients for the models of each economic sector. By studying their signals, the direction of the relationship between independent variables and the dependent variable in each sector can be determined. In addition, the values of these coefficients can be tested for statistical significance by regression coefficients t test for each sector independently. The decision rule here is that if the calculated value of t is greater than its critical value (less in the case of a negative reference), then the null hypothesis is rejected, while accepting the alternative hypothesis, which means that there is a statistically significant relationship between the independent variable and the dependent variable. This presupposes that if the calculated value of t is less than or equal to its critical value (greater than or equal to the reference in the case of a negative signal), then the null hypotheses is accepted; that is there is no statistically significant relationship between the independent variable and the dependent variable. The alternative hypothesis is rejected.

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Table 3- 30 Sectors t test

This table presents the t test results for the independent variables (cash dividend, share dividend, stock buy back, EPS and REPS) in each economic sector for the sample of 362 UK companies from 1998 to 2008.

Independent Variables	Banks			
	Coefficients	Calculated t	Critical t	Note
Cash Dividend	-0.143	-1.27	-2.0423 and +2.0423	Not significant relationship
Share Dividend	-0.022	-0.68	-2.0423 and +2.0423	Not significant relationship
Stock Buyback	1.291	0.67	-2.0423 and +2.0423	Not significant relationship
EPS	0.241	2.90	-2.0423 and +2.0423	**Positive Significant relationship**
REPS	0.493	4.98	-2.0423 and +2.0423	**Positive Significant relationship**

Independent Variables	Basic Materials			
	Coefficients	Calculated t	Critical t	Note
Cash Dividend	-0.687	-3.52	-2.4469 and +2.4469	**Negative Significant relationship**
Share Dividend	0.052	1.68	-2.4469 and +2.4469	Not significant relationship
Stock Buyback	-0.136	-3.69	-2.4469 and +2.4469	**Negative Significant relationship**
EPS	0.203	0.70	-2.4469 and +2.4469	Not significant relationship
REPS	1.812	4.77	-2.4469 and +2.4469	**Positive Significant relationship**

Independent Variables	Consumer Goods			
	Coefficients	Calculated t	Critical t	Note
Cash Dividend	-0.455	-1.30	-2.2281 and +2.2281	Not significant relationship
Share Dividend	0.070	1.86	-2.2281 and +2.2281	Not significant relationship
Stock Buyback	0.056	0.70	-2.2281 and +2.2281	Not significant relationship
EPS	0.718	0.46	-2.2281 and +2.2281	Not significant relationship
REPS	1.025	4.21	-2.2281 and +2.2281	**Positive Significant relationship**

Independent Variables	Consumer Services			
	Coefficients	Calculated t	Critical t	Note
Cash Dividend	0.183	1.38	-2.0117 and +2.0117	Not significant relationship
Share Dividend	0.010	0.31	-2.0117 and +2.0117	Not significant relationship
Stock Buyback	-0.0003	-0.01	-2.0117 and +2.0117	Not significant relationship
EPS	0.237	2.14	-2.0117 and +2.0117	**Positive Significant relationship**
REPS	0.213	2.48	-2.0117 and +2.0117	**Positive Significant relationship**

Independent Variables	Health Care			
	Coefficients	Calculated t	Critical t	Note
Cash Dividend	0.601	1.53	-2.3646 and +2.3646	Not significant relationship
Share Dividend	-0.033	-0.17	-2.3646 and +2.3646	Not significant relationship
Stock Buyback	-0.121	-0.99	-2.3646 and +2.3646	Not significant relationship
EPS	-0.117	-0.37	-2.3646 and +2.3646	Not significant relationship
REPS	0.498	4.05	-2.3646 and +2.3646	**Positive Significant relationship**

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Independent Variables	Industrials			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.259	4.00	-2.0181 and +2.0181	**Positive Significant relationship**
Share Dividend	-0.004	-0.14	-2.0181 and +2.0181	Not significant relationship
Stock Buyback	4.051	1.06	-2.0181 and +2.0181	Not significant relationship
EPS	0.062	1.14	-2.0181 and +2.0181	Not significant relationship
REPS	0.287	2.46	-2.0181 and +2.0181	**Positive Significant relationship**

Independent Variables	Insurance			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.154	1.26	-1.9925 and +1.9925	Not significant relationship
Share Dividend	-0.005	-0.16	-1.9925 and +1.9925	Not significant relationship
Stock Buyback	0.148	2.84	-1.9925 and +1.9925	**Positive Significant relationship**
EPS	0.091	0.70	-1.9925 and +1.9925	Not significant relationship
REPS	0.398	4.64	-1.9925 and +1.9925	**Positive Significant relationship**

Independent Variables	Oil & Gas			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.170	0.40	-2.3646 and +2.3646	Not significant relationship
Share Dividend	0.112	1.00	-2.3646 and +2.3646	Not significant relationship
Stock Buyback	0.094	0.87	-2.3646 and +2.3646	Not significant relationship
EPS	-0.032	-0.25	-2.3646 and +2.3646	Not significant relationship
REPS	0.827	1.77	-2.3646 and +2.3646	Not significant relationship

Independent Variables	Technology			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.377	2.59	-2.1199 and +2.1199	**Positive Significant relationship**
Share Dividend	-0.043	-0.83	-2.1199 and +2.1199	Not significant relationship
Stock Buyback	3.678	3.34	-2.1199 and +2.1199	**Positive Significant relationship**
EPS	0.053	0.52	-2.1199 and +2.1199	Not significant relationship
REPS	0.088	0.51	-2.1199 and +2.1199	Not significant relationship

Independent Variables	Telecommunications			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.245	0.98	-2.5706 and +2.5706	Not significant relationship
Share Dividend	-0.072	-0.96	-2.5706 and +2.5706	Not significant relationship
Stock Buyback	0.017	0.37	-2.5706 and +2.5706	Not significant relationship
EPS	-0.076	-0.35	-2.5706 and +2.5706	Not significant relationship
REPS	-0.071	-0.33	-2.5706 and +2.5706	Not significant relationship

Independent Variables	Utilities			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.400	4.39	-2.0040 and +2.0040	**Positive Significant relationship**
Share Dividend	0.026	1.21	-2.0040 and +2.0040	Not significant relationship

Stock Buyback	0.141	0.86	-2.0040 and +2.0040	Not significant relationship
EPS	-0.070	-1.55	-2.0040 and +2.0040	Not significant relationship
REPS	0.019	0.39	-2.0040 and +2.0040	Not significant relationship
Independent Variables	**Real Estate Investment & Service**			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.274	2.67	-1.9913 and +1.9913	**Positive Significant relationship**
Share Dividend	0.005	0.11	-1.9913 and +1.9913	Not significant relationship
Stock Buyback	-14.915	-1.61	-1.9913 and +1.9913	Not significant relationship
EPS	0.350	3.57	-1.9913 and +1.9913	**Positive Significant relationship**
REPS	0.138	1.27	-1.9913 and +1.9913	Not significant relationship
Independent Variables	**Real Estate Investment Trusts**			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.020	0.18	-2.1788 and +2.1788	Not significant relationship
Share Dividend	-0.230	-1.81	-2.1788 and +2.1788	Not significant relationship
Stock Buyback	-7.165	-4.65	-2.1788 and +2.1788	**Negative Significant relationship**
EPS	0.055	0.96	-2.1788 and +2.1788	Not significant relationship
REPS	0.239	3.44	-2.1788 and +2.1788	**Positive Significant relationship**
Independent Variables	**Financial Services**			
	Coefficients	**Calculated t**	**Critical t**	**Note**
Cash Dividend	0.234	3.32	-2.0423 and +2.0423	**Positive Significant relationship**
Share Dividend	0.024	1.21	-2.0423 and +2.0423	Not significant relationship
Stock Buyback	66.176	1.90	-2.0423 and +2.0423	Not significant relationship
EPS	0.157	2.49	-2.0423 and +2.0423	**Positive Significant relationship**
REPS	0.024	0.41	-2.0423 and +2.0423	Not significant relationship

From Table 3-30, the following points can be derived.

1- In the banking sector, there is no statistically significant relationship between any type of dividend policy and market value, but there is a positive statistically significant relationship between EPS and REPS and the market value of companies.

2- In the basic materials sector, there is a negative statistically significant relationship between cash dividend and stock buyback and the market value of companies. In addition, there is a positive statistically significant relationship between REPS and the market value of companies.

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3- In the consumer goods sector, a positive statistically significant relationship between REPS and market value was found.

4- No statistically significant relationship between any type of dividend policy and market value was found in the consumer services sector; instead, the researcher found a statistically positive significant relationship between EPS and REPS and the market value of companies.

5- In the health care sector, no statistically significant relationship between any type of dividend policy and EPS and the market value but there is a positive statistically significant relationship between REPS and the market value of companies.

6- In the industrials sector, a positive statistically significant relationship between cash dividend and the market value of the company was found. In addition, there is a positive statistically significant relationship between REPS and market value.

7- In the insurance sector, there is a positive statistically significant relationship between stock buyback and market value, as well as between REPS and market value.

8- No statistically significant relationship between any type of dividend policy, EPS and REPS and the market value of companies in the oil and gas sector were found.

9- In the technology sector, there is a positive statistically significant relationship between the cash dividend and stock buyback and the market value of the company.

10- No statistically significant relationship between any type of dividend policy, EPS and REPS and the market value of companies in the telecommunications sector was found.

11- There is a positive statistically significant relationship between the cash dividend and the market value of the company in the utilities sector.

12- In the real estate investment and service sector, there is a positive statistically significant relationship between the cash dividend and EPS and the market value of the company.

13- In the real estate investment trusts sector, there is a negative statistically significant relationship between stock buyback and the market value of the company but there is a positive statistically significant relationship between REPS and the market value of the company.

14- There is a positive statistically significant relationship between cash dividend and EPS and the market value of the company in the financial services sector.

In order to recognize the importance of each independent variable and how it influences the dependent variable in each economic sector, that is the extent of its contribution to change the market value of the company; the researcher assessed the Confidence Interval Estimation for each of the regression coefficients of the independent variables. The results, which are displayed in Table 3-31, indicate that an increase of one unit of the dependent variable would lead to an increase in the market value of companies at a value ranging between the minimum and the maximum of the confidence interval at a confidence level of 95%.

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Table 3- 31 Sectors confidence interval test

Table 3-31 shows the confidence interval results for the independent variables (cash dividend, share dividend, stock buy back, EPS and REPS) that have a significant relationship with dependent variable (market value) by economic sector for the sample of 362 UK companies from 1998 to 2008..

	Sector	Independent Variables	Confidence Interval	
			Lower 95%	Upper 95%
1	Banks	EPS	0.071423	0.4112042
		REPS	0.291359	0.6958396
2	Basic Materials	Cash Dividend	-1.16463	-0.2097514
		Stock Buyback	-0.227337	-0.0461719
		REPS	0.882409	2.742832
3	Consumer Goods	REPS	0.482356	1.569197
4	Consumer Services	EPS	0.0146545	0.4597241
		REPS	0.0400519	0.3875204
5	Health Care	REPS	0.2073576	0.7897481
6	Industrials	Cash Dividend	0.1286372	0.3907589
		REPS	0.051142	0.5231731
7	Insurance	Stock Buyback	0.0443241	0.2519041
		REPS	0.2273798	0.5691362
8	Technology	Cash Dividend	0.0687944	0.6852423
		Stock Buyback	1.346882	6.01006
9	Utilities	Cash Dividend	0.2176306	0.5826402
10	Real Estate Investment & Service	Cash Dividend	0.069501	0.4798496
		EPS	0.1554514	0.5464458
11	Real Estate Investment trust	Stock Buyback	-10.52302	-3.807113
		REPS	0.0878968	0.3913382
12	Financial Services	Cash Dividend	0.090152	0.3781509
		EPS	0.0286372	0.2872302

3-6 Results discussions

By reviewing the findings contained in the previous section, the following conclusions can be reached:

Chapter Three: Dividend Effects on Market Value

1- In relation to Irrelevant Theory, the results of the study do not support the theory, in general. This is in contrast with the findings of studies such as: Miller and Modigliani (1961), Watts (1973), Black and Scholes (1974), and Miller and Scholes (1978, 1982). This discrepancy results from the fact that Irrelevant Theory is based on the assumption of an efficient market, which relies on unrealistic assumptions, including: information symmetry between management and investors; the absence of taxes; the absence of transaction costs; and that investors are correctly advised when making their investment decisions. Despite the effort made by most of the financial markets to achieve a state of maximum efficiency through the rules and regulations that attempt to eliminate information asymmetry, taxes and transaction costs, and ensure the correct advice is given to investors, achieving maximum efficiency of any financial market is unlikely. This undermines Irrelevant Theory.

2- The results indicate that share dividends have no effect on market value. This result is consistent with the concept that share dividends are a transfer fund process between equity accounts and therefore there is no effect on market value because of the lack of an outside cash flow (Levy and Sarnat, 1994).

3- The impact of dividend policy, earnings (earnings per share), and investment policy (retained earnings per share) on the market value of a company leads to the conclusion that dividend policy and investment policy are inseparable. This is consistent with many studies including Gordon (1962, 1963), Asquith and Mullins Jr (1983) and Kane et al. (1984). Furthermore, each variable complementary the others with regard

to the influence on the market value of the company, especially given that both dividends and earnings announcements are simultaneous in the UK.

4- The findings of the study across the economic sectors. The researcher would like to focus on the results of the banking sector, as these show no relationship between dividend policy and market value but there is a relationship between earnings and retained earnings (investment policy) and market value. This finding corresponds with the stipulations of Irrelevant Theory. Interestingly, the results of the next chapter highlight that the banking sector follows a residual dividend policy which support the results of this chapter. Companies that adopt a residual dividend policy essentially place greater importance on investment policy than on dividend policy, as will be discussed in the next chapter.

3-7 Conclusions

This chapter discusses the effect of dividend policy on the market value of a company in the UK. The effect on the market in general and across every economic sector, was measured by using the fixed-effect (within) regression for panel data for ten years from 1998 to 2007 in order to assess the differences in impact across the different sectors of the companies. This was achieved by using annual and semi-annual data from DataStream, from the companies' websites and through direct contact with these companies.

The study found that there is a statistically significant relationship between each of cash dividend, share buyback, EPS and REPS and the market value of the

company. However, the relationship varies according to the economic sector in which the company operates.

This study discusses Irrelevant Theory first proposed by Miller and Modigliani (1961), which refers to the absence of a relationship between dividend policy and market value. In this context, the researcher believes that the reason why the results of the study do not match the theory is mainly due to two important points: first, the assumptions adopted by the theory regarding the efficient market are almost impossible to achieve in practice. Second, it cannot be certain that the UK market is 100% efficient; also, the differences in the nature of corporate activity means the companies have different working conditions which are not related to the presence of efficient financial markets, exercising their impact at the same time on the dividend policy which will lead to influence the market value of the company.

Chapter Four: Residual Dividend Policy

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4-2 Prior studies

4-3 Model and hypotheses

4-4 Data and descriptive Statistics

4-5 Empirical Results

4-6 Results discussions

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Chapter Four: Residual Dividend Policy

4-1 Introduction

There are many studies in the financial literature regarding dividend policy and its impact on market value, as discussed in chapter three. Some researchers (Gordon, 1959, Litzenberger and Ramaswamy, 1979, Blume, 1980, Litzenberger and Ramaswamy, 1982, Ang and Peterson, 1985, Dyl and Weigand, 1998, Koch and Shenoy, 1999) argue for such a relationship, while others deny its existence (Miller and Modigliani, 1961, Black and Scholes, 1974, Merton and Rock, 1985, Peter, 1996). . Those that argue deny the relationship argue that investment policy and investment decisions affect the market value of the company.

With the emergence of a new variable -the investment policy- and the belief of researchers' that a company's market value does determine the investment policy based on the premise that current and future earnings result from a company's investment policy. Thus, a company's value depends mainly on its ability to achieve continued earnings, even if it does not distribute dividends either in the present or in the future and the dividend policy is only a tool for distribution earnings that are achieved through the company's investment policy to shareholders (Miller and Modigliani, 1961, Horne and McDonald, 1971, Fama, 1974, Titman, 1984, Cornell and Shapiro, 1987, Holder et al., 1998). These researchers added that such a policy is of importance because it represents one type of signal sent by the management to shareholders about the company's ability to continuously achieve future earnings under the non-symmetry of information available to management and shareholders, known as 'signal hypothesis'.

Chapter Four: Residual Dividend Policy

Because of this view of the relationship between investment and dividends, investment decisions have acquired greater importance as they are responsible for the company's future earnings. The dividend decision is arguably complementary to the investment decision; therefore, funds available should be directed primarily towards investment, while the surplus funds (after the exhaustion of all investment opportunities) should be directed to dividends. This is known as the "Residual Dividends Policy" (Baker, 2009) .

The residual dividend policy concept means that the company tends to direct all available funds to investment opportunities. If there are surplus funds after exhausting all opportunities for investment, then the company will consider paying dividends, but if there are no surplus funds then there no dividend will be distributed (Baker, 2009).

A number of questions come to the fore in this respect: Is there a "pure" residual dividend policy? (Baker and Smith, 2006) What happens if there are no funds on hand after exhausting investment opportunities over a long period? Will a company stop distributing dividends? Will the management seek to issue new equities if it is found that the cash available is not sufficient for investment opportunities? To what extent? What impact will this then have on the finance decision?

Following a pure residual dividend policy, would create a problematic situation for the company. If the company were following such a policy the when it announced the payment of a dividend, this would lead shareholders to believe that

Chapter Four: Residual Dividend Policy

the management had exhausted all investment opportunities available. In turn, this would lead shareholders to question the future earnings capacity of the company, especially given the current asymmetry of information between management and shareholders.

There is a second disadvantage resulting from the pure residual dividend policy without the guarantee of the payment of cash dividends. That is, shareholders fear that the management would enter into non-profitable projects, in order to exhaust all available funds, which increases the agency costs (Jensen, 1986).

For these reasons, the adoption of a residual dividend policy does not necessarily mean that cash dividends are not distributed (Baker and Smith, 2006). Therefore, the management of a company always sets a target for the dividends ratio, based on the proviso that any shortage in funds is covered by external financing; a target is also set for the leverage ratio.

This chapter focuses on exploring whether or not UK companies followed a residual dividend policy in the period 1998 to 2007 by using Baker and Smith (2006) methodology by calculating the Standardized Free Cash Flow (SFCF) as per the Lehn and Poulsen (1989) definition, as the mean and standard deviation for standardized free cash flow for the companies that follow a residual dividends policy close to zero.

Our sample was the active equity companies in UK pound which have been available for ten years from 1998 till 2007 from the DataStream. The total number

of available sample companies amounted to 590 out of 691 companies (85.38%) divided into 14 sectors.

The standardized free cash flow (SFCF) was calculated by using excel sheets for each of the companies and sectors in the sample. Thereafter, the means and standard deviation for the market in general and for each individual sector were calculated. This was followed by running the one-sample t test by using SPSS. We find that UK companies in general did not follow a residual dividend policy, with the exception of the banking and insurance sectors.

This chapter is organized as follows: Section 4-2 is a review of literature review, followed by section 4-3 looks at the methodology and variables; the details of the statistical sample are included in section 4-4. The results and discussion of these results would be in section 4-5 and 4-6, while the last section will be devoted to conclusions together with a summary section (4-7).

4-2 Prior studies

The development of management and finance sciences and intellectual schools of thought led to a mismatch in visions about adopting some financial decisions and policies. Today, researchers cannot seem to agree unequivocally on a particular topic, or more accurately the impact of those financial decisions and policies on the market value of the company, despite some researchers have suggested that dividend policy has affected the market value (as was discussed in the previous chapter). However, others deny this effect and confirm that dividend policy has no

effect on the market value; the real impact, according to them, is attributed to the investment policy.

Miller and Modigliani (1961) in their seminal study confirm that the dividend policy has no effect on the market value under the conditions and assumptions of the efficient market in terms of providing information to all shareholders at the same time, no taxes and no transaction costs. This is termed Irrelevance Theory which means the lack of relationship between dividend policy and market value. The study reports the real influence on market value comes instead from the investment policy which generates the company's earnings.

Fama (1974) tested for the presence of a relationship between the dividends decision and the investment decision. The study finds that the investment decision taken, from time to time, by the efficient market is separate from the dividend decision and the two decisions are independent. Thus, the results are consistent with the Miller and Modigliani study.

Other researchers (see: Kalay and Loewenstein, 1986; Impson, 1997; Doron and Ziv, 2001) argue that the dividend decision assumes a special importance because it is used by the management to send information to shareholders about their company status and the future expected earnings, regardless of investment decision. This is termed signal theory (referred to in the second chapter). These researchers also highlight that dividend policy and investment decisions are separate elements.

Chapter Four: Residual Dividend Policy

Partington (1985) points to three types of dividend policy: first, the residual dividend policy meaning that cash dividends should be resorted to only after exhausting all the investment opportunities available to the company. In other words, priority must be given to the investment decision in allocating available funds. The second is the independence of the dividend policy, regardless of the investment and finance policies. The third type follows neither the residuals nor the independent dividend policy.

Partington finds that the dividend decision and the investment decision are not related, as companies finance their investments and projects from the surplus of cash distributions and cover any shortage of funds from loans or the issuance of new shares. In other words, the dividend decision is of the second type (independent decision). Companies do not follow the residual dividend policy as a dividend policy.

Loderer (1989) deals with the relationship of investment, finance and dividend decisions, in which he discusses the idea of paying dividends in the case of corporate debts. The study aims to verify this phenomenon regarding US companies by assessing two scenarios: first, do these companies seek to pay dividends and finance the required funds for investment and dividends; second, do companies seek to raise the leverage target and pay for dividends using funds which are not required for investment.

The study discusses which decision comes first, the dividend decision or the financing decision. In other words, does the dividend decision precede the finance

decision or does it follow? The study also asks if there is a pure residual dividend policy.

The study tests the two scenarios and finds that there is no target for corporate dividends under the first scenario. For the second scenario, the study highlights that financing decision and investment decisions cannot be separated, as managers undertake both decisions simultaneously. Therefore, the dividend decision becomes the residual decision. The results prove to be better than those achieved by the first scenario, but not to the extent that it can be circular, for the companies seek leverage targeting even if they have a dividend target.

The study results stress that investment decisions are simultaneously made with the dividend and financial decisions. This means that dividend considerations affect investment decisions, which means that the managers are not only willing to incur the transaction costs of raising outside funds to maintain a certain level of dividend, but they are also willing to forego otherwise beneficial investment projects in order to pay dividends.

Alli, Khan and Ramires study (1993) tests the dividends policy through many factors. The study tested the dividends payout ratio in connection with eight factors: issuance costs, pecking order, ownership dispersion, dividends stability, tax and agency cost effects, financial slack, and cash flow quality and capital structure flexibility. The final sample for the study was about 105 companies in the United States for the period 1985-1987.

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The study diagnoses a significant negative relationship between the dividend payout ratio and both issuance costs and pecking order. This indicates that the companies which suffer from high issuance costs and have growth, risk and an expected high level of capital expenditure will pay low dividends. This supports the residual dividend theory in that the funds are prioritized for growth and capital expenditure and company will not issue new equity to reduce the issuance costs.

The study also found a significant positive relationship between the dividend payout ratio and capital structure flexibility (easier access to capital markets). This result means that the companies with greater flexibility in their capital structure are able to pay higher dividends, which is consistent with the residual dividend theory because of the greater availability of surplus funds resulting from the flexibility of the financial structure.

Olson and McCann (1994) investigate the link between dividends and earnings over 48 quarters between 1978 and 1989 in the US, by determining whether or not earnings can be used as a predictor of dividends and conversely whether or not dividends can be used as a predictor of earnings.

The study arrived at many results but for our study about residual dividend policy, an autoregressive model for dividends was estimated and contrasted with a model that included the earnings information set as well as an autoregressive earnings series.

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The results indicate that the inclusion of earnings data improves the predictability of the autoregressive dividends model using both the level of variables and deviations from expected values measures. This result is consistent with the residual dividends policy.

In addition, the study uncovers a number of financial characteristics for the firms adopting the residual dividend policy. These firms have higher growth in asset turnover, lower growth in sales and use less debt than firms that do not follow the residual dividend policy.

Brav, Graham, Harvey and Michaely study (2005) made a survey to identify factors that monitor dividends and repurchases decisions in the United State. The survey covered 384 financial executives in 256 public companies and 128 private companies. The public companies have been divided as follows: 166 companies that paid dividends, 167 companies that have bought back their shares, and 77 companies that didn't pay dividends. The results of the study adopted as the results depended mainly on the responses of the public companies.

The researchers also conducted separate interviews with 23 financial executives for the sake of raising questions and inquiring about any matters that lack clarity. The answers resulting from personal interviews have been taken into account in terms of their support of the study.

The study finds many important results, but there two of particular importance to this research. First, the companies try as far as possible to avoid reducing

dividends, seeking to make them stable. However, the companies only tend to increase dividends after covering all investment and liquidity requirements. This is consistent with the residual dividend concept.

In addition, the study finds that companies do not repurchase their shares before crystallizing any investment decisions. This result is also consistent with the residual dividend concept.

The researcher think that the most important weaknesses of the above studies that they were not addressed mainly to investigate and discuss if the companies follow up residual dividend policy or not, but their results come to support the residual dividend policy concepts.

The study of Baker and Smith (2006) consisted of two sections. The first is a survey of 309 companies to ascertain whether or not their behavior is consistent with the residual dividends policy. The study has shown that the companies choose one of three methods for their dividends. The first one being the pure residual dividend policy, the second is the managed dividends policy; and the third is the modified residual dividends policy which enjoys characteristics of the above two methods.

The second part is dedicated to know the companies' managers' visions on how they set their dividends policies.

Moreover, the first part of the study sought to explore whether the companies follow the residual dividends policy or not during the nineties, despite the availability of the necessary data for twenty years in order to obtain a balance between the necessary information required on the one hand, and the fact that the management will be responsible for such data on dividends on the other.

The study has based its findings on the fact that the companies that follow the residual dividends policy are those where the mean and standard deviation of the standardized free cash flow (SFCF) is zero or close to zero. It adopted the operational definition of standardized free cash flow (SFCF) in Lehn and Poulsen's study in 1989.

The study also found that during the nineties, most companies follow the modified residual dividends policy.

4-3 Model and hypotheses

4-3-1 Study Model

This chapter depends in its methodology on the same procedures taken up by both Baker and Smith (2006) to identify firms that have pursuing a residual dividends policy in the UK for a period of ten years from 1998 to 2007. The Standardized Free Cash Flow (SFCF) is calculated for all companies and sectors thereafter we test the hypotheses by t – test on 95% confidence level to find if the market or any sector in the hypotheses accepted aria to accept or refuse the hypotheses.

Why Standardized Free Cash Flow (SFCF)?

Easterbrook (1984) and Jensen (1986) argue that agency cost exist in firms because managers may not always want to maximize shareholders' wealth due to the separation of the ownership and control. This conflict between them becomes clearer about the Free Cash Flow (FCF) when the shareholders prefer cash dividends while management prefers to invest it in new projects.

Free Cash Flow is a measure of the after-tax operational funds produced by company, without taking in consideration the source of debt and equity financing that is available for distribution to the stakeholders. It is important to stress that the free cash flow must be available for distribution to the stakeholders (Tham and Velez Pareja, 2004).

Jensen (1986) defines the Free Cash Flow as "cash flow in excess of that required to fund all projects that have positive net present value when discounted at the relevant cost of capital" (Jensen, 1986, p323).

The Residual Dividends Policy concept means that the company tends to direct all available funds to the investment opportunities available to it, and if there remains a surplus of funds after exhausting all opportunities there may be a chance for dividends, but if there are no extra funds, there will be no dividends for distribution (Lumby and Jones, 1999, Baker, 2009).

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Based on the above concepts, the researcher agree with Baker and Smith (2006) opinion that low standardized free cash flow will be manifestation of Residual Dividend Policy.

4-3-2 Operational Definition

The operational definition used by Lehn and Poulsen (1989) is adopted to determine the operational definition of the concept of standardized free cash flow (SFCF). It will be calculated according to the following steps for each one of the ten years:

The Undistributed cash flow = The operating profits before depreciation − income taxes − gross interests − preferred stock cash dividends − stock cash dividends .

The Free cash flow = The undistributed cash flow - capital expenditure.

Standardized calculation of free cash flow = Free cash flow / market value of the company.

4-3-3 Study Hypothesis

The main null hypothesis of this chapter can be summarized as follows:

"UK companies follow the residual dividends policy"

Also we can have a sub-hypothesis for each economic sector in UK to test if any of companies in these sectors follow Residual Dividend Policy. In London Stock Exchange (LSE) there are 14 sectors, so we will have 14 sub-hypotheses for the following sectors:

1- Banking sector.

2- Basic Materials sector.

3- Consumer Goods sector.

4- Consumer Services sector.

5- Health Care sector.

6- Industrials sector.

7- Insurance sector.

8- Oil & Gas sector.

9- Technology sector.

10- Telecommunications sector.

11- Utilities sector.

12- Real Estate Investment & Service sector.

13- Real Estate Investment Trusts sector.

14- Financial Services sector.

4-4 Data Collection and description

We attempted to sample as many companies as possible in order to provide a fair reflection of the behaviour of companies in UK.

The sample was obtained through the following criteria: an active equity company in UK pound whose base date goes back to 1/1/1998 (in order to obtain ten years of data from 1998 to 2007) in DataStream. We excluded 2008 from the sample period because of the impact of the 2008 global financial crisis, which could affect the study results.

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The number of companies that met the above criteria was 691 across various sectors. Excluding the companies with incomplete data, the resulting sample consists of 590 companies representing 85.38% of the total number of companies, as is shown in table no. (4-1) below:

Table 4- 1 The Sample Details

This table presents the initial sample size and available data (annual) from Datastream for the period 1998-2007 broken down by economic sector .

	Sector	Sample	Available	Percentage
1	Banks	7	7	100.00%
2	Basic Materials	33	28	84.85%
3	Consumer Goods	76	67	88.16%
4	Consumer Services	121	104	85.95%
5	Health Care	31	29	93.55%
6	Industrials	200	193	96.50%
7	Insurance	14	11	78.57%
8	Oil & Gas	25	19	76.00%
9	Technology	56	51	91.07%
10	Telecommunications	4	4	100.00%
11	Unclassified	19	0	0.00%
12	Utilities	12	8	66.67%
13	Real Estate Investment & Service	34	25	73.53%
14	Real Estate Investment Trusts	15	14	93.33%
15	Financial Services (Sector)	44	30	68.18%
Total		691	590	85.38%

4-5 Empirical Results

The null hypothesis states that the **UK companies follow the residual dividends policy,** while the alternative hypothesis states that **UK companies do not follow the residual dividends policy**. The companies tend to follow the residual dividend policy if the mean and standard deviation of Standardized Free Cash Flow (SFCF), calculated according to Lehn and Poulsen model (1989), is equal to zero during the study period. Therefore, we can write this hypothesis in a statistical format as follows:

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$$Ho2: \mu k = 0$$

$$Ha2: \mu k \neq 0$$

Where: μk represents the mean of the Standardized Free Cash Flow (SFCF) during the study period.

The SFCF has been calculated by using excel program for the companies in the sample at the level of the market in general and at level of each sector in particular (Appendix 4-1). The SFCF is summarized in table (4-2).

Table 4-3 provides a descriptive statistical analysis of SFCF mean for the market and sectors, showing that the mean value is not equal to zero. Therefore it may be concluded that companies in UK do not follow the residual dividend policy in general and for most sectors. In addition, it is been found that some sectors, such as banks and insurance, are very close to zero which mean that these sectors follow up the residual dividend policy.

Table 4- 2 SFCF for Market and Sectors

This table shows the calculations of standardized free cash flow (SFCF) by economic sector for each of the years 1998-2007 inclusive for the sample of 590 UK companies. The SFCF calculations based on Lehn and Poulsen (1989). The SFCF calculated according to the following steps:

The Undistributed cash flow = The operating profits before depreciation – income taxes – gross interests – preferred stock cash dividends – stock cash dividends .

The Free cash flow = The undistributed cash flow - capital expenditure.

Standardized calculation of free cash flow = Free cash flow / market value of the company.

SFCF	Year									
Sectors	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Banks	-2E-06	0.01102	0.01363	0.00806	0.00215	0.00345	0.02121	-0.00766	-0.04746	-0.04134
Basic Materials	-0.32648	-0.59067	-0.19792	-0.12547	-0.06967	-0.08552	-0.07476	-0.04852	-0.02321	-0.01769
Consumer Goods	-0.06254	-0.10774	-0.0783	-0.12409	-0.07871	-0.09307	-0.09647	-0.08956	-0.08434	-0.05557
Consumer Services	-0.09945	-0.12580	-0.09710	-0.10965	-0.12341	-0.18250	-0.11541	-0.10172	-0.10454	-0.06839
Health Care	-0.12753	-0.19667	-0.08359	-0.05857	-0.1504	-0.31898	-0.08463	-0.09647	-0.0767	-0.07384
Industrials	-0.05807	-0.07386	-0.08276	-0.0883	-0.09524	-0.1268	-0.08565	-0.09609	-0.06041	-0.0342
Insurance	-0.00833	0.00933	-0.08803	-0.18925	-0.04314	0.11985	0.07854	0.02449	0.07901	0.05515
Oil & Gas	-0.1215	-0.17824	-0.13154	-0.27107	-0.13288	-0.19887	-0.07829	-0.07806	-0.06381	-0.09315
Technology	-0.1424	-0.22333	-0.21864	-0.11784	-0.18859	-0.27157	-0.10541	-0.05853	-0.07135	-0.06096
Telecommunications	-0.07778	-0.04519	-0.0485	-0.12788	-0.30341	-0.42035	-0.35856	-0.27514	-0.07578	-0.27249
Utilities	-0.06623	-0.0525	-0.08555	-0.19609	-0.2052	-0.2984	-0.37346	-0.2692	-0.19194	-0.37663
Real Estate Investment & Service	-0.2509	-0.35955	-0.26591	-0.19065	-0.23242	-0.1857	-0.15578	-0.13187	-0.11247	-0.09954
Real Estate Investment Trusts	-0.27702	-0.35669	-0.36847	-0.26747	-0.31125	-0.22582	-0.23102	-0.19218	-0.21617	-0.10692
Financial Services	-0.11101	-0.11521	-0.09292	-0.16612	-0.15672	-0.16447	-0.07894	-0.04191	-0.0461	-0.03204
Market	-0.10604	-0.15159	-0.11742	-0.11988	-0.12395	-0.16005	-0.10053	-0.09158	-0.07531	-0.05709

Table 4- 3 Descriptive Statistics

This table presents a descriptive statistical analysis (mean, standard error of mean, median, standard deviation, variance, range, minimum, maximum and sum) of the SFCF mean for the total market and each sector for the sample of 590 UK companies.

Sector	Mean	Std. Error of Mean	Median	Std. Deviation	Variance	Range	Min.	Max.	Sum
Banks	.00291	.00611	.00637	.01931	.00037	.06266	-.03654	.02613	.02910
Basic Materials	-.15599	.05657	-.08014	.17889	.03200	.57298	-.59067	-.01769	-1.55991
Consumer Goods	-.08856	.00641	-.08930	.02029	.00041	.06823	-.12770	-.05947	-.88563
Consumer Services	-.11165	.00956	-.10636	.03024	.00091	.11771	-.18311	-.06541	-1.11648
Health Care	-.12674	.02515	-.09055	.07952	.00632	.26041	-.31898	-.05857	-1.26738
Industrials	-.07886	.00790	-.08259	.02497	.00062	.09167	-.12501	-.03333	-.78858
Insurance	.00376	.02903	.01691	.09181	.00843	.30910	-.18925	.11985	.03763
Oil & Gas	-.13474	.02053	-.12652	.06493	.00422	.20726	-.27107	-.06381	-1.34739
Technology	-.14586	.02398	-.13012	.07583	.00575	.21305	-.27157	-.05853	-1.45861
Telecomm	-.20051	.04444	-.20019	.14055	.01975	.37516	-.42035	-.04519	-2.00508
Utilities	-.19946	.03650	-.18933	.11543	.01332	.31663	-.36293	-.04630	-1.99455
Real Estate Investment & Service	-.19848	.02540	-.18818	.08032	.00645	.26001	-.35955	-.09954	-1.98479
Real Estate Investment Trusts	-.25530	.02491	-.24924	.07876	.00620	.26155	-.36847	-.10692	-2.55300
Financial Services (Sector)	-.10054	.01616	-.10197	.05109	.00261	.13409	-.16612	-.03204	-1.00544
Market	-.10986	.00994	-.11071	.03143	.00099	.10280	-.15969	-.05689	-1.09864

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To ensure that these results are statistically significant, the researcher conducted a t test by comparing the t calculations with the two-tail critical value of t (±2.262) at significant level 5% and 9 freedom degrees. The decision rule is: Reject Ho if t < -2.262 or if > +2.262 otherwise accepted Ho.

Table 4- 4 One-Sample Statistics

The table shows the calculated t for the mean of SFCF for the total market and each sector.present t test for the SFCF based on annual data sample from DataStream consist of 590 UK companies from 1997 to 2008 for full UK market and each sector.

	Mean	Std. Deviation	Std. Error Mean
Banks	.00290980	.01931371	.00610753
Basic Materials	-.15599135	.17889379	.05657118
Consumer Goods	-.08856293	.02028568	.00641489
Consumer Services	-.11164826	.03023727	.00956186
Health Care	-.12673817	.07951734	.02514559
Industrials	-.07885836	.02496837	.00789569
Insurance	.00376304	.09180833	.02903234
Oil & Gas	-.13473949	.06492786	.02053199
Technology	-.14586079	.07582867	.02397913
Telecommunications	-.20050810	.14054542	.04444436
Utilities	-.19945503	.11542886	.03650181
Real Estate Investment & Service	-.19847882	.08031828	.02539887
Real Estate Investment Trusts	-.25530020	.07876005	.02490612
Financial Services (Sector)	-.10054427	.05108679	.01615506
Market	-.10986395	.03143194	.00993965

One-Sample Test

	Test Value = 0					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
Banks	.476	9	.64512	.0029098	-.0109064	.0167260
Basic Materials	-2.757	9	.02221	-.1559913	-.2839643	-.0280184
Consumer Goods	-13.806	9	.00000	-.0885629	-.1030744	-.0740514
Consumer Services	-11.676	9	.00000	-.1116483	-.1332787	-.0900178
Health Care	-5.040	9	.00070	-.1267382	-.1836214	-.0698549
Industrials	-9.988	9	.00000	-.0788584	-.0967197	-.0609971
Insurance	.130	9	.89972	.0037630	-.0619127	.0694388
Oil & Gas	-6.562	9	.00010	-.1347395	-.1811861	-.0882929
Technology	-6.083	9	.00018	-.1458608	-.2001054	-.0916162
Telecommunications	-4.511	9	.00146	-.2005081	-.3010482	-.0999680
Utilities	-5.464	9	.00040	-.1994550	-.2820279	-.1168822
Real Estate Investment & Service	-7.814	9	.00003	-.1984788	-.2559351	-.1410226
Real Estate Investment Trusts	-10.251	9	.00000	-.2553002	-.3116417	-.1989586
Financial Services (Sector)	-6.224	9	.00015	-.1005443	-.1370896	-.0639990
Market	-11.053	9	.00000	-.1098640	-.1323490	-.0873789

Chapter Four: Residual Dividend Policy

Table 4-4 shows that the calculated t for the mean of SFCF for the market and most sectors is in the rejection area except for banking and insurance sectors where their calculated t for the mean of SFCF is in the accepted area .

The above results indicate that we refuse the null hypotheses which state that UK companies adopt the residual dividend policy in general and economic sectors in particular. Conversely, we accept the alternative hypothesis which states that the UK companies do not follow the residual dividend policy in general and according to economic sectors in particular, except for the banking and insurance sectors which follow the residual dividend policy.

In addition, the P-value in table 4-4 confirm the t test results that the market in general does not follow residual dividends policy and that all sectors do not follow residual dividend policy with the exception of the banking and insurance sectors. This is because P value is less than the level of significance (5%) in the market in general and all other sectors except banking and insurance sectors.

4-6 Results discussions

The results in the previous section showed that the companies in general do not follow the residual dividend policy as a policy for cash dividends at the market level in general and all other individual sectors except bank and insurance which do follow residual dividend policy. These results not consist with Baker and Smith (2006) which found that during the nineties, most companies follow the modified residual dividends policy.

Chapter Four: Residual Dividend Policy

This result gives us evidence that the companies in UK not prefer investment policy than dividend policy which is one of the main results of Irrelevant Theory. On other words, this result provides us further evidence of the non-validity of Miller and Modigliani assumption in 1961 as saying that the companies follow the residual dividends policy where the cash dividends depend absolutely on the remaining funds after meeting all the company's investments available.

The above result indicates that there is a separation between the investment policy and dividend policy. This is supported by Fama's study (1974) regarding the independence of investment decisions from the cash dividends decisions.

Regarding bank and insurance sectors, the results show that they are follow residual dividend policy which mean that the companies in these sectors prefer investment policy than dividend policy.

The researcher belief that this results is attributed to several reasons, most important of which are the nature of banking and insurance needs in terms of liquidity needed for the continued evolution of the work of banks in the operational aspects. On the other, the investment policy in insurance companies is connected with the nature of the insurance concept of the operation as the investment income is one of the main sources of insurance to cover various expenses.

The banking sector results in this chapter is supported through the analyses in the previous chapter where it has become clear that there is no effect of all kinds of

dividend policy (cash dividends, shares dividends and stock buybacks) on the market value of the company. While there is an effect of the earnings and investment policy (retained earnings) on the market value . However there is no same conformation for insurance sector results.

4-7 Conclusions

This chapter has examined and tested to what extent the companies in UK follow the residual dividend policy as a policy for their cash dividends at the market level in general and at each individual sector in particular.

Our sample was the active equity companies in UK pound which have been available for ten years from 1998 till 2007 from the DataStream. The total number of available sample companies amounted to 590 out of 691 companies (85.38%) divided into 14 sectors.

In this respect, the results showed that the companies in general do not follow the residual dividend policy as a policy for cash dividends at the market level in general except for banking and insurance sectors for the period from 1998 up to 2007 by using Baker and Smith methodology in their study (2006) by calculating the standardized free cash flow as per the Lehn and Poulsen (1989) definition, as the mean and standard deviation for standardized free cash flow for the companies that follow a residual dividends policy close to zero .

Chapter Five: The Perspective of Management about Dividend Policy

5-1 Introduction

5-2 Prior studies

5-3 Model and hypotheses

5-4 Data and descriptive Statistics

5-5 Empirical Results

5-6 Results discussions

5-7 Conclusions

Chapter Five: The Perspective of Management about Dividend Policy

5-1 Introduction

Developments in the science of management in general and financial management in particular have caused a variety of processes and procedures to be adopted across different firms. Companies differ in the way they adopt policies associated with finance, dividends and capital structure. Such differences result from multiple factors inside and outside the company.

These factors, which limit the options available for companies in different ways, may not be understood or known to shareholders, thereby highlighting an important issue of asymmetric information between company management, investors and shareholders (Dewenter and Warther, 1998). This is liable to create a state of uncertainty, misunderstanding, and unreliable assessment and evaluation of management decisions on the part of investors and shareholders.

Financial literature highlights that the main goal of financial management should be mainly to maximize the market value of the project owners (the shareholders) (Ward, 1993). Shareholders certainly do not want another goal from their investment in the company. Hence, management works hard to achieve this goal, through the appropriate policies, decisions and actions.

However, this goal may not be achieved or may be difficult to achieve because of certain conditions facing management which override the wishes of shareholders. In addition, the multiplicity of investors and the differences in their situations makes it difficult for management to meet the various requirements, thereby creating a gap between management and shareholders in this regard.

Chapter Five: The Perspective of Management about Dividend Policy

Therefore, shareholders' knowledge of the considerations and circumstances of the context of decisions taken by management would assist the shareholder in taking the correct investment decision commensurate with his/her circumstances. This will lead to reduce the likelihood of exposure to potential losses in the event that those policies and decisions do not match shareholders' wishes and preferences, which, in turn, would undermine the market value of a company. When management decisions do not correspond with the preferences of shareholders, then shareholders would be motivated to invest in shares of other companies with a consequent positive impact on their market value.

Financial literature has dealt extensively with financial policies and, in particular, dividends policy; however, there are few studies using surveys that cover the motives of the management regarding dividends policy like or focusing the reasons that drive companies to opt for a particular type of dividends, such as Baker, Farley and Edelman (1985) investigating cash dividends, Lasfer (1997) assessing scrip dividends, Barker (1958) exploring stock dividends and Mitchell, Dharmawan and Clarke (2001) examining share buybacks, or a particular method such as Baker and Smith (2006) about residual dividend policy. The researcher thinks that poor management response rates to surveys are the main causes for the lack of research about understanding the reasons behind management policies in general and about dividend policy in particular.

This chapter seeks to investigate the importance of the factors that affect management when setting their dividend policy and find if there is any effect of the nature of company business on these factors importance.

Chapter Five: The Perspective of Management about Dividend Policy

The researcher tests the importance of six factors: company market value; investment decision; finance decision; signal theory; agency theory; and shareholder structure.

For this purpose, a questionnaire was sent via e-mail to 1319 UK companies in various economic sectors. The number of responses received was 208 from various economic sectors, amounting to about 15.77%.

It has been found that in order of importance of these factors is: shareholder structure, finance decision, signal theory, company market value, investment decision and agency theory. It was also found that the nature of business (economic sector) had no affect on each of the factors with the exception of the finance decision on the real estate investment and insurance sectors and the technology sector on signaling theory.

This chapter is organized as follows: Section 5-2 is a review of previous studies; Section 5-3 is dedicated to methodology and hypotheses; the details of the statistical sample are included in Section 5-4; the results are discussed in Sections 5-5 and 5-6, while the last section (5-7) is devoted to a summary and conclusions.

5-2 Prior studies

Many studies within financial literature deal with management vision with regard to dividends policy. In this respect, Baker, Farley and Edelman (1985) in their study made a survey for financial managers working in the New York Stock Exchange (NYSE). Those surveyed were asked about the considerations they take

into account when they determine their company's dividends policy. The aim was to test the awareness of managers of the impact of the signal and clients theories.

The study used a three-part questionnaire: the first contained 15 closed questions on the importance of the factors used by each company to determine the dividends policy; the second had 18 closed questions on the theoretical aspects used in the dividends policy of companies; and the third part was related to the information about the company such as the rate of profit and dividends per share.

The questionnaire was mailed to 562 companies, of which 318 were returned. The study finds that in order of importance the level of expected future earnings of the company, the model of previous dividends, the availability of cash, and maintaining or increasing the share price are important factors in determining dividends policy.

On the other hand, the study also finds that companies avoid changing the dividends rate and struggling to continue. Furthermore, respondents from all sectors considered that dividends have an impact on share prices as the market uses dividends' announcements as information to evaluate stocks.

Allen (1992) in his studies in UK try to examines the extent of usage of explicit target payouts, the range of target payouts adopted and frequency of change in such targets and the factors which influence a company's choice of these targets.

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The study used a questionnaire consisting of two parts: the first part investigated if companies had a target dividend payout ratio and other details about this target; and the second part measured the factors influencing the target dividend payout ratio on a five-point Likert scale.

The questionnaires were mailed out in the third week of January 1990 and follow-up letters were sent three weeks later. The response rate was disappointing with 67 returned, giving a response rate of 13.4%.

The paper concludes to the following findings:

- 52% of respondent firms reported using a target payout and 6% reported that their dividend policy is a percentage payment on the par value of their stock.

- 51% of respondent firms reported that they had changed their target payout at least once during the period 1980 to 1990 and 36% more than once.

- There is no association between the use of targets and industry sectors.

In addition, the paper finds that the following factors in order of importance were taken into consideration when setting the target payout dividend ratio.

- A desire to maintain stable dividends.

- The company's recent dividend history.

- To signal the management's views of potential future company performance.

- The availability of liquid funds.

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- The requirements of planned investment policy.

- Planned new capital issues.

- The average payout level in the industry.

- Working capital requirements.

Lasfer (1997) examines the motivation underlying the payment of scrip dividends through a questionnaire survey conducted among a sample of UK companies listed on London Stock Exchange (LSE) that offered their shareholders this option, and a control sample of firms that paid only cash dividends.

The data on manager vision of the scrip dividend option was collected by a postal questionnaire sent during the first quarter of 1995 which covering all companies identified from Extel Takeovers, Offers and New Issues publications as having offered the scrip dividend option at least once between 1987 and 1992.

The control sample was constructed by matching every company that paid scrip dividends with a similar company that paid a cash dividend (same industry, size and as close as possible in market value of equity).

The questionnaire send to the both samples included a set of closed-end questions to explore the propositions that the scrip dividend option is motivated by tax saving, lack of cash, signaling and shareholder pressure. In addition, the respondents were also asked to list in order of importance the reasons why their company paid or did not paid scrip dividends.

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The response rate for the scrip dividend sample was 24.75% (50 responses) while the control sample respond rate was 16.83% (34 responses). The total response was 20.79% (84 responses).

The results show that the overwhelming majority of respondents from both groups felt that the scrip dividend option is driven by current and/or potential high irrecoverable Advance Corroborate Tax (ACT) and they strongly rejected the proposition that the scrip option is a substitute for external financing or a cut in cash dividend. In addition, the managers felt that the scrip dividend allows small shareholders to increase their holding without incurring transaction costs and are not intended to convey information that leads to a rise in the share price.

On other side the main reason given by respondents for not paying scrip dividend are: the relatively high administration costs of setting up and running the scheme given the expected low take-up rate and the large number of shareholders(Lasfer, 1997).

Baker and Powell (1999) investigate the views of corporate managers about the relationship between dividend policy and value and the explanation of dividend relevance including the bird in the hand, signaling, tax-preference and agency explanations. In addition, the paper tests if the responses vary among three industry groups (manufacturing, wholesale/retail trade and utilities).

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The survey was sent in mid-1997 to 603 US corporations listed on the NYSE that paid a cash dividend in at least one year between 1994 and 1995. The usable responses totalled 198.

The paper finds that most managers believed that dividend policy affects firm value and they are highly concerned about continuity of dividends. Also, there is a high level of agreement with statements about signaling, while the respondents were uncertain about involving the tax preferences and bird in the hand explanations, and they were inconsistent regarding the agency explanation about paying dividends. The research finds that there was no effect of the industry sector on the above results.

Baker and Powell (2000) conducted a survey to verify management's vision in US companies on the factors that affect the dividends policy. It sought to establish that these factors could change over time by comparing the results with a study published in 1985.

A questionnaire was sent to the chief financial officer (CFO) of 603 US companies, of which 198 were returned. The study found that the results were no different from those in the previous study, as the factors that affect the dividends policy in terms of importance were:

- The level of current and future expected earnings.

- Continuing the same dividends level.

- Paying attention to the continuing increase in the share price.

- Changing dividends may give a false signal to investors.

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- The stability of cash flow.

An Australian study (Mitchell et al., 2001) using survey method tries to provides evidence on management considerations as to the appropriate and relevant motivations for buy back and if management in general considers buy-back activity to be merited.

The survey was sent to 508 CFOs of which 112 useable responses were received. The paper finds that improving financial performance and financial position are the most relevant motivations, followed by signaling of future expectations or under pricing. In addition, the Australian managers believed that they are familiar with the potential benefits and legislative requirements of buy back, but that their shareholders often do not understand or are not favourably disposed towards buy back.

Baker, Powell and Veit (2002) investigates the views of managers in Nasdaq firms that consistently pay cash dividend in order to determine their views about dividend policy, the relationship between dividend policy and market value and four common explanations (signaling, tax-preference, agency cost and the bird in hand) for paying dividends.

Surveys, which were sent in mid-June 1999 to 630 financial managers of Nasdaq firms of which 188 were usable, included by ask about their view for 27 closed-end statements. Responses followed a five-point, equal interval scale: -2 = strong

disagree, -1 = disagree, 0 = no opinion, +1 = agree, and 02 = strongly agree. The usable responses were 188 responses.

The paper finds that managers stress the importance of maintaining dividend continuity and widely agree that changes in dividend affect firm value. In addition, managers gave the strongest support to the signaling explanation for paying dividends, weak to little support for tax and agency explanations, and no support to the bird in the hand explanation.

The study of Baker and Smith (2006) is primarily devoted to discussing companies that follow a residual dividend policy. The study consisted of two sections: the first section sought to identify firms that pursue a residual dividend policy in the nineties of the last century where it covered 309 companies. The second part is a questionnaire for these 309 companies. The other sample of companies corresponds to the first sample in terms of industry sector and size to determine the factors that affect the distribution policy.

 The study finds that the level of previous dividends, the stability of earnings, and the desire for a long-term continuation of the dividends ratio were the most important factors for the financial executive directors that follow a residual dividend policy. The interview sample was a continuation of the dividends level in the long run is found to be the most important factor.

Baker, Saadi, Sutta and Gandhi (2007) investigate the perception of dividends by managers of dividend-paying firms listed on the Toronto Stock Exchange (TSX).

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The survey, which was sent in March 2005 to CFOs of 291 firms, contained three sections. First, the survey asked the respondents to indicated the importance of 22 factors in determining their firm's dividend policy by used a four-point scale where 0 = no importance, 1 = low importance, 2 = moderate importance and 3 = high importance. The second section asked respondents to indicate their general opinion about each of 27 closed-end statement based on a five-points scale: -2 = strongly disagree, -1 = disagree, 0 = no opinion, +1 = agree and +2 = strongly agree. The third section contained 6 questions that provided a profile of the respondents and their firms. The usable responses were 103.

The paper finds that the most important factors influencing dividend policy are the level of current and expected future earnings, the stability of earnings and the pattern of the past dividends.

In addition, Canadian managers believe that the dividend policy affects firm value but express little agreement with the theory of a residual dividend policy. They express strong support for signaling theory but not for the bird in the hand, tax preference and agency cost theories.

Brav, Graham, Harvey and Michaely (2005) conducted a survey to identify factors that monitor dividends and repurchases decisions in the US. The survey covered 384 financial executives in 256 public companies and 128 private companies. The public companies are divided as follows: 166 companies that paid dividends, 167 companies that have bought back their shares, and 77 companies

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that did not pay dividends. The results of the study depended mainly on the responses of public companies.

In addition, the researchers conducted separate interviews with 23 financial executives in order to clarify any issues raising questions and inquiring about any matters that lack clarity from the survey. The answers resulting from personal interviews have been taken into account in terms of their support of the study.

The authors found that maintaining the dividend level is important and the stability of future earnings affects the dividends policy. In addition, they found that many managers favour repurchases because they are viewed as being more flexible than dividends and believe that institutions differentiate between dividends and repurchases and that the payout policy has little impact on their investor clientele.

Dhanani (2005) study about UK companies finance managers' views on dividend policy. Its cover the general dividend relevance/irrelevance hypotheses along with the specific dividend hypotheses relating to finance and investment decisions, signaling implications, agency issues and ownership structure.

Dhanani deals with the irrelevant hypothesis, which assumes an efficient market, where the hypothesis formulated by the market efficiency imperfections, which denies irrelevance that the dividend policy affects one or more of the various market imperfections prevalent and enhances the firm's value to shareholders.

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He then formulates four sub-hypotheses related to the following market imperfections: capital availability and structure; information asymmetry; agency problems; and shareholder circumstances.

In addition, he conducts studies on the impact of a firm's characteristics on the above hypotheses. He assesses the characteristics of size, market listing, industry, financial leverage, growth opportunities, information asymmetry, profitability, agency costs and ownership structure through a questionnaire that included 26 questions measured on a Likert scale. The questionnaire was sent to 1000 companies in the UK (800 on the LSE and 200 in the AIM). The volume of usable questionnaires, which entered the final sample, was 164 questionnaires (119 in LSE and 45 AIM).

The study results support the general hypothesis, in which dividend policy serves to enhance corporate market value. In addition, managers support the specific hypotheses relating to signaling and ownership structure, in preference to those about capital structure and investment decisions and agency issues.

For corporate characteristics the study finds that companies face more stringent capital structure decisions and are therefore forced to be more flexible in their dividend decisions and at the same time look to dividend policy as an important signaling mechanism.

Further, the study finds in its industry analysis clear evidence that companies in the financial and utility sectors support the dividend signaling hypothesis more than their counterparts in other sectors.

5-3 Model and hypotheses

5-3-1 Study Model

The questionnaire method has considerable support for the use of this method in the social sciences because it can reflect the strength of opinions, perceptions, attitudes and views (Black, 1999). In finance, accounting and economics research, as a part of the social sciences, the questionnaire method has the advantage of providing direct evidence of managements' motives and reasons for engaging in activities (Mitchell et al., 2001) and it is useful for both describing and explaining managerial behaviour (Abernethy et al., 1999).

Therefore, the model used in this chapter depends mainly on a questionnaire adapted for management, which was sent by e-mail to financial managers/directors of all companies listed on the London Stock Exchange (LSE). The researcher aimed to access as large a possible proportion of respondents in order to more accurately reflect the total population.

5-3-2 Questionnaire Design and Administration

The questionnaire method has a number of limitations. However, these limitations were minimized by following the techniques associated with good questionnaire design (Roberts, 1999). These techniques related to the development of the

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measurement instrument as well as to the design and administration of the questionnaire.

1. In the beginnings special interest was focus to the development of the factors affecting management when they set their dividend policy by reviewing academic literature about the subject, which is explained earlier in second chapter and in previous studies section in this chapter. Six variables where selected which explained in section (5-3-3).

2. The first draft of the questionnaire was prepare by the researcher in the second stage and presented to two PhD. student colleagues in order to obtain feedback on its clarity, validity and appropriateness of the questions and questionnaire design.

3. Thereafter a number of changes are made. Two academic staff in Durham Business School who had expertise in questionnaire design and administration independently reviewed the questionnaire. Their suggestions consisted of both technical matters (understanding the aims and wording of questions) and practical issues such as the size, visual appearance and layout.

4. Lastly, the questionnaire was pilot tested. A pilot study is a small-scale study which is performed before the full-scale research in order to identify any problems with the research design and to rectify them prior to implementation of the major study, which is often costly and time-consuming (Polit et al., 2001). Typically, pilot studies are conducted on a small group of respondents who are as similar as possible to the target population. They can be preformed for a number of different purposes, from assessing the likely success of a research approach, to testing the

internal validity of a questionnaire, to providing evidence for a funding body that further, full-scale study is valuable (Holloway, 1997). The role of the pilot study in this study was to identify the reliability and internal validity of the questionnaire. This can assist in the identification of ambiguous or unnecessary questions, as well as items which do not exhibit internal validity and which should therefore be discarded. Two finance managers from outside the sample populations who had substantial commercial experience were used for the pilot study.

5. Following this feedback further adjustments were made before the questionnaire was distributed via e-mail. Follow up procedures (Section 5-4-1) were conducted to increase the response rate.

5-3-3 Variable operation definition

Dhanani (2005) designed a questionnaire which examined five sections using 26 questions. The first section dealt with dividends policy and market value in general through three questions. The second section focused on finance and investment decisions by asking eight questions. The third section dealt with the signaling theory through seven questions. The fourth section dealt with the agency theory by raising three questions, while the last section was about the structure of the shareholders through five questions.

However, the researcher considers that Dhanani's questionnaire has a number of drawbacks as follows:

1. Length of the questionnaire in terms of the number of questions (26 questions).

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2. Integrating investment and financing decisions in one section even when they quite different.

3. Disparity of the number of questions in each section.

4. The lack of any reference to managements' visions and their preferences for a particular type of dividends to other types.

In designing his questionnaire (p: 275), the researcher thus sought to make use the same factors included in Dhanani's study (2005), taking into consideration the above points. Thus, the questionnaire comprised two sections. The first one deals with four main issue about: 1) the economic sector in which the company operates; 2) the manager's/director's belief about the importance of the type of dividends to shareholders; 3) the financial manager's/director's preference for the type of company management, including a sub-question about the reason for such a preference; and 4) if the company has any research on shareholders' wishes in relation to dividends.

The second section includes 18 structural questions covering six factors (each factor measure by three statements) using a 5-point Likert scale concerning the factors (statements) that affect management when setting their dividend policy. The Likert scale "is the most popular scaling procedure in use today" (Oppenheim, 2000), Likert scale is distributed and coded within (5 = Strongly important , 4 = Important, 3 = Neutral, 2 = Not important, 1 = Strongly not important) and respondents are asked to evaluate the importance or lack of importance of the following statements:

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Company Value

- The company develops its dividend policy in light of shareholders needs in order to maximize company market value.

- The dividend policy affects company market value.

- The dividend policy is the main factor affecting company market value.

The Investment Decision

- There is no link between dividend and investment decisions.

- The dividend decision is a residual decision after the investment decision has been made.

- Dividend policy is less important than investment policy.

The Finance Decision

- The company prefers funding from retained earnings before resorting to external financing.

- Cash dividends are considered a fixed cost.

- Cash dividends will weaken the company's financial flexibility.

The Signaling Theory

- Dividends are the most important tool used by the company to send information to shareholders about company performance.

- A decrease in the dividend always refers to a reduction in future company earnings.

- Distributed dividend reflects the company's inability to use the available funds in other profitable projects.

The Agency Theory

- The company takes a dividend decision, despite being put under the control of external financiers.

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- Investors monitor the company, if funding of a new investment comes from retained earnings rather than external financing.

- Increasing dividends will reduce shareholders' control over management.

The Shareholders Structures

- The company develops its dividend policy based on the main shareholders requirements.

- The company develops the dividend policy based on the dividend tax effect on the main shareholders.

- The company uses cash dividend because of investor preferences for certainty.

5-3-4 Study Hypotheses

The main null hypothesis for this chapter is:

There are no statistically significant differences between finance manager's responses about the factors that are taken into account when setting dividend policy.

In addition, in order to test if there are any affects on company business on the factors affecting management when setting dividend policy in the UK, we will have sub-hypotheses for the following 15 sectors:

1. Banks

2. Basic Materials

3. Consumer Goods

4. Consumer Services

5. Health Care

6. Industrials

7. Insurance

8. Oil & Gas

9. Technology

10. Telecommunications

11. Unclassified

12. Utilities

13. Real Estate Investment & Service

14. Real Estate Investment Trusts

15. Financial Services

5-4 Data collection and description

5-4-1 Data collection

The data collection process had two stages of data collection. The first stage, which took three weeks, included collecting the e-mail addresses of finance managers/directors of all companies listed on the London Stock Exchange (LSE). A total of 1319 e-mail addresses of various economic sectors were collected from company web site first and second by phone calls the company directly to collected.

In the second phase, the questionnaire was sent three times by e-mail within 45 days between the start of January and mid-February 2010. At this stage, the percentage of responses was very low, at about 2% only. The researcher then tended, in his fourth time, to adopt a different method whereby the questionnaire was sent in separate groups to be followed-up then with the companies themselves. The process included addressing 100 companies in one day; in the

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following days, the companies that received the questionnaire were contacted by phone. This process took almost another 45 days between mid-February and the end of March 2010 in order to increase the response rate to 13.42% with 177 responses across the various economic sectors.

In order to further increase the response rate, the researcher re-sent the questionnaire in May 2010 and again followed up with the concerned companies was carried out by phone call. 31 more responses were obtained bringing the response rate up to 15.77%., where 208 responses were received from various economic sectors as shown in Table 5-1:

Table 5- 1 Questionnaire sample

This table presents the questionnaire sample response percentages by sector collected from UK companies in the period between January 2010 and end of May 2010.

	Sector	No. of Co.	Respond	Percentage
1	Banks	8	0	0.00%
2	Basic Materials	105	13	12.38%
3	Consumer Goods	73	15	20.55%
4	Consumer Services	177	28	15.82%
5	Health Care	82	15	18.29%
6	Industrials	294	53	18.03%
7	Insurance	36	4	11.11%
8	Oil & Gas	80	12	15.00%
9	Technology	131	19	14.50%
10	Telecommunications	23	2	8.70%
11	Unclassified	8	1	12.50%
12	Utilities	23	5	21.74%
13	Real Estate Investment & Service	57	13	22.81%
14	Real Estate Investment Trusts	19	9	47.37%
15	Financial Services	203	19	9.36%
	Total	**1319**	**208**	**15.77%**

From the table no. 5-1, one can observe the size of the sample used in general and by each sector in particular. For example, the banking sector is not represented in

this part and the representation of sectors is inconsistent, which raises a lot of

doubts and queries about the possibility of generalizing the results.

Despite the above criticism and to what extent they are objective or not, but the

responses received provide a reasonable amount of information that cannot be

ignored and also set up the basis to build on. Added to that, the responses

represent the best rate possible and accessible compared with the previous studies

in this area, especially if we know that a large proportion of companies did not

respond claiming that the instructions and internal administrative procedures in

the company prevented them from responding to the questionnaire.

5-4-2 Sample statistical description

The statistical description of the sample in table (5-2) below can be interpreted as

follows:

Table 5- 2 Sample by sector

This table shows frequency, percentage and valid percentage for each sector for the
questionnaire sample which collected from UK companies in the period between January
2010 and end of May 2010.

Sector	Frequency	Percent	Valid Percent	Cumulative Percent
Basic Materials	13	6.3	6.3	6.3
Consumer Goods	15	7.2	7.2	13.5
Consumer Services	28	13.5	13.5	26.9
Financial Services (Sector)	19	9.1	9.1	36.1
Health Care	15	7.2	7.2	43.3
Industrials	53	25.5	25.5	68.8
Insurance	4	1.9	1.9	70.7
Oil & Gas	12	5.8	5.8	76.4
Real Estate Investment & Service	13	6.3	6.3	82.7
Real Estate Investment Trusts	9	4.3	4.3	87.0
Technology	19	9.1	9.1	96.2
Telecommunications	2	1.0	1.0	97.1
Unclassified	1	.5	.5	97.6
Utilities	5	2.4	2.4	100.0
Total	**208**	**100.0**	**100.0**	

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The above table shows the representation of each sector to the total sectors where we find that the industry sector is the largest sector which amounts to 25.4%.

5-5 Empirical Results

Before started data analyses validity and reliability were tested.

5-5-1 Validity analysis

Validity is a measure of the extent to which the scale represents the concept of the study (Robinson et al., 1991). Typically validity can be classified into two types: the first is convergent validity which describes the extent to which two measures of the same concept are correlated; and the second is discriminate validity which measures the degree to which two concepts which bear similarities are distinct from each other (Robinson et al., 1991). Both convergent and discriminate validity can be assessed by using the expletory factor analyses.

Factor analysis is essential to reduce a large number of related items to a small number which is more useful. This is a achieved by grouping similar items together (Hair et al., 2006). Factor analyses can be classified into two types: expletory factor analyses which aims to gather information about the relationship between variables; and confirmatory factor analyses which is used to confirm relationships between variables that are already specified (Hair et al., 2006).

In factor analysis there are two main steps are used by SPSS to evaluate the suitability of the data. The first step is the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the second is the Bartlett's test of sphericity (Tabachnick

and Fidell, 1996). The Kaiser-Meyer-Olkin (KMO) should be 0.6 or above and the Bartlett's test of sphericity should be 0.05 or less (Tabachnick and Fidell, 1996).

The tests (for our questionnaire 18 questions) showed that Kaiser-Meyer-Olkin (KMO) was 0.792 and the significant value of Bartlett's test was 0.00. Therefore the data of this study is suitable for factor analysis. Table (5-3) bellow shows this result.

Table 5- 3 KMO and Bartlett's Test

This table presents the results of the KMO and Bartlett's test for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.792
Bartlett's Test of Sphericity	Approx. Chi-Square	782.067
	df	153
	Sig.	0

Furthermore, principle component analysis (PCA) showed six components with an eigenvalue greater than 1, explaining 25.225%, 7.866%, 7.560%, 7.367%, 5.866% and 5.315% of the variance respectively (see Appendix 5-2). In addition, I used rotated component matrix which clarified the six components that have factor loading above 0.50 (see Table 5-4).

Table 5- 4 Rotated Component Matrix

This table presents the results of the rotated component matrix (factor analysis) in relation to the company value, the investment decision, the finance decision, signaling, agency and shareholders for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

	Component					
	1	2	3	4	5	6
The Company Value Q1	.247	-.048	.198	**.649**	.169	.023
The Company Value Q2	.159	-.277	.242	**.669**	-.058	-.266
The Company Value Q3	.225	.052	.156	**.614**	.086	.007
Investment Decision Q1	.244	**.575**	.232	.068	.225	.101
Investment Decision Q2	.256	**.509**	-.116	.089	-.232	.178
Investment Decision Q3	.269	**.565**	-.165	.245	-.177	-.254
Finance Decision Q1	**.547**	.069	-.280	.130	-.151	-.019
Finance Decision Q2	**.572**	-.126	-.256	.150	.103	-.103
Finance Decision Q3	**.514**	-.257	-.178	-.082	-.209	-.097
Signaling Q1	.166	-.100	.027	-.082	**.518**	.189
Signaling Q2	.273	-.196	-.107	-.270	**.530**	.086
Signaling Q3	.057	.157	.230	-.080	**.553**	-.138
Agency Q1	.248	.025	**.535**	.018	-.213	.083
Agency Q2	.250	.251	**.502**	.156	-.252	.218
Agency Q3	-.081	.130	**.528**	-.154	-.278	-.255
Shareholders Q1	-.139	-.109	-.131	.001	.015	**.561**
Shareholders Q2	.194	.065	-.011	-.233	.285	**.505**
Shareholders Q3	.182	-.142	-.178	.048	-.108	**.521**

Extraction Method: Principal Component Analysis.

a 6 components extracted.

5-5-2 Reliability analysis

Reliability refers to the "purity and consistency of the measure, to repeatability, to the probability of obtaining the same results again if the measure were to be duplicated" (Oppenheim, 2000).

In the social sciences, the main statistic measure used to test reliability in questionnaires is Cronbach's Coefficient Alpha (Cronbach, 1951), which estimates the degree of correlation among a group of items and gives an idea about the variances among them.

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Therefore, the researcher calculated the reliability coefficient for the identification

through the application of Cornbach's Alpha to ensure the stability of resolution.

From Table (5-5) it can be seen that the value of Cornbach's Alpha coefficient is

82.40% which indicates that it is an acceptable rate constant.

Table 5- 5 Reliability test

This table presents the results of the Cronbach Alpha reliability test for the sample of 208
questionnaires which collected from UK companies in the period between January 2010
and end of May 2010.

Cronbach's Alpha	N of Items
.824	18

5-5-3 Analyzing the results of the questionnaire

5-5-3-1 The first part data

Analysis of this part of the questionnaire data is obtained by the use of

percentages derived from measuring means for all factors in order to estimate the

importance of each answer, as well as gauging the effect of different economic

sectors on that answer.

1 - The importance of the type of dividend

Each respondent was asked what kind of dividend is believed to be more

important to shareholders. For this purpose, there were four options given: cash

dividends; share dividends; buy backs as three options and a fourth option on the

lack of importance of dividends. The results of the answers can be seen in Table

No. (5-6) which shows that 69.23% of the respondents believe that the cash

dividend is the most important to shareholders, followed by the belief that the

dividends are not important (13.94%) . Then comes the share dividends with

8.65% and finally re-purchase at a rate of 8.17%.

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Table 5- 6 The sample think per sector

This table shows the results of UK management think about the important of dividend type by sector for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

	Think							
	Cash Dividend		**Share Dividend**		**Repurchasing Share**		**Dividend Type Not Important**	
Sector	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**
Basic Materials	9	69.23%	2	15.38%	1	7.69%	1	7.69%
Consumer Goods	11	73.33%	0	0.00%	2	13.33%	2	13.33%
Consumer Services	16	57.14%	3	10.71%	4	14.29%	5	17.86%
Financial Services (Sector)	17	89.47%	0	0.00%	0	0.00%	2	10.53%
Health Care	9	60.00%	3	20.00%	2	13.33%	1	6.67%
Industrials	34	64.15%	5	9.43%	6	11.32%	8	15.09%
Insurance	3	75.00%	0	0.00%	0	0.00%	1	25.00%
Oil & Gas	9	75.00%	2	16.67%	0	0.00%	1	8.33%
Real Estate Investment & Service	12	92.31%	0	0.00%	0	0.00%	1	7.69%
Real Estate Investment Trusts	9	100.00%	0	0.00%	0	0.00%	0	0.00%
Technology	11	57.89%	3	15.79%	1	5.26%	4	21.05%
Telecommunications	2	100.00%	0	0.00%	0	0.00%	0	0.00%
Unclassified	0	0.00%	0	0.00%	0	0.00%	1	100.00%
Utilities	2	40.00%	0	0.00%	1	20.00%	2	40.00%
Total	144	69.23%	18	8.65%	17	8.17%	29	13.94%

In addition, the finance managers/directors believe that the importance of cash dividends to shareholders is ranked first in all economic sectors, although to different degrees, whereas the importance of the other options vary from sector to sector, as is shown in Table (5-7).

2- Respondents preferences and reasons

The second part of the first section of the questionnaire was devoted to ascertaining the respondents' preferences (the management) for each type of dividend and the reason for this preference. We find that 71.63% of the sample

preferred cash dividends, followed by buying back stock at a rate of 10.10%. The other reasons only received small percentages.

The results reveal that 51.01% of those who preferred cash dividends opted for such a preference primarily due to the ease of implementation, followed by flexibility (22.82%). The next most popular reason is to meet the requirements of the major shareholders (14.09%); the last reason is the lack of wish to change the previous dividends method (12.08%). The option of share repurchase focused on the ease of implementation and of being more flexible than other reasons. The results are highlighted in Table (5-7) below:

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Table 5- 7 The sample preferences and reasons

This table shows the results of the preferences of UK management for the dividend type according to reasons for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

| **Prefer** | **Why Prefer** | | | | | | | | Total | % |
	More flexible	**%**	Easy in implementation	**%**	Avoid changing previous method	**%**	Main shareholders required	**%**		
Cash Dividend	34	22.82%	76	51.01%	18	12.08%	21	14.09%	149	71.63%
Share Dividend	9	90.00%	0	0.00%	1	10.00%	0	0.00%	10	4.81%
Repurchasing Share	8	38.10%	10	47.62%	2	9.52%	1	4.76%	21	10.10%
Cash & Share Dividend	6	37.50%	7	43.75%	1	6.25%	2	12.50%	16	7.69%
Cash Dividend & Repurchasing Share	3	100.00%	0	0.00%	0	0.00%	0	0.00%	3	1.44%
Share Dividend & Repurchasing Share	0	0.00%	6	100.00%	0	0.00%	0	0.00%	6	2.88%
No preference	0	0.00%	1	33.33%	2	66.67%	0	0.00%	3	1.44%
Total	**60**	**28.85%**	**100**	**48.08%**	**24**	**11.54%**	**24**	**11.54%**	**208**	**100.00%**

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3- Shareholders' wishes studies

The last part of the first section of the questionnaire inquired whether the company

has studied shareholders' wishes in respect of dividend type or not. The aim is to

understand if companies attempt to meet their shareholders' wishes regarding

dividends. The answers to this question are displayed in Table (5-8) below:

Table 5- 8 The sample shareholders wishes studies

This table presents the response by sector to the question if management has previously
studied the wishes of investors for the dividend policy for the sample of 208 questionnaires
which collected from UK companies in the period between January 2010 and end of May
2010.

| Sector | Investor Previous Studies | | | | Total |
| | Yes | | No | | |
	Freq.	%	Freq.	%	
Basic Materials	4	30.77%	9	69.23%	13
Consumer Goods	11	73.33%	4	26.67%	15
Consumer Services	13	46.43%	15	53.57%	28
Financial Services (Sector)	11	57.89%	8	42.11%	19
Health Care	4	26.67%	11	73.33%	15
Industrials	25	47.17%	28	52.83%	53
Insurance	2	50.00%	2	50.00%	4
Oil & Gas	3	25.00%	9	75.00%	12
Real Estate Investment & Service	4	30.77%	9	69.23%	13
Real Estate Investment Trusts	8	88.89%	1	11.11%	9
Technology	7	36.84%	12	63.16%	19
Telecommunications	2	100.00%	0	0.00%	2
Unclassified	1	100.00%	0	0.00%	1
Utilities	2	40.00%	3	60.00%	5
Total	**97**	**46.63%**	**111**	**53.37%**	**208**

From the table it is clear that the number of companies, which have studied

shareholders' preferences for the dividend type, is 46.63%, whereas the companies

that lack such studies amounted to 53.37%. These percentages vary according to the

economic sector.

5-5-3-2 Second part data analyses

The second part of the questionnaire was designed to determine the importance of the factors considered by management when setting their dividends policy, highlighting the relative importance of the factor, and exploring how this importance varies according to economic sector. In this respect, 18 questions were asked concerning six factors, namely: company value; investment decision; finance decision; signaling theory; agency theory; and the structure of shareholders. The results are presented in Table (5-9) below:

Table 5- 9 The factories important

This table presents the ranking in importance of the factors (company value, investment decision, finance decision, signaling, agency and shareholder) that affect management when setting dividend policy for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

	N	Mini	Max	Mean	Percentage Per Question	Percentage Per Factor	Rank
The Company Value Q1	208	1	5	3.19	63.80%		
The Company Value Q2	208	1	5	3.39	67.80%	63.07%	Forth
The Company Value Q3	208	1	5	2.88	57.60%		
Investment Decision Q1	208	1	5	3.05	61.00%		
Investment Decision Q2	208	1	5	3.08	61.60%	62.13%	Fifth
Investment Decision Q3	208	1	5	3.19	63.80%		
Finance Decision Q1	208	1	5	3.30	66.00%		
Finance Decision Q2	208	1	5	3.17	63.40%	64.47%	Second
Finance Decision Q3	208	1	5	3.20	64.00%		
Signaling Q1	208	1	5	3.22	64.40%		
Signaling Q2	208	1	5	3.26	65.20%	63.40%	Third
Signaling Q3	208	1	5	3.03	60.60%		
Agency Q1	208	1	5	3.07	61.40%		
Agency Q2	208	1	5	3.00	60.00%	61.20%	Sixth
Agency Q3	208	1	5	3.11	62.20%		
Shareholders Q1	208	1	5	3.35	67.00%		
Shareholders Q2	208	1	5	3.13	62.60%	65.20%	First
Shareholders Q3	208	1	5	3.30	66.00%		

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From Table (5-9) above, we find that the most important factor that management takes into account when setting dividend policy is shareholder structure, followed by finance decision, signaling theory, company market value, and investment decision with agency theory ranked last.

In order to determine if these results vary according to economic sectors or not, the researcher used the ANOVA test by comparing the value of calculated F with the value of critical F at a confidence level of 95%. This is based on the fact that if calculation F is less than critical F, then the answers do not vary according to sectors; that is the importance of this factor does not change from sector to sector. Similarly, if calculation F is more than the critical F, then the answers do vary according to sector, which means that the importance of the factor under investigation varies from sector to sector. The results are shown in Table No (5-10) below:

Table 5- 6 The sector F test

This table shows the F test results for factors affecting management when they sit their dividend policy for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

		Sum of Squares	df	Mean Square	F	Sig.
Company Value	Between Groups	10.069	13	.775	1.549	.103
	Within Groups	97.025	194	.500		
	Total	107.094	207			
Investment Decision	Between Groups	8.669	13	.667	1.454	.138
	Within Groups	88.992	194	.459		
	Total	97.661	207			
Finance Decision	Between Groups	12.015	13	.924	2.086	.017
	Within Groups	85.961	194	.443		
	Total	97.976	207			
Signaling	Between Groups	10.766	13	.828	1.732	.057
	Within Groups	92.785	194	.478		
	Total	103.551	207			
Agency	Between Groups	7.226	13	.556	1.250	.247
	Within Groups	86.294	194	.445		
	Total	93.519	207			
Shareholders	Between Groups	10.938	13	.841	1.530	.109
	Within Groups	106.663	194	.550		
	Total	117.602	207			

Comparing the value of calculated F in Table 5-10 with the value of the critical value of F with the 95% confidence level, only the finance decision (2.086) and signal theory factors (1.732) are larger than the value of critical F (1,723). This means that the importance of the finance decision and signaling theory differs across the economic sectors.

- **Finance Decision**

In order to find which economic sector was more than others in its answer means on finance decision factors, the researcher calculated the means and the percentages ratio for each economic sector as is shown in Table no. (5-11) below:

Table 5- 7 The Finance Decision factor by sector

This table present the importance of the finance decision factor in each economic sector for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

Sector	Mean	Percentage	Rank	N
Basic Materials	3.46162	69.23%	4	13
Consumer Goods	3.08884	61.78%	12	15
Consumer Services	3.24995	65.00%	7	28
Financial Services (Sector)	3.35084	67.02%	6	19
Health Care	3.3556	67.11%	5	15
Industrials	3.10692	62.14%	10	53
Insurance	3.49992	70.00%	2	4
Oil & Gas	3.19447	63.89%	8	12
Real Estate Investment & Service	3.48715	69.74%	3	13
Real Estate Investment Trusts	3.55556	71.11%	1	9
Technology	3.10523	62.10%	11	19
Telecommunications	2.1665	43.33%	13	2
Unclassified	1	20.00%	14	1
Utilities	3.1332	62.66%	9	5
Total	**3.22435**	**64.49%**	-	**208**

From Table 5-11, it is found that the management of companies in the real estate investment trusts sector and insurance sector are more concerned with the finance decision when setting their dividend policy than companies in other sectors.

- **Signaling Theory**

In order to find which economic sector was more than others in its answer means with respect to signaling theory factors, the researcher calculated the means and the percentages ratio for each economic sector as is shown in Table no. (5-12) below:

Table 5- 8 The Signaling factor by sector

This table present the importance of the signaling factor in each economic sector for the sample of 208 questionnaires which collected from UK companies in the period between January 2010 and end of May 2010.

Sector	Mean	Percentage	Rank	N
Basic Materials	3.30769	66.15%	4	13
Consumer Goods	3.20004	64.00%	8	15
Consumer Services	3.30957	66.19%	3	28
Financial Services	3.31567	66.31%	2	19
Health Care	3.20009	64.00%	7	15
Industrials	3.05033	61.01%	11	53
Insurance	3.25008	65.00%	6	4
Oil & Gas	3.05556	61.11%	10	12
Real Estate Investment & Service	3.17956	63.59%	9	13
Real Estate Investment Trusts	3.25933	65.19%	5	9
Technology	3.35098	67.02%	1	19
Telecommunications	1.99983	40.00%	13	2
Unclassified	1	20.00%	14	1
Utilities	2.8668	57.34%	12	5
Total	**3.1715**	**63.43%**		**208**

From Table (5-12) above, it can be found that the technology sector is more concerned with signaling theory than other sectors. This indicates that the management of companies in the technology sector are concerned with dividend policy as a means to send signals to shareholders in light of the information asymmetry between shareholders and management.

5-6 Results discussions

Three main points can be derived from the results highlighted in the previous section: the importance of cash dividends; the importance of factors that affect management when setting dividend policy; and the effect of the type of business (sector) on the factor importance.

5-6-1 The Importance of Cash Dividends

The results found in the previous section indicate that 13.94% of respondents said that dividends are not important to market value while 69.23% of respondents think that cash dividends are important. This result means there is no support for Irrelevant Theory which is consistent with the results in the previous chapters. In other words, this result means that there is support for the relationship between dividend policy and company market value which is consistent with Dhanani (2005) results.

The results also indicate that the importance of cash dividend over other types of dividends (stock dividend and stock re-purchase). The researcher argues that this is because shareholders are reassured by cash dividends. Furthermore, the findings highlight the importance of cash dividend over capital gains which arise from other dividend types; this is consistent with bird in hand theory.

Finally, the results indicate that management prefers to use cash dividends because they are easy to apply in comparison with other types of dividends. The researcher thinks that this is due to the dividend in the UK are distributed twice a year (annual and semi-annual dividend) which gives management good experience in the use of cash dividends.

5-6-2 The Importance of Factors that Affect Management

With regard to the importance of factors that impact on management when setting dividend policy, the study found that shareholder structure is the most important

factor, followed by finance decision, signaling theory, company market value and investment decision, with agency theory ranked bottom. The following points are raised from the results.

1. Managements' tendency to meet the wishes of the main shareholders (the first reason) when preparing the dividends policy, leads the former not to fear conflict with the latter (agency theory—the bottom ranked reason).

2. The finance decision's rank as second is due to the fact that it is intimately connected with the operational activity of the company, which directly reflects the performance of management which, on its part, attempts to reflect it to shareholders in the dividends policy (the signaling theory).

3. The market value of a company is considered to be an important factor, although it is not considered a priority for management because its increase or decrease does not directly affect the management. This is especially true if management has a policy of satisfying the major shareholders through the dividends policy.

4. The investment decision's rank as fifth is due to the fact that the results of those investments would not necessarily be reflected on a company's activity in the present; rather it could be reflected in the future. In addition, significant investment decisions often require substantial funds which exceed the amount of the dividends.

5-6-3 Type of Business Sector on Factor Importance

The findings contained in the previous section highlight that companies in the real estate investment trusts sector and insurance sector are more concerned with the finance decision than companies in other sectors.

Regarding the finance decision factors, it is the researcher's belief that the various economic sectors differ in determining the importance of the financing decision primarily because of the different nature of economic activity and the differing needs for funds for operational activities. This makes the financing decision factor more important for these companies which have a greater need for funds for operational activities thereby impacting differently on their dividends policies. This is shown in Table 5-12 in which companies in the insurance, real estate investment trust, and real estate service sectors have top three positions in the importance of the financing decision when undertaking their dividends policy. This has a noticeable effect on the cash flow which is closely related to the financing decision. This result is consistent with the findings of Chapter Four regarding the insurance companies' residual dividend policy and their continuing need for funds to be channelled for investment purposes.

Despite the fact that the real estate companies do not tend to adopt a residual dividend policy, they take the financing decision into account when making dividend policy. This is attributed to the following two main reasons:

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1. The reasoning behind whether or not companies usually follow a residual dividend policy has been based on the ten years that preceded the latest global financial crisis, a period that has seen a steady growth in real estate companies.

2. The questionnaire was carried out after the global crisis which has affected most real estate companies, notably in the financing and sales spheres. It is believed therefore that the real estate companies will follow a residual dividends policy in the future.

On the other side, the results also indicate that the technology sector is more concerned with the signaling theory than other sectors. This result is not consisting with Dhanani (2005) result which finds that financial and utility sectors support the signaling theory.

The researcher believes that the technology sector is more concerned with the signaling theory than other sectors because technology companies are working in a market characterized by rapid change, development, and continuing competition that makes it necessary not to disclose all their technical information as this would impact on their activities and future profit expectations. This is liable to broaden the information asymmetry between management and shareholders, which stimulates management to use dividends policy to convey information about expectations.

5-7 Conclusions

This chapter studies the factors that management takes into consideration when setting dividends policy through the questionnaire in order to provide a clear understanding of those factors. This understanding can reduce the information asymmetry between management and shareholders. Clarifying this understanding would help to rationalize shareholders' investment decisions in accordance with their wishes, which in turn would be reflected on the market value of the company.

The questionnaire was sent to 1319 companies in UK, with 208 responses, amounting to a response rate of 15.77% across the different economic sectors.

Data analysis of the results highlight a number of important conclusions, the most prominent of which is that management believes in and prefers cash dividends to other types of dividends. This is primarily due to the ease of implementation. On other hand, the shareholders structuring was the main factor affecting management when setting dividend policy. The least important factor is agency theory.

Chapter Six: Summary of Results, Limitations and Recommendations

6-1 Summary of Results

6-2 Limitations

6-3 Recommendations

6-1 Summary of results

The main purpose of this study is to verify the effect of dividends policy on the market value of companies in UK. In order to achieve this purpose, the important theories on this subject have been outlined. The most important one is the Irrelevant Theory formulated by Miller and Modigliani in 1961. The subject is dealt with by using three empirical models. The first model seeks to explore the relationship between dividends policy (represented by three types—cash dividend, shares dividend and share repurchase), earnings, the investment policy (represented by retained earnings) and market value of a company. The purpose of the second model is to investigate whether or not companies in the UK adopt a residual dividends policy. The third model explores the most important factors that affect the management when setting dividends policy. The results of the study can be summarized as follows:

1. There is a relationship between dividends policy (cash and repurchase), the earnings and investment policy (retained earnings) and the market value of companies in the UK. This result indicates clearly that the Irrelevant Theory is invalid. The researcher believes that this result is arrived at because the Irrelevant Theory is based on market efficiency assumptions which are unrealistic as one cannot be sure of their existence in any financial market. In addition, the result suggests that dividends policy, earnings and investment policy act jointly and simultaneously in influencing the market value of a company.

2. The results show that the impact is different across economic sectors; this means that there is an impact according to a company's activity (economic sector) on the relationship between dividends policy, earnings and investment policy, and the market value of companies in the UK.

3. The results indicate that there is no effect of a shares dividend policy on the market value of a company in UK. This is because these dividends are deemed a transfer of funds within the equity accounts and does not include any outside cash flows.

4. The study found that UK companies in general do not follow a residual dividends policy—further proof that the companies in UK do not prefer investment policy to dividends policy. This result confirms previous findings which indicate that the Irrelevant Theory is invalid.

5. The analysis of the results of the economic sectors shows that banks and insurance companies sectors follow a residual dividends policy in the UK, which means that they prefer investment policy over dividends policy. This is attributed to the nature of the activities of banks and insurance companies that rely heavily on investment in their operations. The result is supported through the analysis of the banking sector in the first part of this study where it is clear that there is no effect of any type of dividends policy (cash dividends, shares dividends and stock buyback) on the market value of the company. However, there is an effect of the earnings and investment policy (retained earnings) on market value. The study, however, could not confirm the same result for the insurance sector.

6. On the other hand, it has been arrived at that around 69% of companies' managements in the UK believe that cash dividends are the most important type of dividend for shareholders. Also, approximately 72% of companies' managements in the UK prefer cash dividends, where 51% of them indicated that the cause of their preference for cash dividends is due to its easy implementation. This result clearly highlights that cash dividends are the most important type of dividend, which makes many people calling cash dividends as a dividends policy.

7. The study finds that about 47% of the companies' managements highlight they have studied investors' wishes regarding dividends policy.

8. The research finds that the factors affecting the management when preparing dividends policy is in order of importance: shareholders structure; financing decisions; signaling theory; a company's market value; investment decisions; and finally the agency theory. This outcome is logical, as satisfying the company's major shareholders (the structure of capital—the first factor) would lead to a reduction in conflict between management and shareholders (agency theory—the last factor). Financing decisions come second because it is intimately connected with management's operations, evaluating its work and reflect the cost of financing on the outcome of the direct activity of the company. Management then tends to send a signal to shareholders. The market value of the company takes fourth position because it is not related directly to a company's activities. The investment decision occupies the fifth

rank despite its importance as its outcomes are reflected in future periods and often necessitates funds that exceed those required for dividends.

6-2 Study limits

The main limits of the study are related to the period of time and the size of the sample covered by the study. Most research seeks to cover the largest possible proportion of its targeted community and for the longest period of time possible in order to attain rigorous and reliable results that can be generalized confidently. The researcher in this study, however, faced a number of hurdles in that the longer the period covered, the more limited the sample. A period of ten years was adopted for this purpose. Also, the researcher excluded two years (2008 and 2009) from the period covered by the study because these two years were significantly affected by the latest global financial crisis, which led to their exclusion from the sample to be sure that the study results are not influenced by the global financial crisis. Consequently, the ten years selected were 1998 to 2007.

The adoption of the first hypothesis on annual and semi-annual data contributed to the reduction of the size of the sample because of the lack of semi-annual data in Data Stream. With this in mind, the researcher attempted to access data directly from the companies; however, many of them to deal with requests from students because of their management's internal instructions and procedures. This explains the difference between the size of the sample in the first and second parts, because the second part depends only on annual data, which is widely available in Data Stream.

A further limitation was the lack of response by management in the companies concerned to the questionnaires. This contributed to reduce the size of the sample— thereby raising questions over the possibility of generalizing the results from this part of the study.

The problem related to data collection affected the representation sample of the economic sector, making it both unfit and inconsistent, which may gives rise to doubts as to the results of this sector. This can be observed clearly in the responses rate to the questionnaire, which contributed to a lack of validity of some results.

6- 3 Recommendations

The following areas can be explored in by future researchers on the effect of dividends policy on market value:

1) Researchers can retest the first and second models using the same methodology by increasing the size of the sample and prolonging the time period in order to attain results that can be considered stronger and more comprehensive and therefore open to generalization. This requires obtaining data from the companies themselves, or through other data-providing bodies such as Data Stream, especially in relation to semi-annual data.

2) The researcher believes that retesting the management questionnaire with the aim of increasing the response rate is very important in helping to generalize the results.

3) The researcher believes that surveying the importance of the factors that affect management when preparing their dividends policy is only part of the picture. This picture will be completed if investors' wishes are investigated regarding their preferences towards cash dividends or capital gains along with the reasons for such a preference. This would add an extra dimension to understanding the relationship between dividends policy and market value which will improve the results of study and make the results more comprehensive.

4) Furthermore, using methodologies other than the questionnaire, such as interviews with management and/or shareholders will increase the explanatory power of the results.

5) Despite the fact that the dividends policy is one of the financial topics, it could be examined and discussed through another approach of operational research that is the subject of game theory.

6) Considering cash dividends as the most important type of dividends and the most common and applicable as well emanate from being a cash flow out, making it an interesting situation, especially during the period of the global financial crisis that began in 2008. The reason is to explore the effect of this financial crisis on the relationship between the dividends policy and the market value by comparing the results of this relationship for the time period covered by this study or part of it with the results of the relationship of the global financial crisis period.

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<u>Appendix</u>

Appendix 3-1

List of companies by sector in the first model

Sr. No.	Company Name	Sector
1	Barclays	Banks
2	Lloyds Banking Group	Banks
3	Royal Bank of Scotland Group	Banks
4	Standard Chartered	Banks
5	Anglo American	Basic Materials
6	Anglo Pacific Group	Basic Materials
7	Antofagasta	Basic Materials
8	Avocet Basic Materials	Basic Materials
9	BHP Billiton	Basic Materials
10	Carclo	Basic Materials
11	Croda International	Basic Materials
12	Cropper (James)	Basic Materials
13	Elementis	Basic Materials
14	Johnson Matthey	Basic Materials
15	Lonmin	Basic Materials
16	Norman Hay	Basic Materials
17	Rio Tinto	Basic Materials
18	Scapa Group	Basic Materials
19	United Kingdom Coal	Basic Materials
20	Victrex	Basic Materials
21	Yule Catto	Basic Materials
22	Abbeycrest	Consumer Goods
23	AGA Rangemaster Group	Consumer Goods
24	Airea	Consumer Goods
25	Airsprung Furniture Group	Consumer Goods
26	Alexandra	Consumer Goods
27	Anglo-Eastern Plantations	Consumer Goods
28	Associated British Foods	Consumer Goods
29	Barr (Agency)	Consumer Goods
30	Barratt Developments	Consumer Goods
31	Bellway	Consumer Goods
32	Berkeley Group Holdings (the)	Consumer Goods
33	Bovis Homes Group	Consumer Goods
34	Cadbury	Consumer Goods
35	Carr's Milling	Consumer Goods
36	Chapelthorpe	Consumer Goods

37	Character Group	Consumer Goods
38	Dairy Crest	Consumer Goods
39	Dawson International	Consumer Goods
40	Devro	Consumer Goods
41	Diageo	Consumer Goods
42	Games Workshop	Consumer Goods
43	Headlam Group	Consumer Goods
44	Hornby	Consumer Goods
45	Imperial Consumer Goods Group	Consumer Goods
46	Mcbride	Consumer Goods
47	Nichols	Consumer Goods
48	Northern Foods	Consumer Goods
49	Persimmon	Consumer Goods
50	Photo-ME International	Consumer Goods
51	Pittard	Consumer Goods
52	Portmeirion Group	Consumer Goods
53	PZ Cussons	Consumer Goods
54	Reckitt Benckiser Group	Consumer Goods
55	Redrow	Consumer Goods
56	Robert Wiseman Dairies	Consumer Goods
57	SSL International	Consumer Goods
58	Taylor Wimpey	Consumer Goods
59	Unilever (United Kingdom)	Consumer Goods
60	Uniq	Consumer Goods
61	Victoria	Consumer Goods
62	Vitec Group	Consumer Goods
63	Worthington Group	Consumer Goods
64	Aegis Group	Consumer Services
65	Arriva	Consumer Services
66	Avis Europe	Consumer Services
67	Bloomsbury Publishing	Consumer Services
68	British Airways	Consumer Services
69	British Sky Broadcasting Group	Consumer Services
70	Brown (N) Group	Consumer Services
71	Caffyns	Consumer Services
72	Carpetright	Consumer Services
73	Chime Communications	Consumer Services
74	Clinton Cards	Consumer Services
75	Daily Mail 'A'	Consumer Services
76	Dart Group	Consumer Services
77	DSG International	Consumer Services

78	Enterprise Inns	Consumer Services
79	Euromoney Institutional Investor	Consumer Services
80	Findel	Consumer Services
81	First Group	Consumer Services
82	French Connection Group	Consumer Services
83	Fuller Smith 'A'	Consumer Services
84	Game Group	Consumer Services
85	GO-Ahead Group	Consumer Services
86	Greene King	Consumer Services
87	Greggs	Consumer Services
88	Haynes Publishng	Consumer Services
89	Holidaybreak	Consumer Services
90	Huntsworth	Consumer Services
91	Inchcape	Consumer Services
92	International Greetings	Consumer Services
93	ITE Group	Consumer Services
94	JD Sports Fashion	Consumer Services
95	JJB Sports	Consumer Services
96	Johnston Press	Consumer Services
97	Kingfisher	Consumer Services
98	Ladbrokes	Consumer Services
99	Lookers	Consumer Services
100	Majestic Wine	Consumer Services
101	Mallett	Consumer Services
102	Marks and Spencer Group	Consumer Services
103	Marston's	Consumer Services
104	Millennium and Copthorne Hotels	Consumer Services
105	Morrison (WM) Supermarkets	Consumer Services
106	Moss Brothers Group	Consumer Services
107	Mothercare	Consumer Services
108	National Express	Consumer Services
109	Next	Consumer Services
110	Pearson	Consumer Services
111	Pendragon	Consumer Services
112	Quarto Group	Consumer Services
113	Rank Group	Consumer Services
114	Reed Elsevier	Consumer Services
115	Restaurant Group	Consumer Services
116	Sainsbury (J)	Consumer Services
117	Sportech	Consumer Services
118	Stagecoach Group	Consumer Services

119	Ted Baker	Consumer Services
120	Tesco	Consumer Services
121	Thorntons	Consumer Services
122	Topps Tiles	Consumer Services
123	Tottenham Hotspur	Consumer Services
124	Trinity Mirror	Consumer Services
125	United Business Consumer Services	Consumer Services
126	Wetherspoon (JD)	Consumer Services
127	Whitbread	Consumer Services
128	Wilmington Group	Consumer Services
129	WPP	Consumer Services
130	Young and Company Brewery 'A'	Consumer Services
131	Astrazeneca	Health Care
132	BTG	Health Care
133	Care United Kingdom	Health Care
134	Consort Medical	Health Care
135	Eco Animal Health Group	Health Care
136	IS Pharma	Health Care
137	Nestor Healthcare	Health Care
138	Oxford Biomedica	Health Care
139	Skyepharma	Health Care
140	Smith and Nephew	Health Care
141	Source Bioscience	Health Care
142	Acal	Industrials
143	AEA Technology	Industrials
144	Aggreko	Industrials
145	Alumasc Group	Industrials
146	Ashtead Group	Industrials
147	Atkins (WS)	Industrials
148	Autologic	Industrials
149	Avingtrans	Industrials
150	Avon Rubber	Industrials
151	Babcock International	Industrials
152	BAE Systems	Industrials
153	Balfour Beatty	Industrials
154	BBA Aviation	Industrials
155	Bodycote	Industrials
156	British Polythene Industries	Industrials
157	BSS Group	Industrials
158	Bunzl	Industrials
159	Business Post Group	Industrials

160	Cape	Industrials
161	Capita Group	Industrials
162	Chamberlin	Industrials
163	Chemring Group	Industrials
164	Chloride Group	Industrials
165	Christie Group	Industrials
166	Clarkson	Industrials
167	Cobham	Industrials
168	Communisis	Industrials
169	Cookson Group	Industrials
170	Coral Products	Industrials
171	Cosalt	Industrials
172	Datacash Group	Industrials
173	Davis Service Group	Industrials
174	Dawson Holdings	Industrials
175	De La Rue	Industrials
176	Delta	Industrials
177	Dialight	Industrials
178	Diploma	Industrials
179	Domino Printing Sciences	Industrials
180	Electrocomponents	Industrials
181	Elektron	Industrials
182	Ensor Holdings	Industrials
183	Fenner	Industrials
184	Forth Ports	Industrials
185	Galiform	Industrials
186	Galliford TRY	Industrials
187	Gleeson (MJ) Group	Industrials
188	Halma	Industrials
189	Harvey Nash Group	Industrials
190	Hays	Industrials
191	Heywood Williams	Industrials
192	Hill and Smith	Industrials
193	Holders Technology	Industrials
194	Homeserve	Industrials
195	Hydro International	Industrials
196	IMI	Industrials
197	Interserve	Industrials
198	James Halstead	Industrials
199	Jarvis	Industrials
200	Johnson Service Group	Industrials

201	Keller	Industrials
202	Kier Group	Industrials
203	Latchways	Industrials
204	Lavendon Group	Industrials
205	LOW and Bonar	Industrials
206	Lupus Capital	Industrials
207	Macfarlane Group	Industrials
208	Management Consulting Group	Industrials
209	Manganese Bronze Holdings	Industrials
210	Marshalls	Industrials
211	Mears Group	Industrials
212	Meggitt	Industrials
213	Metalrax Group	Industrials
214	Mitie Group	Industrials
215	Molins	Industrials
216	Morgan Crucible	Industrials
217	Morgan Sindall	Industrials
218	Newmark Security	Industrials
219	Northgate	Industrials
220	NWF Group	Industrials
221	Parkwood Holdings	Industrials
222	Penna Consulting	Industrials
223	Pochin's	Industrials
224	Premier Farnell	Industrials
225	Renew Holdings	Industrials
226	Renishaw	Industrials
227	Renold	Industrials
228	Rentokil Initial	Industrials
229	Rexam	Industrials
230	Ricardo	Industrials
231	ROK	Industrials
232	Rolls-Royce Group	Industrials
233	Rotork	Industrials
234	RPC Group	Industrials
235	Senior	Industrials
236	Serco Group	Industrials
237	Severfield-Rowen	Industrials
238	Shanks Group	Industrials
239	SIG	Industrials
240	Smith (DS)	Industrials
241	Spectris	Industrials

242	Speedy Hire	Industrials
243	Spirax-Sarco	Industrials
244	Stadium Group	Industrials
245	Thorpe (FW)	Industrials
246	Titon Holdings	Industrials
247	Tomkins	Industrials
248	Travis Perkins	Industrials
249	Trifast	Industrials
250	Ultra Electronics Holdings	Industrials
251	Umeco	Industrials
252	Volex Group	Industrials
253	VP	Industrials
254	Weir Group	Industrials
255	White Young Green	Industrials
256	Wolseley	Industrials
257	WSP Group	Industrials
258	Amlin	Insurance
259	Aviva	Insurance
260	British Insurance Holdings	Insurance
261	Chaucer Holdings	Insurance
262	Hardy Underwriting Bermuda (di)	Insurance
263	Hiscox	Insurance
264	Jardine Lloyd Thompson	Insurance
265	Legal and General	Insurance
266	Prudential	Insurance
267	RSA Insurance Group	Insurance
268	Saint James's Place	Insurance
269	Amec	Oil & Gas
270	BG Group	Oil & Gas
271	BP	Oil & Gas
272	Cairn Energy	Oil & Gas
273	Emerald Energy	Oil & Gas
274	GTL Resources	Oil & Gas
275	Hunting	Oil & Gas
276	KBC Advanced Technologies	Oil & Gas
277	Northern Petroleum	Oil & Gas
278	Porvair	Oil & Gas
279	Premier Oil	Oil & Gas
280	Royal Dutch Shell B	Oil & Gas
281	Soco International	Oil & Gas
282	Alphameric	Technology

283	Aveva Group	Technology
284	Belgravium Technologies	Technology
285	Clinical Computing	Technology
286	CML Microsystems	Technology
287	Delcam	Technology
288	Fidessa Group	Technology
289	Filtronic	Technology
290	Gresham Computing	Technology
291	Imagination Technologies	Technology
292	Intelek	Technology
293	Invensys	Technology
294	Kewill	Technology
295	Kofax	Technology
296	Logica	Technology
297	Netcall	Technology
298	Northamber	Technology
299	Pace	Technology
300	Parity Group	Technology
301	Portrait Software	Technology
302	Psion	Technology
303	RM	Technology
304	Sage Group	Technology
305	Sopheon	Technology
306	Spirent Communications	Technology
307	Triad Group	Technology
308	Ultrasis	Technology
309	BT Group	Telecommunications
310	Cable and Wireless	Telecommunications
311	Vodafone Group	Telecommunications
312	Centrica	Utilities
313	International Power	Utilities
314	National Grid	Utilities
315	Pennon Group	Utilities
316	United Utilities Group	Utilities
317	Capital and Regional	Real Estate Investment & Service
318	CLS Holdings	Real Estate Investment & Service
319	Daejan Holdings	Real Estate Investment & Service
320	Development Securities	Real Estate Investment & Service
321	DTZ Holdings	Real Estate Investment & Service
322	Grainger	Real Estate Investment & Service
323	Helical Bar	Real Estate Investment & Service

324	Minerva	Real Estate Investment & Service
325	Panther Securities	Real Estate Investment & Service
326	Quintain Estates and Development	Real Estate Investment & Service
327	Savills	Real Estate Investment & Service
328	ST Modwen Properties	Real Estate Investment & Service
329	Wynnstay Properties	Real Estate Investment & Service
330	British Land	Real Estate Investment Trusts
331	Great Portland Estate	Real Estate Investment Trusts
332	Hammerson	Real Estate Investment Trusts
333	Land Securities Group	Real Estate Investment Trusts
334	Liberty International	Real Estate Investment Trusts
335	Mckay Securities	Real Estate Investment Trusts
336	Mucklow (A and J) Group	Real Estate Investment Trusts
337	Primary Health Properties	Real Estate Investment Trusts
338	Segro	Real Estate Investment Trusts
339	Shaftesbury	Real Estate Investment Trusts
340	Workspace Group	Real Estate Investment Trusts
341	Aberdeen Asset Management	Financial Services
342	Albemarle and Bond Holdings	Financial Services
343	Camellia	Financial Services
344	Charles Stanley Group	Financial Services
345	Charles Taylor Consulting	Financial Services
346	City of London Group	Financial Services
347	Evolution Group	Financial Services
348	F and C Asset Management	Financial Services
349	GR Holdings	Financial Services
350	Guinness Peat Group	Financial Services
351	Helphire Group	Financial Services
352	Integrated Asset Management	Financial Services
353	InterConsumer Serviceste Capital Group	Financial Services
354	Leeds Group	Financial Services
355	Numis	Financial Services
356	Paragon Group of Companies	Financial Services
357	Provident Financial	Financial Services
358	Quayle Munro Holdings	Financial Services
359	Rathbone Brothers	Financial Services
360	S and U	Financial Services
361	Schroders	Financial Services
362	Walker Crips Group	Financial Services

Appendix 4-1
SFCF by company and sectors in model 2

Name	SFCF									
	1998	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
APITAL	0.08059	0.11789	0.03815	0.0161	0.02175	0.04096	0.04048	0.03612	0.03055	0.03619
BARRATT DEVELOPMENTS	0.07222	0.09206	0.10847	0.13316	0.12339	0.17452	0.16792	0.15022	0.08963	0.07893
BARCLAYS	-0.02947	-0.00715	-0.00939	-0.02553	-0.02202	-0.01517	-0.00823	-0.06386	-0.11301	-0.13918
BEALE	-0.03194	-0.07977	-0.10225	-0.06162	-0.10163	-0.19563	-0.10652	-0.13005	-0.25709	-0.14384
LLOYDS BANKING GROUP	0.02485	0.02513	0.02309	0.01415	-0.01239	0.00582	0.00694	-0.04975	-0.06173	-0.07434
ROYAL BANK OF SCTL.GP.	-0.03081	-0.01214	0.0823	0.03676	0.01529	0.01034	0.02831	-0.00022	-0.02205	-0.05164
STANDARD CHARTERED	-0.08545	-0.05887	-0.04493	-0.05655	-0.00929	0.00331	0.01962	0.00391	0.00147	0.00451
Banks	**-2E-06**	**0.011022**	**0.013632**	**0.008067**	**0.002157**	**0.003451**	**0.021219**	**-0.00766**	**-0.04746**	**-0.04134**

Name	SFCF									
ANGLO AMERICAN PLC	-0.12603	-0.18884	-0.04287	-0.07966	-0.0712	-0.13317	-0.07881	-0.04232	-0.02085	-0.00337
ANGLO PACIFIC GROUP	-0.0467	-0.22727	0.03133	0.14103	0.14886	0.00453	0.02747	0.04736	0.00742	-0.01646
ANTOFAGASTA PLC	-0.56888	-1.13049	-0.16099	-0.09954	0.00038	0.06865	0.19964	0.20506	0.1924	0.09896
AXIS-SHIELD PLC	-0.01095	-0.05542	-0.0295	-0.00747	-0.02482	-0.17788	-0.06106	-0.0289	0.04363	-0.00565
BHP BILLITON PLC	-0.04956	-0.16222	-0.06418	-0.29356	-0.20725	-0.17577	-0.06049	-0.0055	-0.04074	-0.02407
BIOCOMPATIBLES INT'L	-0.09675	-0.27946	-0.04849	-0.04311	-0.08137	-0.18312	-0.13522	-0.11925	-0.09538	-0.12297
BLACKS LEISURE GROUP	-0.04038	-0.09807	-0.03966	-0.09752	-0.13141	-0.08154	-0.02979	-0.01895	-0.01114	-0.09232
ANGLESEY MINING PLC	-0.00945	-0.02674	-0.04813	-0.05259	-0.06264	-0.10603	-0.04	-0.02753	-0.02578	-0.03247
CARCLO PLC	-0.04702	-0.12986	-0.13034	-0.13743	-0.43892	-0.09696	-0.12481	-0.08571	-0.00275	-0.01123
CRODA INTERNATIONAL	-0.04325	-0.04365	-0.06959	-0.05992	-0.00741	-0.01083	-0.01461	-0.0021	-0.00884	-0.02558
DYSON GROUP PLC	-0.95038	-0.23325	-0.13147	-0.21435	-0.11125	-0.02321	-0.15522	-0.10623	-0.06515	-0.0773
ELEMENTIS PLC	-0.01632	-0.12735	0.01759	-0.03553	-0.06063	-0.14953	-0.20024	-0.06533	0.03428	0.01495
INVERESK PLC	-0.14977	-0.20634	-0.62906	-0.36523	0.32121	0.49799	-0.04519	-0.34988	-0.06374	-0.1075
JAMES CROPPER PLC	-0.15271	-0.29304	-0.04605	-0.29608	-0.18869	-0.14035	-0.21909	-0.21165	-0.24855	-0.14313
JOHNSON MATTHEY PLC	-0.00899	-0.04054	-0.02022	-0.01495	-0.0321	-0.03739	-0.0324	-0.01754	-0.01099	-0.0104
LONMIN PLC	-0.06773	-0.05928	0.03521	0.04413	-0.00538	-0.0982	-0.05663	-0.0495	0.07269	-0.00011

MWANA AFRICA PLC	-0.18159	-0.11115	-0.08931	-0.03811	-0.01472	-0.07654	-0.06444	-0.03822	-0.0149	0.13974
NORMAN HAY PLC	0.05842	-0.04389	-0.02413	-0.13067	-0.01116	-0.08543	-0.03784	0.05704	0.05611	0.00788
PALMARIS CAPITAL PLC	-0.23391	-0.38008	-0.22049	-0.1343	-0.21844	-0.06916	-0.04081	-0.00861	-0.00672	-0.01025
RANDGOLD RESOURCES	-0.78562	-1.24766	-1.43958	-0.07929	0.59072	0.13302	-0.06969	-0.05276	-0.01703	-0.01136
REFLEC PLC	-5.48907	-11.3316	-0.02622	-0.03437	-0.30744	-0.36824	-0.07765	-0.07284	0.04239	0.01984
RIO TINTO PLC	-0.09112	-0.05521	-0.02164	-0.04927	-0.05309	-0.06439	-0.05208	0.02295	-0.01471	-0.01617
SCAPA GROUP PLC	-0.01955	-0.06662	-0.74145	-0.04734	-0.1196	-0.22839	-0.01526	0.022	0.03316	0.09683
TREATT PLC	0.03388	-0.02767	-0.00428	-0.07995	-0.07998	-0.02739	-0.01626	0.02517	0.00925	-0.01481
UK COAL PLC	0.04651	0.12377	-1.36791	-0.92013	-0.44738	-0.62063	-0.57094	-0.36915	-0.38474	-0.04497
VICTREX PLC	-0.00844	0.00283	0.04815	0.02592	-0.00348	0.01484	0.01195	0.03082	-0.00312	-0.02089
YULE CATTO & CO PLC	-0.05785	-0.05457	-0.11063	-0.16753	-0.06226	-0.03665	-0.08297	-0.02525	-0.04124	-0.03647
ZOTEFOAMS PLC	-0.02813	-0.04518	-0.16799	-0.24623	-0.27137	-0.12277	-0.05072	-0.07185	-0.06483	-0.04607
Basic Materials	**-0.32648**	**-0.59067**	**-0.19792**	**-0.12547**	**-0.06967**	**-0.08552**	**-0.07476**	**-0.04852**	**-0.02321**	**-0.01769**

ABBEYCREST PLC	0.02197	0.076	0.0141	-0.04092	-0.08503	-0.56339	-0.05676	-0.23504	-1.96576	-0.40725
AGA RANGEMASTER	-0.08314	-0.04873	-0.05724	-0.08079	-0.04181	-0.05058	-0.04103	0.00757	-0.00432	-0.13142
AIREA PLC	0.01788	-0.00525	0.04601	0.03086	-0.09046	-0.05159	-0.06907	-0.06063	0.04248	-0.21001
AIRSPRUNG FURNITURE	-0.01281	0.0196	-0.04609	-0.13994	-0.08832	-0.07158	-0.23339	-0.35885	-0.15234	0.18086
ALEXANDRA PLC	-0.00974	-0.01015	0.0145	-0.023	-0.0981	0.03535	0.02292	-0.00151	0.01598	0.04246
ANGLO-EASTERN PLANTS	-0.14797	-0.21073	-0.18002	-0.28214	-0.04439	0.09364	0.01881	0.03106	-0.0139	0.07164
ANTONOV PLC	-0.03519	-0.03723	-0.03806	-0.08039	-0.06301	-0.06479	-0.18257	-0.14836	-0.12682	-0.13159
ARRIVA PLC	-0.4469	-0.35342	-0.22748	-0.23105	-0.13465	-0.27506	-0.27698	-0.19713	-0.11531	-0.13026
ASHTEAD GROUP PLC	-0.14748	-0.27476	-0.25428	-0.4467	-0.70111	-1.54031	-1.81061	-0.46063	-0.27416	-0.24145
BBA AVIATION	-0.03832	-0.04047	-0.06887	-0.03715	-0.05468	-0.11276	-0.06158	-0.05317	-0.08704	-0.04488
BERKELEY	0.01464	-0.5164	-0.14176	-0.93014	-0.28199	-0.25827	-0.8205	-0.272	-0.34576	0.06044
BLOOMSBURY	0.10971	0.05424	0.02193	0.02427	0.03241	0.06785	0.05129	0.0454	-0.00826	0.03922
BOVIS HOMES GROUP	0.11017	0.09684	0.09334	0.0931	0.12411	0.16325	0.13181	0.07538	0.06393	0.02661
BRIT INSURANCE HOLD	0.02005	-0.13663	-0.07582	-0.42028	0.04804	0.11194	0.04873	-0.0164	0.11974	0.057
BRITISH AMERICAN TOB	-0.03087	-0.05399	-0.02226	-0.02604	-0.02077	-0.01442	-0.02036	0.00701	0.00504	0.00313

CADBURY PLC	0.00019	0.00136	0.00901	0.00371	0.00286	-0.00025	0.00165	0.01303	-0.00096	-0.01572
CARR'S MILLING INDS	-0.25717	-0.26289	0.00315	-0.0677	-0.09985	-0.07659	-0.05371	-0.01571	-0.0184	-0.01059
CASSIDY BROTHERS PLC	-0.221	-0.18533	-0.31644	-0.16965	0.0972	-0.06482	-0.12467	-0.17025	-0.08096	-0.12231
CHAPELTHORPE PLC	-0.10782	-0.16531	-0.13769	-0.15734	-0.17368	-0.01055	-0.00606	-0.0316	-0.00944	-0.57408
CHARACTER GROUP PLC	0.05192	0.057	-0.24804	-1.20957	0.00737	0.21643	0.01395	-0.05015	-0.05259	0.11315
CHURCHILL CHINA PLC	-0.10944	-0.12521	0.08146	-0.05726	-0.03626	-0.00042	-0.03609	-0.04824	-0.0027	-0.02279
COBURG GROUP PLC	-0.27353	-0.41875	-0.06752	-0.05467	-0.12487	-0.07634	-0.25169	-0.41781	-0.24954	-0.14859
COLEFAX GROUP PLC	-0.00205	-0.06987	-0.01035	-0.02128	-0.04662	-0.06511	-0.02854	-0.0328	0.02424	0.05824
CRANSWICK PLC	-0.05683	-0.00123	-0.03217	0.01818	0.02545	0.01697	-0.01261	-0.03945	0.00383	0.00873
CREIGHTONS PLC	-0.20285	-1.09363	-0.8171	-0.08065	-0.17874	-0.26631	0.04995	-0.01737	0.20046	0.04529
DAIRY CREST GROUP	-0.01429	-0.04809	-0.15821	-0.00716	-0.03587	-0.06509	-0.01374	-0.03358	-0.04156	-0.02906
DAWSON INTERNATIONAL	-0.14763	-0.05898	-0.28362	-0.05606	-0.17154	-0.49046	-0.20926	0.10107	-0.07114	-0.35613
DEVRO PLC	-0.02121	-0.05664	-0.03701	-0.12376	0.00845	-0.0089	-0.03387	-0.04205	-0.06568	-0.02716
DIAGEO PLC	-0.03543	-0.00691	-0.00616	0.00596	-0.02518	-0.00319	0.00238	0.0093	0.01887	-0.00051
FINSBURY FOOD GROUP	-0.09003	-0.20846	-0.08624	-0.21786	-0.01057	0.0702	-0.12816	-0.20056	-0.03908	-0.10098
GAMES WORKSHOP GROUP	-0.02347	0.00457	-0.01067	0.01595	-0.00307	-0.01295	-0.0334	-0.03513	-0.11904	-0.10436
GKN PLC	-0.02263	-0.02536	-0.01263	-0.06858	-0.12259	-0.14073	-0.11324	-0.09605	-0.07041	-0.03731
HARVARD INTERNATION	0.01618	0.04229	0.03438	-0.01599	-0.00362	0.046	0.0386	0.01776	-0.0181	-0.35398
HAVELOCK EUROPA PLC	0.03735	-0.13519	-0.05072	-0.07937	-0.08145	-0.0044	-0.03969	0.0147	0.03371	-0.02821
HEADLAM GROUP PLC	0.03767	0.02424	0.00141	0.05707	-0.00855	-0.06266	-0.00287	0.0074	0.00108	0.00125
HIDONG ESTATE PLC	-0.01287	0.03717	-0.0087	-0.14281	-0.18459	0.0708	0.07895	0.04591	-0.05733	0
HORNBY PLC	-0.06138	-0.06964	-0.06337	-0.00054	-0.00315	0.02453	0.01168	0.00528	0.00405	0.00224
IMPERIAL Consumer Goods GRP	0.0385	0.02176	0.04028	0.03388	0.03434	0.01379	0.01482	0.01402	0.02951	0.02453
INTIMAS GROUP PLC	-0.1742	-0.13515	-0.30504	-0.08311	0.02056	-0.06203	-0.18409	-0.11554	0.00195	-0.2809
LEWIS OF HUNGERFORD	-0.22601	-0.05662	0.02637	-0.16238	-0.11666	0.05534	-0.16484	-0.1467	0.01768	0.05588
M.P. EVANS	-0.01902	-0.03842	-0.05075	-0.04214	-0.01902	-0.01332	-0.04515	-0.07571	-0.11372	-0.1084
MCBRIDE PLC	-0.02947	-0.06005	-0.11254	-0.07959	-0.00284	0.04222	-0.01374	-0.01121	-0.02227	-0.01938
NICHOLS PLC	-0.10192	-0.12686	-0.10789	-0.14326	-0.03981	-0.00786	-0.0152	0.00186	0.02426	0.02739
NORTHERN FOODS PLC	-0.08315	-0.06801	-0.11253	-0.03297	-0.09518	-0.04122	-0.07104	-0.04218	-0.05898	-0.0216
NXT PLC	-0.04131	-0.04752	-0.01671	-0.03296	-0.11557	-0.29128	-0.09762	-0.12811	-0.04759	-0.11808

PERSIMMON PLC	0.06477	0.11244	0.1034	0.19201	0.11177	0.15124	0.16717	0.1358	0.08576	0.05527
PGI GROUP PLC	-0.11555	-0.38559	-0.20178	-0.44653	-0.27237	-0.22612	-0.41596	-0.61437	-0.05352	-0.03614
PHOTO-ME INT'L PLC	-0.27708	-0.11855	-0.01869	-0.12922	-0.15816	-0.24126	0.00293	-0.04349	-0.03564	-0.11078
PITTARDS PLC	-0.14878	0.0236	0.06634	-0.27977	-0.15049	-0.22759	-0.38849	-0.67008	-1.25331	-0.20038
PORTMEIRION GROUP	-0.064	-0.09122	-0.03864	-0.11534	-0.01363	-0.05035	-0.10882	-0.03253	-0.0687	0.00322
PZ CUSSONS PLC	-0.31944	-0.43647	-0.10322	-0.03303	0.02009	-0.00486	0.02539	-0.00705	-0.01102	-0.0034
R.E.A. HOLDINGS PLC	-0.14122	-0.83971	-0.39266	-0.33398	-0.11683	-0.53771	-0.01636	-0.17838	-0.12825	-0.07974
RECKITT BENCKISER	-0.00046	-0.04062	-0.02205	-0.0014	0.0133	0.02134	0.02584	0.02208	0.02754	0.02179
REDROW PLC	0.0661	0.08063	0.08017	0.10988	0.14003	0.16427	0.12018	0.13059	0.07477	0.04537
ROBERT WISEMAN	-0.09172	-0.08097	-0.21397	-0.26544	-0.2096	-0.04374	-0.03162	-0.03977	-0.06118	-0.05561
SINCLAIR (WILLIAM)	-0.0114	-0.10607	-0.03817	-0.04166	0.00959	-0.16445	-0.1357	-0.14472	-0.21159	-0.12943
SLIMMA PLC	-0.18997	0.11985	0.11688	0.17384	0.04746	0.0365	0.03571	0.04737	-0.01416	-0.21552
SSL INTERNATIONAL	0.02092	0.02188	0.01661	0.00728	-0.04643	-0.00142	0.01443	0.01594	0.0275	0.0244
TAYLOR WIMPEY PLC	0.01435	0.06292	0.0283	0.09253	0.10323	0.1686	0.12134	0.11994	0.07682	0.01392
THEO FENNELL PLC	0.02491	-0.05204	0.00985	-0.05939	-0.03598	-0.02615	-0.01947	-0.08077	0.00688	0.06632
UNILEVER PLC	-0.00073	-0.17717	0.00639	-0.02506	0.00495	0.00653	0.04338	0.05723	0.0116	0.03298
UNIQ PLC	-0.05815	-0.09222	-0.1954	-0.25441	-0.23502	-0.04423	-0.03739	-0.19085	-0.33224	-0.12884
VICTORIA PLC	-0.19715	-0.11407	-0.36819	-0.41902	-0.18566	-0.31792	-0.07445	-0.12066	-0.22265	-0.09128
WALKER GREENBANK PLC	-0.022	-0.23688	-0.27491	-0.76096	-0.60392	-0.5746	-0.65934	-0.97243	-0.16908	-0.03449
WENSUM COMPANY PLC	0.02668	0.04276	0.07012	0.04968	0.02632	-0.01873	-0.03563	0.01902	0.04844	0.02417
WORTHINGTON GROUP	0.03441	-0.19382	-0.09684	-0.20311	-0.63921	-0.34069	-0.31644	-0.29512	0.16322	0.00688
WS ATKINS PLC	0.0062	-0.00018	-0.00161	-0.00848	-0.08007	-0.22577	-0.01339	-0.00123	0.01407	0.02674
Consumer Goods	**-0.06254**	**-0.10774**	**-0.0783**	**-0.12409**	**-0.07871**	**-0.09307**	**-0.09647**	**-0.08956**	**-0.08434**	**-0.05557**

4IMPRINT GROUP PLC	-0.03198	-0.46904	-0.09203	-0.06674	-0.05014	0.16982	0.13394	0.03299	0.03224	0.0386
AEGIS GROUP PLC	0.02829	0.02086	0.00132	-0.02327	-0.00595	-0.01356	-0.01292	0.0188	0.02032	0.01976
AIR PARTNER PLC	0.03868	0.01973	0.00744	-0.11268	0.04942	-0.01519	0.02151	0.02362	-0.01222	0.02101
ALEXON GROUP PLC	0.06444	0.09756	0.10164	0.01279	0.06577	0.06048	0.06576	0.06017	0.05134	0.02787
ARENA LEISURE PLC	-0.0057	-0.0049	-0.02424	-0.02605	0.00692	-0.1986	-0.06089	-0.01018	-0.07345	-0.12916

ASSOC. BRITISH ENG	-0.03668	-0.17272	-0.63421	-0.24916	-0.16673	-0.31527	-0.77142	-0.11302	0.31863	0.5822
AVINGTRANS	0.04104	-0.00809	-0.09401	-0.15433	-0.06873	0.02881	-0.01503	0.05936	0.06467	0.00337
AVIS EUROPE PLC	-1.04741	-0.5893	-0.85815	-1.03559	-1.12343	-2.35478	-1.97121	-1.20818	-0.58187	-0.51965
AVOCET	-0.34368	-0.96082	-0.0816	-0.12156	-0.11992	-0.03052	0.00603	-0.01492	0.01288	-0.00745
BELLWAY PLC	0.07414	0.09034	0.11964	0.1193	0.12718	0.18121	0.1416	0.12174	0.09094	0.06996
BLACK ARROW GROUP	0.01292	-0.11072	-0.07898	-0.07484	-0.32808	-0.18903	-0.2546	-0.19698	-0.22254	-0.20923
BLUE OAR PLC	-0.19114	0.59602	-0.02315	-0.10926	-0.23011	-0.2638	-0.05987	-0.06441	-0.00373	-0.03505
BODYCOTE	-0.05734	-0.07109	-0.0474	-0.0639	-0.0982	-0.20825	-0.07947	-0.05888	-0.0307	-0.04951
BP PLC	-0.11211	-0.04248	-0.02998	-0.05038	-0.06959	-0.06201	-0.03524	-0.00287	-0.0397	-0.04836
BSKYB GROUP PLC	0.0097	0.00494	-0.00605	-0.00807	-0.0192	0.00825	0.00382	0.00233	0.0156	-0.01543
CAFFYNS PLC	-0.06387	-0.13382	-0.03062	-0.17193	0.00312	0.08964	-0.10098	-0.12378	-0.17208	-0.10465
REED ELSEVIER PLC	-0.02517	-0.03218	-0.01901	-0.01471	-0.01899	-0.0217	-0.02694	-0.03039	-0.02962	-0.03338
CARPETRIGHT PLC	-0.03701	-0.11825	-0.00154	-0.03032	-0.02674	-0.02383	-0.00132	-0.03356	-0.03203	-0.03112
CELTIC PLC	-0.13934	-0.04842	-0.09214	-0.18209	-0.35088	-1.07384	-0.45484	-0.58515	-0.17806	0.07454
CHIME COMMUNICATIONS	0.00763	0.01697	0.00288	0.01314	0.01147	0.18463	0.05507	0.08706	0.07199	0.0497
CHRYSALIS GROUP PLC	-0.04376	-0.04843	-0.00811	-0.02279	-0.00384	-0.01002	-0.02488	-0.03713	-0.0002	-0.03303
CLINTON CARDS PLC	-0.05251	-0.02995	-0.03198	-0.00635	-0.01695	-0.05687	-0.05903	-0.01606	-0.23689	-0.04818
COFFEE REPUBLIC PLC	-0.17274	-0.49306	-0.28754	-0.15957	-0.53236	-1.03695	-0.36748	-0.46374	-0.27	-0.13592
CONTENTFILM PLC	0.01113	0.04835	0.02366	0.01992	-0.2426	-4.60804	-1.60525	-0.82825	-0.1214	0.18702
CRESTON PLC	-0.4894	-0.2989	0.02169	-0.87984	0.00225	0.05789	0.02986	0.0428	-0.0058	0.01239
DAILY MAIL & GENERAL	0.01078	0.00823	-0.00607	-0.01768	-0.01727	-0.0354	-0.02514	-0.01203	-0.01285	0.01205
DSG INTERNATIONAL	-0.00738	-0.00175	-0.02452	-0.02043	-0.02745	-0.06104	-0.03232	-0.03836	-0.06722	-0.04921
ENTERPRISE INNS PLC	-0.11381	-0.36678	-0.13065	-0.12417	-0.00511	0.01993	0.01657	0.0218	0.00246	-0.00025
EUROMONEY INSTL INV	0.02267	-0.00438	-0.00144	-0.00822	0.00523	-0.0265	0.00843	0.02232	0.03656	-0.00056
FINDEL PLC	-0.03175	-0.13899	-0.03236	0.0322	0.02348	0.02421	0.02365	0.01942	0.02836	0.02369
FIRSTGROUP PLC	0.01726	0.01228	-0.00927	-0.07447	-0.07535	-0.05662	-0.11076	-0.05159	-0.07403	-0.072
FRENCH CONNECTION GR	-0.00954	-0.0756	-0.02822	-0.00212	0.01102	0.04393	0.02975	0.01959	-0.05503	-0.06649
FULLER, SMITH	-0.18163	-0.2245	-0.19423	-0.42195	-0.26226	-0.08251	-0.12377	-0.11429	-0.09381	-0.08464
GAME GROUP PLC (THE)	0.022	0.01241	-0.06241	-0.02848	0.00333	-0.07335	-0.06408	-0.0931	-0.09947	-0.01965
GO-AHEAD GROUP PLC	-0.06145	-0.0191	-0.03408	-0.08304	-0.00576	0.00119	-0.0131	-0.04774	-0.04692	-0.03182

GREENE KING PLC	-0.04334	-0.06697	-0.02241	-0.01391	-0.04471	-0.07177	-0.06953	-0.01143	-0.01538	-0.01422
GREGGS PLC	-0.07232	-0.04096	-0.02419	-0.04567	-0.07161	-0.03872	-0.01385	-0.05065	-0.02159	-0.04672
H.R. OWEN PLC	-0.01959	-0.16632	-0.37356	-0.1565	-0.12057	-0.24216	-0.15464	-0.29606	-0.1654	0.0383
HANDMADE PLC	-0.13678	-0.51188	-0.09936	-0.04984	-0.23794	-0.21429	-0.43333	-0.338	-1.01595	-0.25499
HAYNES PUBLISHING	-0.10449	-0.01794	-0.18182	-0.28144	-0.05841	0.27767	0.11515	0.08221	0.09866	0.08609
HEAVITREE BREWERY	0.01868	-0.04864	-0.1009	-0.07641	-0.34256	-0.19263	-0.11363	-0.11739	-0.0542	-0.04086
HOLIDAYBREAK PLC	-0.08411	-0.02647	-0.01871	-0.01566	0.00048	-0.00046	-0.00971	-0.00526	-0.00697	-0.01799
HUNTSWORTH PLC	0.20582	0.15878	-0.27007	-0.04215	0.00281	0.08109	0.08882	0.06725	0.03144	0.03824
INCHCAPE PLC	-0.31093	-0.94124	-0.15231	-0.09364	-0.02669	-0.01365	0.02006	0.01549	0.03405	0.00882
IND Consumer Services DISTBN	0.04621	-0.13467	-0.05744	0.00897	-0.51314	-0.02101	-0.03534	-0.07651	-0.08086	0.01863
INFORMA PLC	0.0276	0.01547	0.00829	-0.02369	-0.01156	-0.00159	0.02373	-0.02764	0.0094	0.00115
INSTORE PLC	-0.26553	0.07628	0.01761	-0.19378	-0.63942	0.06831	-0.11555	-0.08396	-0.04763	-0.31753
INTERNAT GREETINGS	-0.00523	-0.03807	0.00418	-0.00701	-0.03723	0.03672	0.00457	-0.03621	-0.00995	-0.02098
ITE GROUP PLC	0.31436	0.06997	0.01326	0.01534	0.02308	0.03696	0.02353	0.02451	0.02293	0.02261
JACQUES VERT PLC	-0.80504	-0.07104	0.09029	-0.06886	0.05796	-0.1203	-0.01264	0.04407	-0.00461	0.05407
JD SPORTS FASHION	-0.1097	-0.23295	0.00308	-0.02647	-0.01012	-0.07561	-0.16314	0.00506	0.03754	-0.00506
JJB SPORTS PLC	0.00298	-0.06857	-0.02748	-0.01826	-0.00039	-0.08011	-0.02304	-0.1103	-0.13402	-0.04669
JOHN SWAN & SONS	-0.02615	-0.09436	-0.12517	-0.04848	-0.08122	-0.37978	-0.20918	-0.16974	-0.10068	-0.05665
JOHNSTON PRESS PLC	0.03758	0.04944	0.0208	0.02879	0.06665	0.05729	0.05107	0.0164	0.0101	0.05336
KINGFISHER PLC	-0.02245	-0.03295	-0.04609	-0.09207	-0.11391	-0.05252	-0.01336	-0.02432	-0.05224	-0.08207
LADBROKES PLC	-0.02028	-0.11063	-0.14348	-0.05055	-0.06334	-0.08818	-0.03312	-0.05081	-0.71023	0.05501
LAURA ASHLEY	-0.26157	-0.37018	-0.03974	-0.00752	-0.0413	-0.38832	-0.03129	-0.01859	-0.00636	-0.01477
LOOKERS PLC	-0.38435	-0.63339	-0.2917	-0.27941	-0.22052	-0.12822	-0.20745	-0.09373	-0.02229	0.00977
LUMINAR GROUP	-0.18223	-0.16566	-0.12382	-0.06805	-0.10154	-0.20457	-0.09093	-0.05191	-0.08455	-0.08551
MAJESTIC WINE PLC	-0.03291	-0.06178	-0.02515	-0.06144	-0.03176	-0.0237	-0.01	-0.01494	-0.01665	-0.01505
MALLETT PLC	0.17032	0.16029	0.12797	0.07535	0.05378	-0.02846	0.00893	-0.00322	-0.11957	-0.05303
MARKS & SPENCER	-0.02075	-0.05515	-0.05648	-0.03826	-0.01245	-0.00592	-0.02409	-0.01275	-0.00305	-0.0284
MARSTON'S PLC	-0.09214	-0.08608	-0.046	-0.01921	-0.18838	-0.0629	-0.10818	-0.07706	-0.06542	-0.07362
METRODOME GROUP PLC	-0.10148	0.04603	0.05964	-0.20376	-0.25188	0.24097	0.05512	-0.02528	-0.44578	-0.64315
MILLENNIUM	-0.03567	0.00521	-0.02008	-0.05925	-0.05408	-0.06887	-0.0036	-0.02628	0.01381	0.018

MILLWALL HOLDINGS	-0.24793	-0.23798	-0.14744	-0.14875	-0.06846	-0.57697	-0.51385	-0.80477	-1.26363	-0.8283
MOSS BROS GROUP PLC	-0.02258	-0.03502	-0.13943	-0.45996	-0.32914	-0.13236	-0.05484	0.00728	-0.03111	-0.13315
MOTHERCARE PLC	-0.0707	-0.18927	-0.62937	-0.11576	-0.05758	-0.3571	0.05706	-0.04558	-0.04266	-0.03475
MULBERRY GROUP	-0.11582	-0.30472	-0.1341	-0.03108	-0.1948	-0.20122	-0.01545	0.02854	0.03461	0.01104
N BROWN GROUP PLC	-0.00011	0.01648	0.00758	0.00447	0.01263	0.01564	-0.02629	0.04207	0.01017	0.01691
NATIONAL EXPRESS GRP	-0.01451	-0.04127	-0.06202	-0.069	-0.12436	-0.09396	-0.07331	-0.00201	-0.02092	-0.06363
NEWMARKET INVESTMENT	-0.06416	-0.14763	-0.07255	-0.05656	-0.38769	-0.45341	-1.07055	-0.49781	-0.36541	-1.10417
NEXT PLC	-0.00717	-0.04166	-0.00341	0.00502	0.00659	0.01078	0.01613	0.01183	0.00841	0.02153
PEARSON PLC	-0.06067	-0.04666	-0.03024	-0.0288	-0.05009	-0.06105	-0.05911	-0.01232	0.00021	-0.01916
PENDRAGON PLC	-0.2805	-0.43835	-0.44976	-0.37637	-0.57733	-0.20023	-0.2851	-0.34117	-0.18682	-0.20083
PRESTON NORTH END	-0.44909	-0.17007	-0.337	-0.17823	-0.32082	-1.11686	-0.97652	-0.70336	-1.3358	-1.11685
PRIME FOCUS LONDON	0.01379	0.07535	-0.07701	0.0053	-0.02362	-0.06911	-0.00786	-0.09214	-0.93685	-0.09633
PUBS 'N' BARS PLC	-1.5557	-1.48881	-0.48155	-0.16421	-0.06706	-0.22535	-0.17313	-1.14476	-0.11705	0.00699
QUARTO GROUP INC	0.0482	0.10825	0.0662	0.10802	0.17328	0.03337	0.06986	0.05794	0.05316	0.05106
RANK GROUP PLC (THE)	-0.13502	-0.26572	-0.06907	-0.05739	-0.06964	-0.05027	-0.05865	-0.06749	-0.03179	-0.31191
REGENT INNS PLC	-0.06315	-0.25112	-0.13673	-0.11341	-0.26402	-0.61206	-0.27427	0.01401	-0.00948	-0.02223
RESTAURANT GROUP PLC	-0.12102	-0.20327	-0.19859	-0.13288	-0.07362	-0.13481	-0.12375	-0.14063	-0.20098	-0.04814
RICHOUX GROUP PLC	-0.16073	-0.36849	-0.38256	-0.64557	-0.74182	-0.27222	-0.09727	-0.13718	-0.07422	-0.00524
SAINSBURY J PLC	-0.04669	-0.06495	-0.10331	-0.12465	-0.14478	-0.19474	-0.1449	-0.18016	-0.09026	-0.09437
SPORTECH PLC	-0.25013	-0.31518	-0.40923	-0.02903	-0.02058	-0.02824	-0.04891	0.18309	0.14944	0.15523
STAGECOACH GROUP PLC	-0.07162	-0.06314	-0.13702	-0.23922	-0.15878	-0.34583	-0.12327	-0.17238	-0.19639	-0.13208
STV GROUP PLC	0.00091	0.01464	-0.0121	-0.05179	-0.04626	-0.03132	-0.05103	-0.02144	-0.02184	-0.04221
TARSUS GROUP PLC	0.07176	0.0381	-0.04207	-0.03961	-0.11005	-0.20846	0.00014	0.04488	0.02831	0.04831
TED BAKER PLC	0.03058	0.01134	-0.02349	-0.02131	-0.0081	-0.06485	-0.00701	-0.0151	-0.0039	-0.00134
TESCO PLC	-0.04208	-0.06099	-0.07638	-0.08213	-0.0855	-0.11659	-0.08239	-0.0648	-0.07396	-0.06991
THORNTONS PLC	-0.19569	-0.24799	-0.06107	-0.04593	-0.00091	-0.04203	-0.04129	-0.0357	-0.0575	-0.05382
TOPPS TILES PLC	0.00677	-0.01567	0.00126	0.00955	0.03919	-0.04268	0.00622	-0.00438	-0.00857	-0.00694
TOTTENHAM HOTSPUR	-0.17655	-0.05512	-0.09529	-0.04355	-0.17366	-0.12073	-0.16133	-0.10928	-0.29556	-0.05067
TOUCH GROUP PLC	-0.24663	-0.38089	-0.14046	-0.28796	-0.73941	-0.20588	-0.12403	-0.29223	-0.5178	-0.17889
TRINITY MIRROR PLC	0.00673	0.0433	-0.0059	0.0231	0.00431	0.01128	0.036	0.02368	0.0266	0.04895

UNITED BUSINESS	-0.05492	0.28357	0.14115	-0.13843	-0.10964	-0.11898	0.01501	-0.18692	0.0363	-0.08521
WETHERSPOON (J.D.)	-0.15322	-0.28109	0.01008	0.00741	0.00976	0.03696	0.02737	0.02601	0.01996	-0.03926
WHITBREAD PLC	-0.07706	-0.08476	-0.08576	-0.0963	-0.17682	-0.07714	-0.05025	-0.0659	-0.23384	-0.17132
WILMINGTON GROUP PLC	0.01103	0.01299	0.00402	-0.00529	-0.06116	-0.00835	-0.04067	-0.01239	0.02867	0.01421
WM. MORRISON SUPERMT	-0.06987	-0.06384	-0.05279	-0.05875	-0.03365	-0.05339	-0.04217	-0.04843	-0.12706	-0.02608
WORKS Consumer Services GROUP	-0.06255	-0.17538	-0.23513	-0.16458	-0.00485	-0.28598	0.23041	-0.22733	-0.23298	-0.05345
WPP PLC	0.02943	0.023	0.00964	0.01231	0.00588	0.01684	0.01621	0.00797	0.00993	0.01648
YOUNG & CO'S BREWERY	-0.33865	-0.43602	-0.54246	-0.87644	-0.78333	-0.55861	-0.31283	-0.27723	-0.05394	-0.17056
YOUNG & CO'S BREWERY CAPI	-0.20018	-0.30588	-0.37909	-0.63688	-0.45231	-0.39234	-0.21847	-0.24436	-0.10871	-0.32707
Consumer Services	**-0.09946**	**-0.12581**	**-0.09711**	**-0.10965**	**-0.12341**	**-0.18251**	**-0.11542**	**-0.10173**	**-0.10454**	**-0.06839**

ADL PLC	-0.03593	-0.08707	-0.15983	-0.06075	-0.07201	0.09631	-0.42348	-0.00609	-0.00108	0.01188
ADVANCED MEDICAL	-0.1262	-0.27206	-0.1737	-0.24513	-0.2006	-0.22872	-0.07206	-0.08613	-0.0109	0.04609
ALIZYME PLC	-0.77041	-0.40658	-0.24228	-0.07325	-0.2398	-0.39081	-0.02073	-0.0788	-0.08346	-0.18557
AORTECH INT'L	-0.04771	-0.04862	-0.01365	-0.03371	-0.24152	-4.24474	-0.04748	-0.28425	-0.11145	-0.1608
AUKETT FITZROY	0.07408	0.1017	0.00927	-0.04326	-0.32381	0.31529	-0.29386	0.08688	0.06804	0.04197
BAE SYSTEMS	-0.04191	-0.00134	-0.07925	-0.04729	-0.07184	-0.21016	-0.15818	-0.04642	-0.04763	-0.01516
BIRMINGHAM CITY PLC	-0.0001	-0.41115	-0.2198	-0.17176	-0.44959	0.2797	0.43582	-0.22148	-0.42702	-0.75113
BISICHI Basic Materials PLC	-0.27293	-0.68904	-0.21911	-0.08367	-1.1079	-0.29288	-0.09599	0.05688	-0.07983	0.0016
BTG PLC	-0.0298	-0.03135	-0.00727	-0.01209	-0.04345	-0.31086	-0.17205	-0.21938	-0.01305	0
CARE UK PLC	-0.05582	-0.05518	-0.06178	-0.08473	-0.11956	-0.10839	-0.04596	-0.10418	-0.04654	-0.03194
CELSIS INTERNATIONAL	-0.02953	0.02093	0.03541	0.0012	-0.03458	0.19706	0.06555	0.06135	0.0156	0.04542
CONSORT MEDICAL PLC	-0.07038	-0.05653	-0.0065	-0.03948	-0.00415	-0.22017	-0.01198	0.00296	-0.0039	-0.00428
ECO ANIMAL	0.01647	0.01062	0.02653	0.04332	0.04524	0.04149	0.00274	-0.0125	-0.01403	-0.04488
GOLDSHIELD GROUP PLC	0.00874	0.01372	0.02207	0.0219	0.04486	0.01835	-0.02032	0.01464	0.04647	0.02125
IS PHARMA PLC	-0.08224	-0.14861	-0.12299	-0.07906	-0.09739	-0.35854	-0.15434	-0.13926	-0.26375	-0.03799
JOURDAN PLC	0.02862	-0.15077	-0.239	-0.13909	-0.014	-0.04629	0.0033	-0.04877	0.06247	0.01207
NESTOR HEALTHCARE	-0.00876	-0.00937	0.00819	0.00831	0.00831	-0.03291	-0.0218	0.06197	0.05538	0.00422

OSMETECH PLC	-0.37199	-1.11023	-0.09308	-0.1306	-0.0915	-0.1921	-0.0748	-0.35118	-0.37254	-0.26295
OXFORD BIOMEDICA	-0.3424	-0.34252	-0.13158	-0.11096	-0.16151	-0.80753	-0.1476	-0.16135	-0.1378	-0.08472
PHYTOPHARM PLC	-0.27031	-0.06059	-0.01681	-0.01072	-0.0187	-0.13634	-0.08182	-0.03069	-0.22387	-0.23685
PROTEOME SCIENCES	-0.06101	-0.16018	-0.16996	-0.02599	-0.11821	-0.09447	-0.01902	-0.07813	-0.06468	-0.06849
RANSOM & SON PLC	-0.02889	-0.04873	-0.04802	-0.06133	-0.17103	-0.06298	-0.07908	-0.25605	-0.01597	-0.01961
SHIRE PLC	0.00812	0.03848	0.02921	0.00816	0.00242	0.02114	0.02526	0.05247	0.00949	0.01687
SILENCE THERA	-0.1081	-0.08758	-0.03147	-0.02433	-0.18548	-0.57306	-0.58377	-0.51501	-0.20152	-0.10807
SKYEPHARMA PLC	-0.13479	-0.09215	-0.13521	-0.07185	-0.0535	-0.17642	-0.05946	-0.09294	-0.0832	-0.1452
SMITH & NEPHEW PLC	-0.01843	-0.02771	-0.19029	-0.01493	-0.0111	-0.00652	0.00336	0.006	0.00246	0.00207
SOURCE BIOSCIENCE	-0.48905	-1.15397	-0.01347	-0.02469	-0.38704	-0.37616	-0.14391	-0.27649	-0.17086	-0.12617
SURGICAL INNOVATION	-0.33867	-0.24297	-0.02119	0.01287	-0.0256	-0.00299	0.03732	0.06553	0.09167	0.00958
VERNALIS PLC	-0.09918	-0.19453	-0.15857	-0.20555	-0.21853	-1.34669	-0.29995	-0.19719	-0.20275	-0.0707
Health Care	**-0.12753**	**-0.19667**	**-0.08359**	**-0.05857**	**-0.1504**	**-0.31898**	**-0.08463**	**-0.09647**	**-0.0767**	**-0.07384**

A.G. BARR PLC	-0.00593	-0.03259	0.0018	-0.01933	-0.05331	-0.01787	0.0092	0.01055	-0.03163	-0.02644
ACAL PLC	-0.02271	-0.01013	-0.01414	0.01005	-0.03137	-0.02772	-0.0347	-0.05346	-0.03851	-0.01368
ADVANCED POWER	-0.00677	0.00166	-0.00592	-0.01673	-0.09614	-0.45631	-0.20574	-0.20835	0.04788	0.10154
AEA TECHNOLOGY PLC	-0.00988	-0.01407	-0.01617	-0.11356	-0.12129	-0.59405	-0.04474	-0.24287	-0.088	-0.01294
AGGREKO PLC	-0.10992	-0.12433	-0.05325	-0.06718	-0.04329	-0.13314	-0.09499	-0.13476	-0.12765	-0.10529
ALUMASC GROUP PLC	-0.02648	-0.05242	-0.00245	-0.12445	-0.05334	0.00298	-0.00258	-0.02991	-0.044	-0.01418
ANDREWS SYKES GROUP	-0.01844	0.00126	-0.0089	0.03113	0.02448	0.01191	0.01887	-0.0412	0.04695	0.03678
ARKO HOLDINGS PLC	-0.08764	-0.30479	-0.15689	-0.02807	-0.04406	-0.02471	-0.00273	-0.03885	-0.13244	-0.40168
ASSOCIATED BRITISH	-0.03946	-0.12099	-0.02765	-0.02385	-0.00599	-0.00927	-0.01906	-0.0374	-0.03323	-0.03278
ASTRAZENECA PLC	-0.00914	-0.00099	-0.00337	-0.0003	0.00337	0.0038	0.00905	0.03316	0.02644	0.01995
AUTOLOGIC HOLDINGS	-0.01889	-0.03376	-0.03791	-0.0414	-0.04131	-0.21068	-0.13998	-0.1038	0.03919	-0.10316
AVESCO GROUP PLC	-0.10506	-0.19078	-0.08395	-0.10613	-0.27393	-1.58869	-0.46887	-0.07004	-0.07345	-0.48875
AVEVA GROUP PLC	0.01419	-0.00676	0.01029	0.01429	0.01016	0.01438	0.01374	0.01879	0.02408	0.02936
AVIVA	0.36933	0.22645	-0.39718	-0.31016	-0.19607	0.53769	0.1669	0.08358	0.02611	-0.03826
BABCOCK INT'L GROUP	0.01668	0.04921	0.0012	-0.02932	-0.0381	0.0078	0.05213	0.02205	0.03061	0.02829

BAILEY (C.H.) PLC	-0.56393	-0.44592	-0.3686	-0.52574	-0.65773	-0.3865	-0.42952	-0.34367	-0.28036	-0.26937
BALFOUR BEATTY PLC	-0.2008	-0.28257	0.00524	-0.07947	-0.07391	-0.07537	-0.13498	-0.06522	-0.05393	-0.00691
BELGRAVIUM TECH	-0.04652	-0.01291	-0.00034	0.13475	0.10274	0.02018	0.0172	0.01579	0.00966	0.05921
BIOQUELL	-0.13657	-0.21717	-0.5615	-0.038	-0.049	-0.07329	-0.0212	-0.02363	0.00616	0.04233
BPP HOLDINGS PLC	-0.04362	-0.02359	-0.19646	-0.18908	-0.11474	-0.08813	-0.14935	-0.03051	-0.0148	-0.00281
BRAMMER PLC	-0.14603	-0.34781	-0.36792	-0.51125	-0.22181	-0.70081	-0.08146	0.0459	0.01407	0.02279
BREWIN DOLPHIN HLDGS	-0.21834	-0.15257	0.005	-0.02137	-0.0425	-0.13	-0.02426	-0.01777	-0.01519	0.00041
BRITISH POLYTHENE	-0.04236	-0.1205	-0.11758	-0.03464	-0.09457	-0.13964	-0.13956	-0.05439	-0.05725	-0.11159
BSS GROUP PLC (THE)	-0.0008	0.0193	-0.00117	-0.04406	0.03507	0.0447	0.03121	0.04149	0.03347	0.02124
BUNZL PLC	0.01371	-0.00201	0.00901	0.01816	0.01451	0.00873	0.01	0.02059	0.0236	0.02098
BUSINESS POST GROUP	-0.02152	-0.01799	-0.00931	-0.032	-0.0095	-0.01058	-0.01385	-0.0126	-0.04486	-0.0488
CAPE PLC	-0.11826	-0.15678	-0.2917	-1.00739	-0.44244	-0.52971	-0.07398	-0.00825	-0.00425	-0.00385
CAPITA GROUP PLC	0.0052	0.00186	0.00039	-0.00492	-0.00994	-0.00111	0.00089	0.01297	0.01069	-0.03281
CASTINGS PLC	-0.01358	0.0014	0.01209	-0.03354	-0.1597	-0.05655	-0.02522	-0.06808	-0.00525	-0.04931
CEPS PLC	-0.20081	-0.27928	-0.25835	-0.64443	-1.48837	-0.94889	0.13612	0.00155	0.09373	0.36802
CHAMBERLIN PLC	-0.03589	0.00615	0.02288	-0.0497	-0.04602	-0.12443	-0.1065	-0.03208	-0.0415	-0.11767
CHEMRING GROUP PLC	-0.05484	0.03903	0.02227	-0.03112	-0.08919	0.01331	0.0367	0.01996	0.0408	0.02711
CHLORIDE GROUP PLC	0.02028	-0.00399	-0.00486	-0.02651	-0.04034	-0.07177	-0.08077	-0.04745	0.01605	0.01523
CHRISTIE GROUP PLC	0.034	0.03321	-0.04433	-0.05896	-0.10234	-0.08245	-0.00019	0.03641	0.0499	0.0583
CINPART PLC	-0.98399	-0.44707	-0.75966	-0.14575	-0.00609	-1.02896	-0.68525	-1.86909	-0.6003	-0.0581
CLARKSON PLC	-0.06621	-0.13178	0.09009	0.05079	-0.26153	0.14167	0.07837	-0.0865	0.00421	0.03619
COBHAM PLC	-0.00856	0.00432	-0.01255	0.00625	0.01177	0.01173	0.00332	0.0026	-0.0027	-0.0051
COE GROUP PLC	-0.1289	-0.17221	-0.05775	-0.11688	-0.55215	-0.57551	-1.63943	-1.78537	-2.26376	-0.22552
COMMUNISIS PLC	-0.05845	-0.09397	-0.46235	0.0103	-0.03277	-0.04944	-0.08743	-0.00761	-0.01561	-0.0054
CONNAUGHT PLC	0.04494	0.04884	0.00537	0.01572	0.02405	0.0056	-0.1085	-0.00846	0.01411	0.00684
COOKSON GROUP PLC	-0.02844	-0.05453	-0.02898	-0.1369	-0.10885	-0.1748	-0.01469	0.01531	0.02529	0.01621
CORAL PRODUCTS PLC	-0.26254	-0.13611	-0.15716	-0.19888	-0.25122	-0.26825	-0.14418	-0.22133	-0.6485	-0.59536
COSALT PLC	0.0137	0.02531	0.04537	0.01067	-0.07216	0.00814	-0.01608	-0.09644	-0.08199	-0.06435
COSTAIN GROUP PLC	-0.12839	-0.06261	-0.10162	-0.10307	-0.09179	0.03048	0.05035	0.02939	-0.34415	0.02513
DART GROUP PLC	-0.30414	-0.27288	-0.1392	-0.09125	-0.35123	-0.56091	-0.54453	-0.32786	-0.36266	-0.36469

DATACASH	0.0113	-0.0465	-0.57273	-0.18712	-0.19565	-0.04346	-0.0265	-0.01456	-0.02762	0.02236
DAVIS SERVICE GROUP	-0.17027	-0.13065	-0.12876	-0.21151	-0.23595	-0.29106	-0.18161	-0.14495	-0.14916	-0.17212
DAWSON HOLDINGS PLC	-0.01574	-0.02117	-0.01372	-0.10158	-0.01544	-0.05505	-0.01179	0.01255	-0.06299	-0.09342
DE LA RUE PLC	-0.0677	-0.0393	-0.02562	0.0139	0.00685	-0.03699	-0.04046	-0.01509	-0.08996	0.00126
DELTA PLC	-0.1631	-0.27679	-0.20528	-0.1916	-0.14424	-0.09105	0.04331	-0.06894	-0.03413	-0.00865
DENSITRON TECH PLC	-0.07688	-0.65977	0.00658	-0.07637	-0.32779	-0.25905	0.00919	-0.18421	-0.26253	-0.12567
DEWHURST PLC	-0.0487	0.06617	0.10976	0.12082	0.02608	0.08844	0.12717	0.1746	0.12182	0.14385
DIALIGHT PLC	0.03117	-0.09266	0.02449	-0.01363	-0.03311	-0.03291	0.01505	-0.02287	0.00497	-0.0168
DIMENSION RESOURCES	0.01576	-0.03607	-0.22435	-0.25102	-0.57869	-0.60769	-0.0268	-0.05443	-0.08519	-0.18667
DIPLOMA PLC	-0.03434	-0.12391	-0.03126	0.02301	0.01833	0.03129	0.02607	0.03246	0.03449	0.03327
DOMINO PRINTING	-0.00595	0.02216	0.03297	-0.01536	0.02426	0.04689	0.0395	0.02674	0.03024	0.02256
DS SMITH PLC	-0.09288	-0.16579	-0.05377	-0.08897	-0.11596	-0.08886	-0.0577	-0.07727	-0.09181	-0.06566
ELECO PLC	0.01163	0.01413	-0.18451	-0.00634	-0.01435	-0.07269	-0.03986	0.00557	0.03049	0.0317
ELECTROCOMPONENTS	0.00812	0.00758	0.00243	0.0007	-0.02024	-0.0373	-0.02436	-0.03527	-0.04976	-0.06188
ELEKTRON PLC	0.05575	-0.39478	-0.05388	-0.02883	-0.26241	-0.89076	0.24173	0.19869	0.03376	0.06237
ENERGY TECHNIQUE PLC	-0.08814	0.01738	-0.13181	-0.10757	0.07516	0.00944	-0.17014	-0.55317	-0.51744	0.06559
ENSOR HOLDINGS PLC	0.03714	0.00283	-0.10358	0.00179	-0.12138	-0.10726	-0.00676	0.01151	0.01603	0.02032
FALKLAND ISLANDS	0.01	0.04426	-0.00027	-0.03929	-0.00751	-0.02181	-0.04701	-0.02673	-0.0105	-0.00754
FEEDBACK PLC	0.05505	0.00851	0.00859	0.09188	-0.31113	0.01562	-0.28056	0.08682	0.29003	0.38419
FENNER PLC	-0.06606	-0.05625	-0.1172	-0.05208	-0.02724	-0.06018	-0.07004	-0.0342	-0.016	-0.05542
FORTH PORTS PLC	-0.04452	-0.05297	-0.06715	-0.01322	-0.02777	0.00243	-0.0623	-0.06172	-0.04059	-0.01936
FOUNTAINS PLC	-0.00751	0.00091	0.02641	0.04807	0.02183	-0.03398	-0.09363	-0.06632	-0.15038	0.01364
GALIFORM PLC	-0.15114	-0.19688	-0.15249	-0.08787	-0.06938	-0.11114	-0.06574	-0.09507	0.00743	0.07389
GALLIFORD TRY PLC	0.05345	0.02945	0.03946	0.14218	0.08174	0.12772	0.10215	0.09605	0.08514	0.03846
GARNER PLC	-0.19959	-0.35807	-0.11702	-0.12734	-0.13824	-0.00147	-0.05014	0.05227	0.41476	0.71451
GOOCH & HOUSEGO	-0.01193	0.00498	0.06269	0.02276	0.00173	-0.01087	0.01851	0.01227	0.01746	-0.01483
GOODWIN PLC	-0.03034	0.0134	-0.36683	-0.04544	-0.05721	0.06353	-0.11633	-0.02531	0.01898	0.01115
H.C. SLINGSBY PLC	-0.14162	-0.09274	0.00318	0.00288	-0.01272	0.03644	0.03137	-0.52178	-0.1261	0.00403
HALMA PLC	0.02742	0.02031	0.01648	0.01422	0.00759	-0.01132	-0.00228	-0.00804	0.00422	0.00828
HAMPSON INDUSTRIES	0.00753	-0.03072	0.08238	-0.02297	0.03797	-0.06028	0.02992	-0.0383	-0.03945	0.00791

HARVEY NASH GRP PLC	0.02991	0.03527	0.02877	0.00396	-0.09744	-0.08051	-0.04124	-0.00528	0.08282	0.05898
HAYS PLC	0.00566	0.0051	0.00369	-0.00387	-0.00634	-0.05522	-0.0343	0.01498	0.03175	0.02894
HEATH (SAMUEL) & SON	0.02318	0.10401	0.01749	-0.00694	-0.02045	-0.02121	-0.01264	0.00499	-0.01543	0.00867
HENRY BOOT PLC	-0.00317	-0.00313	-0.00899	0.08511	0.01207	0.01183	0.00083	-0.05955	-0.08539	-0.20619
HEYWOOD WILLIAMS GRP	-0.01648	0.01184	-0.0707	-0.09368	-0.14074	-0.31301	0.04532	0.07273	0.06408	0.03898
HIGHAMS SYSTEMS	0.05448	0.03956	-0.05357	-0.1747	-0.11188	-0.17258	-0.21916	-0.19263	-0.05479	-0.21957
HILL & SMITH HOLDING	-0.15568	0.00011	-0.02424	-0.22243	-0.09606	-0.08943	-0.04564	-0.02471	-0.11017	-0.01473
HOLDERS TECHNOLOGY	0.00535	-0.08712	0.07528	-0.02576	-0.12258	-0.23169	-0.04337	0.04792	0.01038	0.00686
HOMESERVE PLC	-0.06427	-0.05788	-0.048	-0.06047	-0.06279	-0.10108	-0.09569	0.0061	0.01069	0.01174
HYDER CONSULTING PLC	0.00076	-0.42758	-0.06743	-0.03547	-0.10386	0.13868	0.0806	0.07024	0.03854	0.01039
HYDRO INTERNATIONAL	-0.00858	0.01477	0.00591	0.03559	0.08951	0.06188	0.02145	0.03869	0.04626	0.04497
IMAGELINX PLC	0.00764	-0.2972	-0.11496	-0.16864	-0.34184	-0.39204	-0.05405	-0.05234	-0.13942	-0.11246
IMI PLC	-0.01038	-0.03205	-0.04484	-0.04395	-0.01802	-0.04266	-0.02606	-0.00434	-0.00473	0.0058
INTERIOR SERVICES	0.00877	0.0266	-0.00256	0.00135	0.00644	0.02936	-0.01901	-0.02129	-0.00622	-0.04582
INTERSERVE PLC	-0.09345	-0.10535	-0.05411	-0.03086	-0.04848	-0.13472	-0.12856	-0.0761	-0.06472	-0.08505
JAMES FISHER & SONS	-0.17578	0.34521	-0.90272	-0.44254	0.10667	0.03723	0.01478	-0.01833	-0.00519	-0.05227
JAMES HALSTEAD PLC	0.00477	-0.03759	-0.01843	0.01068	0.02733	0.03345	0.0151	-0.09331	-0.04996	-0.04245
JARVIS PLC	0.04154	0.02356	-0.04224	-0.02545	-0.01681	0.02657	-0.08738	-2.95905	-0.46546	-0.04414
JOHN MENZIES PLC	-0.08919	-0.04142	-0.03653	-0.12294	-0.07727	-0.1052	-0.05675	-0.04392	-0.06817	-0.08628
JOHNSON SERVICE GRP	-0.04751	-0.02601	-0.16696	-0.1915	-0.16381	-0.1201	-0.12176	-0.20802	-0.12127	-0.10821
JOURNEY GROUP PLC	0.04175	0.084	-0.02042	0.06484	0.09542	0.04178	-0.10818	0.06222	-0.05812	-0.58383
KELLER GROUP PLC	0.00229	-0.01206	-0.02515	-0.03261	-0.03682	-0.05694	-0.0393	0.03442	0.06331	0.01075
KIER GROUP PLC	-0.11067	-0.09498	0.0054	-0.1425	0.01227	0.05172	-0.01859	9.2E-05	0.01106	0.02645
LAIRD PLC	-0.08342	-0.15701	-0.17518	-0.08895	-0.0497	0.01455	-0.01349	0.01895	0.00764	-0.12265
LATCHWAYS PLC	0.04609	-0.01651	0.00147	0.01391	-0.02012	0.01658	0.02213	0.02653	0.03968	-0.00209
LATHAM (JAMES) PLC	0.03232	0.0169	-0.04693	0.08275	-0.10857	-0.34115	-0.00506	-0.1532	-0.01054	0.03538
LAVENDON GROUP PLC	-0.19671	-0.06284	-0.45645	-0.44235	-0.25594	-0.15268	-0.05567	-0.027	-0.06103	-0.05356
LINCAT GROUP PLC	-0.07225	0.05982	0.03128	-0.02592	0.00273	0.05553	0.02876	-0.00056	-0.00487	-0.01847
LITHO SUPPLIES PLC	0.03433	0.01617	-0.00269	-0.04636	0.09364	0.14357	0.00316	-0.0393	-0.01971	-0.04812
LONDON SECURITY PLC	-0.0507	-0.06316	0.04412	0.0137	0.00201	0.01313	-0.02657	0.01151	0.00286	0.01373

LOW & BONAR PLC	-0.04757	-0.10175	-0.19765	-0.13683	-0.10978	-0.00985	-0.04555	-0.01836	-0.06556	-0.05133
LPA GROUP PLC	-0.04069	0.03438	-0.05623	-0.10913	-0.22379	-0.21382	-0.0583	-0.06229	-0.2351	-0.04586
LUPUS CAPITAL PLC	-0.00418	-0.22358	-0.04333	-0.0543	-0.00541	0.00816	0.03775	0.02045	0.12055	0.04512
M.J. GLEESON GROUP	-0.07173	-0.09265	-0.16954	-0.11443	-0.25354	-0.22351	-0.10435	-0.34356	-0.07836	-0.03371
MACFARLANE GROUP PLC	-0.0412	-0.00044	-0.00582	-0.10178	-0.15147	-0.55595	-0.25365	0.0084	-0.01261	0.00896
MANAGEMENT CON	0.06803	-0.14519	-0.71256	-0.04822	0.02669	-0.07832	0.06223	0.08187	0.07081	0.07777
MANGANESE BRONZE	-0.04768	-0.09241	-0.08163	-0.28368	-0.45481	-0.51176	-0.35304	-0.05394	-0.15065	-0.02391
MARSHALLS PLC	-0.06982	0.40539	0.21339	-0.03762	-0.04929	-0.06701	-0.0325	-0.02929	-0.02548	-0.04212
MEARS	0.07127	-0.31916	-0.05447	0.04777	0.03174	0.04312	0.02047	0.02255	0.04078	0.0218
MEGGITT PLC	0.00833	0.00963	0.00211	-0.00186	-0.00081	0.0209	0.01795	0.02205	0.02075	-0.00864
METALRAX GROUP PLC	-0.00339	0.00666	-0.00821	-0.02855	-0.01702	-0.0206	-0.01856	-0.05017	-0.05749	-0.0946
MID-STATES PLC	-0.16909	-0.18126	-0.604	-0.00899	-0.02633	-0.02276	-0.03553	-0.0325	-0.03484	-0.26749
MINORPLANET SYSTEMS	-0.0924	-0.04398	-0.01455	-0.02457	-0.0325	-0.24347	-0.56263	-1.34497	-0.08667	-0.02477
MITIE GROUP PLC	-0.02558	-0.04764	-0.02286	-0.01379	0.0069	-0.00921	-0.00236	0.00902	0.01245	0.0021
MOLINS PLC	-0.06339	-2.5E-05	0.06568	0.07669	0.12187	-0.00733	-0.07238	0.08222	0.18616	0.06151
MORGAN CRUCIBLE CO	-0.03388	0.0565	0.07076	-0.11545	-0.1044	-0.16856	-0.02751	-0.02973	0.0151	0.00299
MORGAN SINDALL PLC	0.01362	0.04535	0.02695	0.02824	-0.01715	0.02395	0.02218	0.05037	0.03972	0.01233
MS INTERNATIONAL PLC	-0.00256	-0.0077	0.00781	-0.11954	-0.09953	-0.10147	-0.02258	0.0314	-0.00245	-0.05964
NEWMARK SECURITY PLC	-0.03102	0.01237	-0.02608	-0.14863	-0.7565	-1.68194	-0.37191	-0.07828	-0.08304	0.24576
NORTH MIDLAND CONSTR	-0.15888	-0.09906	0.01606	-0.09022	0.06455	-0.03694	-0.05604	0.09268	-0.02578	-0.04686
NORTHGATE PLC	-0.2727	-0.78257	-0.80649	-0.72616	-1.18564	-1.73819	-1.32712	-1.0154	-0.46884	-0.48376
NWF GROUP PLC	-0.02605	-0.0642	-0.02474	-0.24597	0.04017	0.00257	-0.02973	-0.02425	-0.01034	-0.23143
OCEAN WILSONS	-0.77895	-1.75694	-1.31501	-1.3793	-0.24583	-1.79743	-1.02758	-0.77118	-0.3586	-0.81476
OPD GROUP PLC	0.03143	0.06394	0.03546	-0.0178	-0.02767	-0.06766	-0.02026	-0.00364	0.06607	0.04557
OPSEC SECURITY GROUP	-0.00898	-0.05024	-0.02822	-0.16077	-0.16858	-0.43235	-0.20313	-0.32895	-0.02513	-0.07116
OXFORD INSTRUMENTS	-0.04342	-0.0689	-0.1741	-0.14564	-0.06516	-0.04397	-0.01486	-0.14581	-0.04969	-0.04121
PARKWOOD HOLDINGS	-0.02908	-0.10622	-0.41347	-0.1636	-0.05818	-0.10858	-0.57306	-0.43399	-1.41648	-0.42476
PENNA CONSULTING PLC	0.10856	0.0754	0.04868	0.04413	0.00176	-0.0154	-0.10296	-0.09837	-0.03383	0.00549
PETARDS GROUP PLC	-0.21878	0.03769	-0.01791	0.00645	-0.14679	-0.23996	-0.79137	-0.72168	-0.03526	-0.25653
POCHIN'S PLC	-0.19493	-0.23583	-0.27162	-0.1599	-0.24522	-0.10731	-0.23082	-0.12093	-0.10665	-0.03752

PREMIER FARNELL PLC	0.01328	0.02177	-0.00458	-0.00543	-0.03119	-0.02599	-0.02522	-0.01028	0.00896	0.01238
QUADNETICS GROUP PLC	-1.24198	-0.70023	-0.25399	-0.08436	-0.09729	0.1552	0.04991	0.03088	0.04656	0.01769
REDHALL GROUP	-0.01947	-0.02907	-0.0999	-0.03332	-0.29841	-0.51092	-0.34427	-0.27561	0.13672	0.03807
RENEW HOLDINGS PLC	-0.52118	-0.16253	0.08914	-0.01203	0.03145	-0.15303	-0.01621	0.34232	-0.01031	0.05024
RENISHAW PLC	-0.00309	-0.01309	-0.00466	-0.00017	-0.03615	-0.05041	-0.03451	-0.01764	0.00023	-0.01594
RENOLD PLC	-0.00117	-0.11151	-0.18897	-0.2145	-0.30451	-0.19242	-0.16606	-0.18002	-0.11142	-0.00646
RENTOKIL INITIAL PLC	-0.00046	-0.00176	-0.01253	-0.01586	-0.00669	-0.00768	-0.02482	-0.05712	-0.06052	-0.08482
REXAM PLC	-0.0504	-0.31969	-0.16087	-0.2465	-0.11977	-0.06448	-0.05891	-0.02848	-0.03481	-0.08968
RICARDO PLC	-0.08342	-0.09417	-0.04525	-0.02884	0.00734	-0.00953	-0.14562	-0.04032	-0.03006	0.00056
ROK PLC	0.06114	0.08159	0.02647	0.13469	0.00989	0.04123	0.04206	0.0528	0.0409	0.0233
ROLLS-ROYCE	-0.12693	-0.10356	-0.1422	-0.09194	-0.19115	-0.15897	-0.04272	0.07479	-0.02882	-0.01606
ROSS GROUP PLC	-0.07629	-0.07783	-0.3033	-0.25104	-0.47089	0.02919	-0.00213	-0.30749	-0.38106	-0.2733
ROTORK PLC	0.011	0.01192	-0.01084	0.01732	0.00313	0.0102	-0.00745	0.02646	0.00624	0.01334
RPC GROUP PLC	-0.08677	-0.10243	-0.0921	-0.231	-0.14768	-0.18384	-0.16018	-0.12623	-0.14318	-0.0872
RPS GROUP PLC	0.02748	0.0244	0.00298	-0.00644	0.01206	0.02564	0.01863	0.03027	0.04415	0.02748
RTC GROUP PLC	0.00337	-0.01795	-0.07795	-0.03581	-0.10791	-0.04694	-0.00508	-0.03293	-0.18359	-0.05559
SAINT IVES PLC	-0.01639	-0.00166	-0.01082	-0.03453	-0.06842	-0.056	-0.0234	-0.05747	-0.12068	-0.04392
SAVILE GROUP PLC	0.08447	0.02989	-0.02485	-0.06181	-0.03201	-0.00531	-0.24935	-0.14301	-0.52354	0.02707
SENIOR PLC	-0.0415	-0.07812	-0.01621	-0.11639	-0.05701	-0.13265	-0.08137	-0.08179	-0.17792	0.00274
SERCO GROUP PLC	0.00126	-0.00841	-0.00333	-0.00787	-0.01219	-0.0453	-0.05496	-0.00945	-0.00155	0.01405
SEVERFIELD ROWEN PLC	-0.00999	0.04704	-0.00113	-0.16015	-0.11588	-0.05154	-0.0214	0.03484	-0.01174	-0.0729
SHANKS GROUP PLC	-0.043	-0.01684	-0.0432	-0.07217	-0.12201	-0.24601	-0.26733	-0.19863	-0.08262	-0.07583
SIG PLC	0.00076	0.01562	0.00534	-0.0056	-0.01677	0.01342	0.00152	0.00858	0.00166	-0.0082
SIX HUNDRED GROUP	-0.00703	-0.14856	-0.00882	-0.07157	-0.12387	-0.29075	-0.1339	-0.11908	-0.1993	-0.04691
SMART (J) & CO CONTR	-0.09901	-0.10833	-0.11035	-0.1668	-0.10755	-0.11137	-0.07564	-0.06611	0.00884	-0.03818
SMITHS INDUSTRIES	0.02552	0.02602	0.02439	-0.02791	0.00101	-0.00268	-0.00857	-0.00865	0.00965	-0.02152
SOLID STATE PLC	-0.03802	0.00711	0.0098	0.05207	-0.14279	-0.06235	-0.0611	-0.04955	-0.07048	0.02102
SPECTRIS PLC	-0.02644	0.0637	0.02094	-0.01375	-0.01803	-0.01546	-0.01216	0.02794	0.02461	0.028
SPEEDY HIRE PLC	0.00534	0.00446	-0.14923	-0.25086	-0.07903	-0.06679	-0.27746	-0.21573	-0.18036	-0.14585
SPIRAX-SARCO ENGIN.	0.00543	-0.00558	-0.00654	-0.02656	0.00163	0.00403	0.00499	0.01327	0.00464	0.01251

SPRING GROUP PLC	-0.00422	-0.01549	0.00923	-0.11407	-0.071	-0.03512	0.04902	-0.01689	0.02939	0.03285
STADIUM GROUP PLC	0.02501	0.0317	-0.0475	-0.37487	-0.05206	-0.04362	-0.01405	-0.01373	-0.08058	0.00088
STANELCO PLC	-0.0075	0.04922	0.00333	0.02266	0.00372	-0.02791	-0.02836	-0.06724	-0.05618	-0.13918
SUTTON HARBOUR	-0.0463	-0.06696	-0.00504	0.0203	0.00587	-0.01515	-0.02572	-0.10027	-0.21057	-0.06714
SWP GROUP PLC	-0.06212	-0.03784	-0.10458	-0.05462	-0.2242	-0.17036	-0.80203	-0.33034	0.00987	-0.03033
T. CLARKE PLC	0.09672	-0.02901	0.02957	0.04625	0.06343	-0.01707	-0.02638	-0.01352	-0.00319	0.00419
TEX HOLDINGS PLC	-0.09304	-0.25872	0.04219	-0.0928	-0.21477	0.01746	-0.06795	-0.1308	-0.02599	-0.12127
TG21 PLC	0.16567	0.08983	0.07205	-0.01258	0.03396	0.14473	0.04363	0.08074	-0.03376	0.21756
THORPE (F.W.) PLC	0.0137	-0.12046	-0.0257	-0.10503	-0.04817	0.06171	0.03315	0.04954	0.05097	0.02531
TITON HOLDINGS PLC	-0.02803	-0.16388	-0.07517	-0.03757	-0.02566	-0.10857	-0.07009	-0.05529	-0.12969	-0.0665
TOMKINS PLC	-0.04331	-0.06545	-0.08898	-0.16433	-0.00122	0.01299	-0.03258	-0.0103	-0.01952	-0.03836
TRAVIS PERKINS PLC	0.03025	0.0605	0.00997	0.0332	0.03582	0.03343	0.02305	0.01586	0.03184	-0.00064
TRIFAST PLC	0.01675	0.02434	0.00779	0.0219	-0.02657	-0.00088	0.00909	0.01725	0.03149	0.0523
TT ELECTRONICS PLC	-0.03361	-0.07176	-0.14818	-0.17583	-0.15926	-0.17446	-0.10469	-0.05055	-0.07467	-0.05621
ULTRA ELECTRONICS	0.02255	0.0224	0.02352	0.01893	0.02676	0.01865	0.02797	0.02498	0.02818	0.01907
UMECO	0.02443	0.01533	-0.01252	0.01471	0.01318	-0.00129	0.00204	-0.04142	-0.00543	-0.01804
UNIVERSE GROUP PLC	-0.01434	-0.0452	-0.03204	-0.17502	0.03674	0.10714	0.03152	0.04359	-0.00038	0.03074
VITEC GROUP PLC	-0.02952	-0.03279	0	-0.12908	-0.1482	-0.23014	-0.08376	-0.06817	-0.03572	-0.0344
VOLEX GROUP PLC	-0.05163	-0.01657	-0.01611	-0.00189	-0.18497	-0.12149	-0.11872	-0.45919	-0.05822	0.01248
VP PLC	-0.67573	-0.60653	-0.4017	-0.84325	-0.30093	-0.31168	-0.15355	-0.14062	-0.10776	-0.15356
VT GROUP PLC	0.00927	-0.00105	-0.03934	-0.02393	-0.07493	-0.20184	-0.14286	-0.02453	-0.0019	-0.00608
WATER HALL GROUP PLC	-0.25624	-0.34401	-0.22443	-0.19657	-0.21016	-0.00222	-0.09962	-0.01121	0.19766	0.02116
WATERMAN GROUP PLC	-0.11028	-0.00787	0.01778	-0.39164	-0.02344	-0.07915	-0.07517	-0.04463	0.009	0.01672
WEIR GROUP PLC (THE)	-0.01516	-0.02158	-0.03166	-0.014	-0.02782	-0.03117	-0.04871	-0.02581	-0.01747	-0.00813
WHITE YOUNG GREEN	0.11406	-0.02029	0.04222	0.02237	0.03046	0.04057	0.03477	0.00259	0.02931	0.02078
WOLSELEY PLC	-0.00889	-0.01902	-0.01042	-0.00649	-0.00091	0.00499	0.01411	0.00457	-0.00546	-0.01979
WSP GROUP PLC	-0.00484	-0.01107	0.00371	-0.01412	-0.0293	-0.19301	-0.03654	0.00336	0.01961	0.01126
XAAR PLC	-0.13986	-0.02352	0.00701	-0.00597	-0.00738	-0.01918	0.10337	0.05123	-0.01773	-0.00592
Industrials	**-0.05807**	**-0.07386**	**-0.08276**	**-0.0883**	**-0.09524**	**-0.1268**	**-0.08565**	**-0.09609**	**-0.06041**	**-0.0342**

HARDY UNDERWRITING	0.12265	-0.04236	-0.00017	0.09086	0.11075	0.09477	-0.03242	-0.00492	0.15935	0.08169
AMLIN PLC	-0.17016	-0.09948	-0.08162	-0.02578	0.25833	0.1558	0.14591	0.14507	0.18773	0.13455
ARM HOLDINGS PLC	-0.0102	0.01396	0.0018	0.00252	0.00395	0.01585	0.0079	0.00587	0.00727	0.0045
AVON RUBBER PLC	-0.05005	-0.206	-0.23603	-0.18628	-0.06652	-0.12507	-0.09775	-0.17272	-0.49002	-0.16951
HISCOX PLC	0.00979	-0.01848	-0.01101	-0.12503	0.0363	0.11757	0.11656	-0.05308	0.18997	0.12607
CHAUCER HOLDINGS	-0.1504	-0.12404	-0.13048	-0.92147	0.08816	0.38398	0.21374	-0.04051	0.35053	0.18434
JARDINE LLOYD	-0.03978	-0.02588	-0.02159	-0.00946	-0.00122	0.00605	-0.00562	-0.03772	-0.02942	-0.03204
LEGAL & GENERAL-	0.02479	0.20061	-0.15862	-0.2621	-0.21663	0.17478	0.16978	0.23196	0.28221	0.05592
PRUDENTIAL-	0.13617	0.37279	-0.16643	-0.39283	-0.40734	0.47553	0.36055	0.04619	0.04134	0.07539
RSA INSURANCE GROUP	-0.01177	0.02021	-0.21903	-0.28389	-0.27425	0.03278	-0.02203	0.11298	0.11523	0.13038
SAINT JAMES'S PLACE	0.04732	0.01133	0.05486	0.03171	-0.00609	-0.0137	0.00733	0.03629	0.05496	0.01539
Insurance	**_-0.00833_**	**_0.00933_**	**_-0.08803_**	**_-0.18925_**	**_-0.04314_**	**_0.11985_**	**_0.07854_**	**_0.02449_**	**_0.07901_**	**_0.05515_**

AMEC PLC	-0.04384	-0.03555	-0.06507	-0.05148	-0.02568	-0.14699	-0.08348	-0.02632	-0.01776	0.00983
BILLINGTON HOLDINGS	-0.10825	-0.28588	-0.12655	-0.04493	-0.22306	-0.7687	0.2761	0.24415	-0.12341	0.02053
CAIRN ENERGY PLC	-0.1299	-0.08651	-0.01237	-0.26947	-0.12635	-0.05919	-0.1586	-0.01131	-0.0205	-0.05521
DANA PETROLEUM PLC	-0.0573	-0.4151	-0.03888	-0.11326	-0.51746	-0.03228	-0.04217	-0.0765	-0.07462	-0.15069
EMERALD ENERGY PLC	-0.15202	-0.31058	-0.11211	-0.32899	-0.1392	-0.53188	-0.037	0.02685	0.0477	0.01607
FORTUNE OIL PLC	-0.00214	-0.05303	0.00753	0.09238	0.01775	0.04722	0.02961	-0.02819	-0.00784	-0.02622
GTL RESOURCES PLC	-0.73159	-0.24286	-0.01746	-0.05035	-0.08187	-0.08453	-0.11166	-0.169	-0.06124	-0.51446
HUNTING PLC	-0.04175	-0.09527	-0.19044	-0.24358	-0.19299	-0.27935	-0.11544	-0.11644	-0.0447	-0.01677
JKX OIL & GAS PLC	-0.06064	0.01507	0.05149	-0.23194	-0.23532	-0.02622	-0.05603	-0.00728	0.0099	-0.0176
KBC ADVANCED TECH	0.01625	-0.00642	-0.00137	-0.08333	-0.02033	-0.06697	-0.2191	-0.14355	0.0421	0.01362
NORTHERN PETROLEUM	-0.00584	-0.39565	-0.20175	-2.12671	-0.15412	-0.40061	-0.11208	-0.13943	-0.23601	-0.14642
PAN ANDEAN RESOURCES	-0.02718	-0.02194	-0.0094	-0.10338	-0.17667	-0.01508	-0.04632	-0.07517	-0.0831	-0.03977
PORVAIR PLC	-0.037	-0.13783	-0.06424	-0.03227	-0.0838	-0.0285	-0.06548	-0.06087	0.01071	-0.00494
PREMIER OIL PLC	-0.35224	-0.80275	-0.6525	-0.20937	-0.0652	0.04854	-0.1087	-0.12687	-0.05776	-0.07991
RAMCO ENERGY PLC	-0.02651	-0.08197	-0.59794	-0.23869	-0.04791	-1.04492	-0.18396	-0.24979	-0.2877	-0.38238
ROYAL DUTCH SHELL	-0.22521	-0.09163	-0.01608	-0.12997	-0.15808	-0.11575	-0.10367	-0.09928	-0.13432	-0.12201

SOCO INT'L PLC	-0.1255	-0.1087	-0.14493	-0.07175	-0.02062	-0.00391	0.01212	0.0128	-0.01388	-0.02655
STERLING ENERGY PLC	-0.18129	-0.14764	-0.14105	-0.38231	-0.08468	-0.1534	-0.12	-0.19232	-0.07784	-0.18834
TULLOW OIL PLC	-0.01645	-0.08223	-0.16611	-0.53091	-0.18915	-0.11606	-0.24159	-0.2446	-0.08212	-0.05858
Oil & Gas	**-0.1215**	**-0.17824**	**-0.13154**	**-0.27107**	**-0.13288**	**-0.19887**	**-0.07829**	**-0.07806**	**-0.06381**	**-0.09315**

ALPHAMERIC PLC	0.0151	-0.01952	-0.02176	-0.01928	-0.02003	-0.16833	-0.11142	0.00805	-0.03823	-0.10013
AMBERLEY GROUP PLC	-0.01047	-0.03795	-0.04474	-0.13125	-0.29094	-0.53948	-1.40479	-0.03037	-0.02296	-0.02829
ANITE PLC	-0.08799	-0.04053	-0.01121	-0.01423	-0.01891	-1.16375	-0.03941	-0.0452	-0.01076	0.04285
ARMOUR GROUP PLC	-0.09678	0.01761	-0.26249	-0.00213	0.02405	0.02814	0.02191	0.02822	0.01192	0.02253
BERKELEY GROUP	0.05132	0.09435	0.07253	0.07668	0.1086	0.14194	0.1063	0.10636	0.06581	0.05821
BUSINESS CONTROL	-2.60067	-2.7068	-6.38541	-0.11093	-0.16754	-0.3113	-0.19827	-0.6514	-0.0285	-0.03935
CLINICAL COMPUTING	-0.00123	0.0093	-0.03949	-0.2373	-0.13628	-0.14334	-0.06177	-0.11208	-0.29684	-0.38435
CML MICROSYSTEMS PLC	-0.0402	-0.37246	-0.00306	0.0057	-0.01483	-0.14165	-0.04202	-0.02246	-0.02506	-0.27907
CONCURRENT TECHNOLOG	-0.07988	0.00274	0.01882	-0.00683	0.01406	-0.04123	-0.02307	0.02879	0.03579	0.02664
CORERO PLC	-0.12235	-0.11055	-0.06367	-0.19575	-0.31528	-0.39889	-0.18122	-0.42534	-0.0907	-0.22307
CRIMSON TIDE PLC	-1.00748	-3.17918	-1.23622	-1.57917	-0.3529	-0.57476	-0.27917	-0.14912	-1.31739	-0.05279
DELCAM PLC	-0.14938	0.06343	0.0084	-0.05226	-0.06769	0.03588	0.00362	0.02223	0.02693	-0.04166
ELECTRONIC DP PLC	0.00171	-0.0384	-0.02285	-0.18802	-0.11611	0.04609	-0.08032	-0.12276	-0.03318	-0.03586
EMBLAZE LTD	-0.4693	-1.69144	-0.01909	-0.20739	-1.25845	-2.00177	-0.72593	-0.11075	-0.71089	-0.30624
FIDESSA GROUP	-0.00584	0.00246	-0.02304	0.00086	0.00997	0.00817	-0.05765	-0.0103	-0.00556	-0.00975
FILTRONIC PLC	-0.01458	-0.01824	-0.04519	-0.14428	-0.07154	-0.20478	-0.06703	-0.10653	-0.13655	-0.07495
GB GROUP PLC	-0.17123	-0.17242	-0.03849	-0.08566	-0.03625	0.03379	-0.02787	-0.03488	-0.03799	-0.08004
GLADSTONE PLC	-0.20453	-0.11296	-0.16078	-0.27855	-0.34368	0.14747	-0.06414	0.0145	0.05675	0.02377
GRESHAM COMPUTING	0.10386	-0.05832	-0.11233	-0.29253	-0.30547	-0.08083	-0.00818	-0.01074	-0.02035	-0.03123
IMAGINATION TECH GRP	-0.04319	-0.00347	0.00364	-0.00224	-0.05209	-0.19848	-0.04531	-0.07379	-0.05666	-0.01405
INSPECTRON	0.04437	0.0189	-0.15816	-0.28665	-0.205	-0.0749	-0.47294	0.09723	-0.10438	-0.92127
INTELEK PLC	-0.11305	-0.01142	-0.02577	-0.00217	-0.02134	-0.14868	-0.02767	-0.0827	0.07809	0.32551
INTELLEGENT	-0.22649	-0.25832	-0.03396	-0.32232	-0.71475	-0.05637	-0.0419	-0.05322	0.07766	0.08132
INVENSYS PLC	-0.00555	-0.10721	-0.02432	-0.00258	-0.04958	-0.10186	-0.08152	-0.0589	-0.01611	0.03973

IS SOLUTIONS PLC	0.04209	0.01066	-0.02723	-0.01563	-0.18644	-0.61964	-0.22444	-0.03707	-0.0075	0.03177
K3 BUSINESS	-0.07795	-0.56185	-1.3685	-0.09943	0.06506	0.05459	-0.0456	-0.02	-0.0345	0.11906
KEWILL PLC	0.01653	0.00818	-0.00264	-0.03592	-0.39914	-0.20903	0.02657	0.02546	0.02277	0.01635
KOFAX PLC	-0.07366	0.02313	0.27451	0.44569	0.02559	0.0219	0.01364	0.00647	0.02132	0.02895
LOGICA PLC	0.00762	0.00412	0.00196	0.00152	-0.00177	-0.00403	-0.01611	-0.00847	0.00816	-0.00906
MICROGEN PLC	-0.55086	-0.03595	-0.00611	-0.00209	-0.03466	-0.02666	0.01081	-0.01447	0.03046	0.01667
MISYS PLC	0.02167	0.02485	0.00678	0.00727	0.00081	0.00254	-0.01229	-0.01738	0.00775	0.03298
NETCALL	-0.14054	-0.24944	-0.04039	-0.12414	-0.30169	-0.07253	-0.05476	0.00326	0.03653	0.05283
NETWORK TECHNOLOGY	-0.03483	-0.49927	-0.12517	-0.22244	-1.58575	-0.52214	-0.13874	0.01059	-0.03165	0.00278
NORTHAMBER PLC	0.03023	0.01376	0.05412	-0.11196	-0.1474	-0.05582	-0.00292	-0.02201	-0.07249	-0.0289
ON-LINE PLC	-0.29466	-0.78784	-0.06939	-0.75041	-1.03003	-0.59765	-0.02917	-0.01809	-0.00552	-0.00352
PACE PLC	-0.2183	-0.0121	0.00706	0.01706	-0.0092	-0.53854	0.05337	0.08678	-0.19569	0.1413
PARITY GROUP PLC	0.0263	0.02659	0.00304	-0.02939	-0.09139	0.0326	-0.11977	-0.1064	5.2E-05	-0.01931
PORTRAIT SOFTWARE	0.02664	0.02239	0.00518	0.00594	-0.04283	-1.97589	0.0669	0.06661	-0.02275	-0.0279
PSION PLC	-0.00255	-0.00951	-0.01012	-0.03153	-0.04536	-0.06891	-0.0579	-0.00902	-0.00541	-0.01445
PUBLISHING TECH	-0.08012	0.00449	-0.58434	-0.13695	-0.14415	-0.38948	-0.24242	-0.08208	-0.18789	-0.90057
RM PLC	-0.01611	-0.02641	-0.00076	-0.00259	-0.02311	-0.0659	-0.10437	-0.11713	-0.00733	-0.0097
SAGE GROUP PLC (THE)	0.01949	0.01922	0.00521	0.01658	0.02173	0.02271	0.02437	0.03323	0.02543	0.02313
SCISYS PLC	-0.06592	-0.13685	-0.02404	0.00085	0.01441	0.01979	-0.03644	0.04372	-0.06375	-0.15856
SOPHEON PLC	-0.03767	-0.07564	-0.13776	-0.45741	-0.69774	-0.86067	-0.12767	-0.0484	-0.01523	-0.01966
SPIRENT COMM	-0.02326	-0.05379	-0.00861	-0.02281	-0.0769	-0.01183	0.03346	-0.03814	-0.01526	0.05811
TELSPEC PLC	-0.11057	-0.0043	-0.20881	-0.09308	0.01997	-0.15554	-0.37569	-0.46181	-0.32451	-0.13078
TOTAL SYSTEMS PLC	0.04567	-0.00095	-0.05634	0.02749	0.04123	0.01271	0.00492	-0.02884	-0.09692	-0.26116
TRAFFICMASTER PLC	-0.07074	-0.04023	-0.02982	-0.06672	-0.18981	-0.15976	0.0208	-0.03344	0.08173	0.02422
TRIAD GROUP PLC	0.03023	0.01743	-0.0082	0.0397	-0.05135	-0.56741	-0.15721	-0.0703	-0.12719	-0.17741
ULTIMA NETWORKS PLC	-0.3588	-0.16298	-0.08591	-0.07304	-0.04839	-0.08496	0.07149	-0.15273	-0.04776	0.11899
ULTRASIS PLC	-0.1383	-0.17735	-0.08562	-0.21796	-0.29772	-1.12182	-0.04684	-0.18	-0.01257	-0.01339
Technology	**-0.1424**	**-0.22333**	**-0.21864**	**-0.11784**	**-0.18859**	**-0.27157**	**-0.10541**	**-0.05853**	**-0.07135**	**-0.06096**

BT GROUP PLC	-0.16343	-0.04029	-0.02821	-0.1456	-0.15987	-0.12423	-0.14139	-0.15739	-0.15172	-0.08926
CABLE & WIRELESS	-0.06863	-0.08432	-0.1298	-0.18259	-0.42549	-1.36107	-0.0578	-0.07552	-0.16617	-0.09177
PNC TELECOM PLC	-0.06192	-0.04486	-0.01367	-0.10022	-0.51864	0	-1.07576	-0.70455	0.05649	-0.81463
VODAFONE GROUP PLC	-0.01714	-0.01128	-0.02233	-0.08312	-0.10965	-0.19609	-0.15928	-0.16312	-0.04171	-0.0943
Telecommunications	**-0.07778**	**-0.04519**	**-0.0485**	**-0.12788**	**-0.30341**	**-0.42035**	**-0.35856**	**-0.27514**	**-0.07578**	**-0.27249**

CENTRICA PLC	-0.00101	-0.07857	0.00443	-0.01033	-0.01708	0.00224	-0.11127	-0.06021	0.00582	-0.00253
DEE VALLEY GROUP PLC	0.07453	0.03231	0.10848	-0.84747	-0.84719	-1.27348	-1.76476	-1.28144	-1.02892	-2.3684
INTL POWER PLC	-0.04394	-0.06573	-0.20218	-0.1747	-0.11486	-0.18128	-0.22383	-0.15116	-0.05209	-0.00614
NATIONAL GRID PLC	-0.18785	-0.05084	-0.06011	-0.01337	-0.07328	-0.0871	-0.08253	-0.06705	-0.0886	-0.09099
PENNON GROUP PLC	-0.19578	-0.04691	-0.03289	-0.16925	-0.21873	-0.38126	-0.20492	-0.12718	-0.10558	-0.11417
SCOTTISH & SOUTHERN	-0.04147	-0.05927	-0.05767	-0.03345	-0.0396	-0.0308	-0.03943	-0.0394	-0.05307	-0.0265
SEVERN TRENT PLC	-0.04948	-0.11065	-0.2674	-0.14828	-0.15756	-0.22003	-0.20506	-0.16382	-0.09864	-0.29591
UNITED UTILITIES PLC	-0.08485	-0.04036	-0.17706	-0.17183	-0.1733	-0.21547	-0.35583	-0.26334	-0.11444	-0.10838
Utilities	**-0.06623**	**-0.0525**	**-0.08555**	**-0.19609**	**-0.2052**	**-0.2984**	**-0.37346**	**-0.2692**	**-0.19194**	**-0.37663**

CALEDONIAN TRUST	-0.16498	-0.24269	-0.07446	-0.27856	-0.0598	-0.31032	-0.30118	-0.24209	-0.08795	-0.05678
CAPITAL & REGIONAL	-1.30083	-1.89854	-0.55947	-0.3217	-0.20759	-0.29786	-0.08829	-0.2307	-0.44264	-0.14934
CARDIFF PROPERTY PLC	-0.1724	-0.09627	0.12385	0.05345	-0.02398	-0.04278	-0.03276	-0.07319	0.02109	-0.00278
CLS HOLDINGS PLC	-0.47014	-0.57957	-0.2257	-0.26798	-0.50047	-0.21031	-0.38461	-0.13964	-0.56182	-0.13681
DAEJAN HOLDINGS PLC	-0.06197	-0.22875	-0.13801	-0.0657	-0.01029	-0.00564	0.00283	-0.06627	-0.09079	-0.06058
DEV'T SECURITIES PLC	0.02069	-0.32263	-0.29572	-0.47474	-0.24502	-0.44674	-0.67575	-0.21425	-0.10802	-0.09501
DTZ HOLDINGS PLC	0.05963	0.0098	0.01136	0.04685	0.00918	-0.04391	-0.02308	-0.00167	0.02419	0.0125
FIRST PROPERTY	-0.03014	0.12037	-0.05776	-0.11345	-1.94807	-0.72621	0.05347	0.04471	0.00306	0.0257
FLETCHER KING PLC	-0.04571	-0.06627	-0.027	-0.04562	-0.09316	-0.03605	0.01385	-0.03402	-0.05307	0.00045
GRAINGER PLC	-0.20556	-0.31844	-0.06741	-0.04685	-0.03285	0.00851	-0.11883	-0.11565	-0.29942	-0.20918
HELICAL BAR PLC	-0.78721	-0.94114	-0.89807	-0.21543	-0.18278	-0.37566	-0.13186	-0.57825	-0.17823	-0.08367
LONDON & ASSOCIATED	-0.17155	-1.18589	-0.24549	-0.19102	-0.22202	-0.25173	-0.35857	-0.18165	-0.14419	-0.24791
MINERVA PLC	-0.75513	-0.27013	-0.555	-0.19788	-0.25687	-0.30793	-0.33917	-0.15706	-0.17875	-0.1282

MOUNTVIEW ESTATES	0.06379	0.05989	0.01698	0.07456	0.05653	0.082	0.09751	0.04396	0.03428	0.04848
OAK HOLDINGS PLC	-0.3932	-0.30976	-1.44706	-0.38378	-0.09136	0	-0.0596	-0.09222	-0.04148	-0.05877
PANTHER SECURITIES	-0.13103	-0.09842	-0.17576	-0.40372	-0.47177	-0.28475	-0.19539	-0.20709	-0.08678	-0.18902
PATHFINDER	0.21125	-0.09402	-0.05211	-0.31997	-0.17879	-0.44774	-0.19705	-0.18562	0.34851	-0.21545
QUINTAIN ESTATES	-0.59386	-0.34084	-0.28629	-0.43224	-0.18137	-0.34273	-0.19341	-0.20002	-0.19021	-0.16533
RAM INVESTMENT	-0.44117	-0.22453	-0.06375	-0.07785	-0.11766	0	0.10638	-0.05464	-0.25974	-0.33765
RUGBY ESTATES PLC	-0.08201	-0.1328	-0.11081	-0.09032	-0.0562	0.16901	0.06629	0.11066	0.04844	0.06806
SAFELAND PLC	-0.35231	-0.81616	-0.06259	-0.47909	-0.42437	-0.56396	-0.40184	-0.3428	-0.27519	-0.23762
SAVILLS PLC	-0.01188	-0.04246	-0.04026	-0.02478	0.06683	-0.03358	0.04021	0.01731	0.03643	0.02136
ST. MODWEN PROPS.	-0.1442	-0.20592	-0.26729	-0.26215	-0.39708	-0.07606	-0.41176	-0.115	-0.25591	-0.2266
WESTCITY PLC	-0.17617	-0.65552	-0.93078	-0.03902	0.02656	-0.07858	-0.07812	-0.07604	-0.04659	-0.06703
WYNNSTAY PROPERTIES	-0.13638	-0.10798	-0.21902	-0.20926	-0.26804	-0.01954	-0.2838	-0.20563	-0.02704	0.00275
Real Estate Investment & Servi	**-0.2509**	**-0.35955**	**-0.26591**	**-0.19065**	**-0.23242**	**-0.1857**	**-0.15578**	**-0.13187**	**-0.11247**	**-0.09954**

BRITISH LAND COMPANY	-0.13897	-0.35293	-0.23168	-0.19069	-0.28388	-0.2766	-0.20576	-0.16032	-0.2266	0.00416
BRIXTON PLC	-0.25924	-0.71967	-0.6647	-0.18044	-0.26474	-0.18197	-0.49049	-0.1568	0.07637	-0.21693
DERWENT LONDON PLC	-0.58614	-0.52362	-0.49146	-0.27885	-0.17482	-0.32781	-0.33249	-0.18806	-0.16326	-0.03368
GREAT PORTLAND	-0.1907	-0.18072	-0.27838	-0.12133	-0.10853	-0.01193	-0.10268	-0.13975	-0.28488	-0.16893
HAMMERSON PLC	-0.28742	-0.52815	-0.42421	-0.35813	-0.46544	-0.34442	-0.23695	-0.31915	-0.08635	-0.11222
LAND SECURITIES	-0.06617	-0.08965	-0.12744	-0.15623	-0.16544	-0.20822	-0.20317	-0.1064	-0.3326	-0.00939
LIBERTY INT'L PLC	-0.21907	-0.21891	-0.17722	-0.20952	-0.5096	-0.16202	-0.13684	-0.44692	-0.04158	-0.16401
MCKAY SECURITIES PLC	-0.31913	-0.24149	-0.24064	-0.45095	-0.24951	-0.1964	-0.03445	-0.03511	-0.37031	-0.04822
MUCKLOW (A & J)	-0.13967	-0.10132	-0.08755	-0.08952	-0.05915	-0.02586	-0.01572	-0.01427	-0.08534	0.01154
PRIMARY HEALTH PROP.	-0.56198	-0.54106	-0.67215	-0.54486	-0.62835	-0.44108	-0.61758	-0.36209	-0.36915	-0.37667
SEGRO PLC	-0.1765	-0.23499	-0.22535	-0.21792	-0.20218	-0.13919	-0.1183	-0.24951	-0.12228	-0.26669
SHAFTESBURY PLC	-0.1582	-0.43274	-0.40145	-0.21603	-0.25975	-0.17991	-0.13401	-0.13711	-0.30396	0.06937
TOWN CENTRE SECS	-0.19729	-0.56165	-0.34566	-0.36477	-0.59707	-0.15976	-0.21078	-0.18189	-0.30968	-0.14464
WORKSPACE GROUP PLC	-0.5778	-0.26674	-0.79066	-0.36527	-0.38904	-0.50627	-0.39508	-0.19315	-0.40678	-0.04053
Real Estate Investment Trusts	**-0.27702**	**-0.35669**	**-0.36847**	**-0.26747**	**-0.31125**	**-0.22582**	**-0.23102**	**-0.19218**	**-0.21617**	**-0.10692**

ABERDEEN ASSET MGMT	-0.00944	-0.00106	0.0108	-0.0148	-0.04502	-0.37527	-0.10448	-0.0859	-0.00729	0.00725
ALBERMARLE & BOND	0.03877	0.00292	-0.01836	-0.0027	0.0357	0.01815	0.01859	0.01941	0.01505	0.01123
BG GROUP PLC	-0.08152	-0.0447	-0.0597	-0.05873	-0.06608	-0.02916	-0.01601	-0.00735	-0.01499	-0.01316
BOND INTERNATIONAL	-0.13393	-0.12643	0.03405	0.05074	-0.19518	0.01852	0.15504	0.07208	0.08666	0.05715
BRITISH AIRWAYS PLC	-0.31996	-0.38886	-0.35501	-0.31704	-0.57582	-0.18397	-0.04571	-0.03882	0.01905	-0.00316
CAMELLIA PLC	-0.09005	-0.1186	-0.12909	-0.1533	-0.17309	-0.24674	-0.11825	-0.08289	-0.0497	-0.0295
SCHRODERS PLC	0.12668	0.2284	0.18496	-0.07409	-0.06533	-0.08576	0.02936	0.18525	0.19319	0.2592
CHARLES STANLEY	-0.00609	0.04653	0.03037	0.01908	-0.00399	-0.09665	-0.0102	-0.02451	0.01481	0.02369
CHARLES TAYLOR	-0.0077	-0.04627	-0.02345	-0.02891	-0.01114	0.03994	0.05704	0.0602	0.03705	0.03308
CITY OF LONDON GR	-0.07756	-0.112	-0.04639	-0.05	-0.04464	-0.19425	-0.08616	-0.03647	-0.02105	-0.01616
EVOLUTION GROUP PLC	-0.02218	-0.041	-0.09072	-0.4102	-0.04676	0.01749	0.04331	0.02246	-0.01896	0.00883
F&C ASSET MGMT	0.06008	0.00827	-0.01213	-0.01362	-0.0628	-0.14089	-0.10747	-0.01064	-0.04326	-0.05963
G.R. (HOLDINGS) PLC	-0.01776	-0.0915	-0.10394	-0.22762	-0.17921	-0.11909	-0.14146	-0.23521	-0.96047	-0.12781
GUINNESS PEAT GROUP	-0.871	-1.38708	-1.1961	-1.55353	-1.66979	-0.11724	-0.18982	-0.12891	-0.11695	-0.12669
HELPHIRE GROUP PLC	-0.00399	0.00844	0.00391	-0.18993	-0.02762	-0.02323	-0.00349	0.03584	-0.00646	0.00478
IMPAX GROUP PLC	-0.09439	-0.13077	-0.10584	-0.22767	-0.13921	-0.3138	-0.35431	-0.41943	0.08141	0.04358
INTEGRATED ASSET	-0.62524	-0.07946	-0.11989	-0.37926	-0.56771	-0.41662	-0.16048	-0.14772	-0.11999	-0.0083
INTERMEDIATE CAPITAL	-0.04441	-0.03759	-0.00204	0.00162	-0.0325	-0.01334	-0.00468	0.01368	0.03312	0.02832
LEEDS GROUP PLC	-0.08018	-0.16444	-0.02501	-0.18179	-0.01144	-0.00398	-0.16452	0.07911	0.01783	0.01498
LONDON FINANCE & INV	-0.01036	0.00812	-0.01453	-0.01821	-0.06672	-0.05921	-0.02544	-0.02834	-0.02051	0.05801
LONRHO PLC	-0.40811	-0.48276	-0.36833	-0.31177	-0.01774	-0.13896	-0.07502	-0.14435	-0.16151	-0.54152
NUMIS CORP PLC	-0.11274	-0.01306	0.0587	-0.03212	0.05453	0.10793	0.05506	0.10304	0.05935	0.05154
PANMURE GORDON	0.0043	0.0798	0.0043	-0.05821	-0.21728	-1.65163	-0.30242	0.20642	0.06821	0.06772
PARAGON GROUP	-0.52226	-0.51755	-0.41445	-0.44007	-0.40239	-0.62103	-0.59337	-0.60199	-0.46748	-0.71639
PROVIDENT FINANCIAL	-0.04347	0.00073	-0.00061	-0.00986	-0.01707	-0.02432	-0.02565	-0.03492	-0.0607	-0.03968
QUAYLE MUNRO HOLDING	-0.06626	-0.08068	-0.11588	-0.23325	-0.04824	-0.11873	-0.1718	-0.08883	-0.01441	0.01354
RATHBONE BROTHERS	-0.00792	0.00592	-0.01405	-0.04317	-0.03875	-0.05386	-0.03682	-0.00928	-0.02025	-0.04204
S & U PLC	0.02457	0.02481	0.02717	0.01687	0.03394	0.04174	0.01019	0.01688	0.01398	0.00502
SCHRODERS	0.03514	0.05905	0.04822	-0.01986	-0.01922	-0.02554	0.00826	0.05444	0.05672	0.07251

WALKER CRIPS GROUP	0.03669	-0.06542	0.02534	-0.02234	-0.08118	-0.1246	-0.00744	-0.00059	0.02467	0.00252
Financial Services (Sector)	**-0.11101**	**-0.11521**	**-0.09292**	**-0.16612**	**-0.15672**	**-0.16447**	**-0.07894**	**-0.04191**	**-0.0461**	**-0.03204**
Market	**-0.10604**	**-0.15159**	**-0.11742**	**-0.11988**	**-0.12395**	**-0.16005**	**-0.10053**	**-0.09158**	**-0.07531**	**-0.05709**

Durham University

Durham Business School

Dear Finance Manager / Director

My name is Alaa Al Saedi, a PhD student at the University of Durham. The survey attached is designed to extract specific information relating to the factors affecting management when setting dividend policy.

The results of this survey will be anonymous and responses will only be used in aggregate in the research. The research findings will contribute to a thesis for the purpose of individual assessment.

It would be greatly appreciated if you could assist me in my research and fill in the questionnaire found at the following link: www.survey.bris.ac.uk/durham/dividend. The survey is estimated to take about 10 minutes to complete.

If you have any further questions regarding completing this survey please do not hesitate to contact me on the e-mail address provided.

Please be so kind and redirect this questionnaire where appropriate if it has not reached the relevant contact.

Thanks for your time and attention

The researcher

Section I

Where appropriate please tick the answer that best applies:

1- In which economic sector does your company work?

[   ]

2- Which type of dividend do you think is most important to shareholders?
- Cash dividend   [   ]
- Share dividend   [   ]
- Repurchasing share   [   ]
- Dividend type not important [   ]

3- Which type of dividend do you prefer?
- Cash dividend   [   ]
- Share dividend   [   ]
- Repurchasing share   [   ]
- Cash & share dividend   [   ]
- All of the above   [   ]
- No preference   [   ]

- Why do you use the above dividend type?
  - Easy to implement   [   ]
  - More flexible   [   ]
  - Avoid changing previous method [   ]
  - Requirement of main shareholders [   ]
  - Other: _____

4- Do you conduct (as a management) any studies about your shareholders' dividend preferences?
- Yes   [   ]
- No   [   ]

Section II

Please tick the following statements depending on degree of factor importance to your company when setting dividend policy:

Statement	Strongly unimportant	Unimportant	Neutral	Important	strongly important
The company develops its dividend policy in light of shareholders' needs in order to maximize the company's market value	**The company value**				
Dividend policy contributes to company market value	**The company value**				
Dividend policy is the main factor affecting company market value	**The company value**				
There is no link between dividend and investment decisions	**Investment policy**				
The dividend decision is a residual decision after the investment decision has been made	**Investment policy**				
Dividend policy is less important than investment policy	**Investment policy**				
The company prefers funding from retained earnings before resorting to external financing	**Finance**				
Cash dividends are considered a fixed cost	**Finance**				
Cash dividends will weaken the company's financial flexibility	**Finance**				
Dividends are the most important tools used by the company to send information to shareholders about company performance	**Signaling**				
A dividend decrease always refers to a reduction in future company earnings	**Signaling**				
Distributed dividends reflect the company's inability to use the available funds in profitable projects	**Signaling**				
The company takes a dividend decision, despite being under the control of external financiers	**Agency**				
Investors monitor the company, if funding of a new investment comes from retained earnings rather than external financing	**Agency**				
Increasing dividends will reduce shareholders' control over management	**Agency**				
The company develops its dividend policy based on the requirements of the main shareholders	**Shareholders**				
The company develops its dividend	**Shareholders**				

policy based on the dividend tax effect on shareholders					
The company uses cash dividends because of investor preference for certainty.	**Shareholders**				

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.541	25.225	25.225	4.541	25.225	25.225
2	1.416	7.866	33.091	1.416	7.866	33.091
3	1.361	7.560	40.651	1.361	7.560	40.651
4	1.326	7.367	48.019	1.326	7.367	48.019
5	1.056	5.866	53.885	1.056	5.866	53.885
6	.957	5.315	59.200	.957	5.315	59.200
7	.881	4.895	64.095			
8	.797	4.426	68.521			
9	.777	4.315	72.836			
10	.726	4.034	76.870			
11	.671	3.726	80.595			
12	.657	3.652	84.247			
13	.585	3.248	87.495			
14	.554	3.075	90.570			
15	.502	2.786	93.357			
16	.490	2.721	96.078			
17	.384	2.135	98.213			
18	.322	1.787	100.000			

Extraction Method: Principal Component Analysis.