

**MANAGERIAL ABILITY AND DIVIDEND POLICY:
EVIDENCE FROM U.S. MARKET**


Veeranuch Leelalai

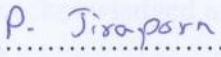
**A Dissertation Submitted in Partial
Fulfillment of the Requirements for the Degree of
Doctor of Philosophy (Finance)
School of Business Administration
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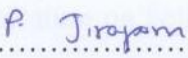
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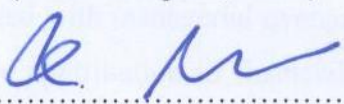
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ABSTRACT

Title of Dissertation	Managerial Ability and Dividend Policy: Evidence from U.S. Market
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Dividends have long been acknowledged as profit-distributing mechanisms in classical corporate policy and are important in key investment and financial decision-making. Dividends have continued to be famously debated by scholars for almost a century. On various perspectives, many scholars have debated back and forth on their relevancy to firm performance and value.

Academic research on corporate policy and decision-making are associated with managerial traits. The principal perception is that decisions vary in accordance with different styles and abilities of managers. More able managers tend to be risk takers. The ability of managers is found to be positively associated with corporate performance since their decisions are reflected by organisational success. This relationship also extends to demographic characteristics, educational background, specific behaviour, tenure, and reputation.

Although there is rich literature on both dividends and managerial ability, only a small amount attempts to explore the said relationship. Dividends are only found to be negatively associated with managerial overconfidence. Therefore, this study aims to make a valuable contribution to financial literature by examining how managerial ability is related to dividend policy in order to shed light on how corporate decisions vary in accordance with managerial ability. Specifically, the research questions are: 1) Does managerial ability affect the propensity to pay dividends? 2) For dividend-paying firms, does managerial ability affect the payout ratio? 3) Are the results robust with different dividend measurements and

managerial ability? Unlike other studies, this study applies the new measure developed by Demerjian et al. (2012). The process is simply explained by removing key firm-specific characteristics that might support or hinder managerial ability for comparison within the industry.

The relationship direction could potentially be explained by three contradictory postulations. Firstly, since it is sustainable, managerial ability is believed to be an integral composition to promote quality earnings and encourage firms to pay higher dividends. Secondly, on the contrary, more able managers can opt to retain operational proceeds for expansion, rather than making a distribution to shareholders. Lastly, more able and less able managers can use the dividend policy to send signals to the market. It is not necessary for a firm with more able managers to pay dividends.

An empirical study was conducted using 19,745 firm-year observations of US listed firms reported by the annual Compustat/CRSP Merged Database from 1990 to 2011. The empirical results are in agreement with the earnings quality hypothesis. Specifically, the results from logistic regression show a positive association between managerial ability and the firm's propensity to pay dividends. Focusing on dividend-paying firms, those with more able managers tend to pay higher dividend payouts. Since dividends are considered as long-term commitments to shareholders, more able managers can manage resources more wisely to sustainably boost firm performance. Eventually, firms are encouraged to increase dividend payout. The results are also robust regarding alternative payouts, the measurement of managerial ability, and possible reverse causality.

This study is beneficial in several meaningful ways. It is the first study to investigate the association between managerial ability and dividend policy. In addition it provides strong evidence regarding the effect of managerial ability on other corporate decisions by showing that managerial ability matters in dividend policy. Thus, the findings display important public policy implications. Finally, this study is also useful for practitioners in different perspectives.

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I would like to dedicate this page to express my gratitude and thanks to those who support me. To me, completing this Ph.D. is one of the hardest things I have even gone through. I might have literally cried more than one ounce of tears, not to mention that in my mind, I actually cried a hundred times more. Nevertheless, I still believe that the world line where I study in this Ph.D. program is the most preferable one. I really satisfy with the stronger me after surviving this program.

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CHAPTER 1

INTRODUCTION

Dividends have long been acknowledged as profit-distributing mechanisms and are important in key investment and financial decision-making. Dividends have continued to be famously debated by scholars for almost a century and were commonly believed to be value drivers until the establishment of Miller and Modigliani's (1961) research, which theorised the irrelevancy of dividends.

Thereafter, numerous research papers have highlighted the importance and relevance of dividends. Subsequent research papers counter the key assumption made by Miller and Modigliani (1961). They introduce assumptions on the imperfection of capital markets and irrational investors. Hence, the issue of dividends has become more complicated due to the possible linkage between dividends and other decisions made by firms regarding investment and financing. Dividends are perceived as being "bird-in-hand" and considered as firm value boosters. Further assumptions were made on the difference in tax effects between dividends and capital gains. Tax treatment and time payment horizons are advantageous to capital gains. The clientele effect is used to explain the perception of dividends since they vary in accordance with the different classes of investors. Dividends are also known to be an informative signal of corporate performance. Dividend policy is argued to be an agency conflict alleviator. Excessive cash in hand provides managers with the opportunity to spend for their private benefit or make careless investments rather than maximising value for shareholders.

Academic research on corporate policy and decision-making are carried out in association with managerial traits. The principal perception is that decisions are varied in accordance with the difference styles and abilities of managers. More able managers tend to be risk takers (Kulatilaka and Marcus, 1994). The ability of managers is found to be positively associated with corporate performance since their decisions are reflected by organisational success (Hambrick and Mason, 1984). The

relationship also extends to demographic characteristics, educational background, specific behaviour, tenure, and reputation.

As previously discussed, rich literature exists on both dividends and managerial ability. However, there is only a small amount of academic research exploring their relationship. Dividends are only found to be negatively associated with managerial overconfidence (Deshmukh, Goel and Howe, 2013).

This study aims to make a valuable contribution to financial literature by examining the relationship between managerial ability and dividend policy in order to shed light on how corporate decisions vary in accordance with managerial ability. Managerial ability or talent is found to be measured using various approaches including educational background, accuracy of management forecasts, reputation, irrationality, and tenure. However, this study applies the measurement developed by Demerjian et al. (2012). The process is simply explained by removing key firm-specific characteristics that might support or hinder managerial ability for comparison within the industry. This study aims to answer the following questions:

- 1) Does managerial ability have an effect on the propensity to pay dividends?
- 2) For dividend-paying firms, does managerial ability have an effect on the payout ratio?
- 3) Are the results robust with the different measurements for dividends and managerial ability?

The relationship direction could potentially be explained by two contradictory postulations. Since managerial ability is sustainable, it is believed to be an integral part of the composition to promote earnings quality and encourage the company to pay higher dividends. In contrast, dividends are considered to be an agency problem alleviator in signalling corporate quality and can also be represented by earnings quality. Since managerial ability is known as an alternative to promote earnings quality, it might not be necessarily used as a signal to pay dividends. Therefore, all things being equal, managerial ability discourages firms to pay or increase dividends.

An empirical study using 23,394 firm-year observations of US listed firms reported by the annual Compustat/CRSP Merged Database from 1990 to 2011. The empirical results are in agreement with the earnings quality hypothesis. Specifically,

the results from logistic regression show a positive association between managerial ability and the propensity of a firm to pay dividends. Focusing on dividend-paying firms, those with more able managers tend to pay higher dividends. Since dividends are considered as long-term commitments to shareholders, more able managers can manage resources more wisely to sustainably boost firm performance. Eventually, firms are encouraged to increase dividend payout. The results are also robust towards alternative payouts and measurement of managerial ability.

One cautionary note to the results is that two studying variables might be related endogenously. It seems unlikely for dividend payouts to drive managerial ability. However, further investigation in this study is conducted using a two-stage least squares (2SLS) approach and the industry median of MA-score (manager ability score) as an instrumental variable. It can be concluded from the results that the previous findings are substantially less susceptible to reverse causality.

It could be argued that the results in this study are affected by reverse causality. Specifically, dividend policy and managerial ability are endogenously determined. If that is the case, dividend payouts may have an effect on managerial ability and vice versa. For instance, the firms that can afford to pay higher dividends may be in a better financial position than non-dividend-paying firms. As a result, it is possible that these firms attract more able managers. Therefore, firms paying dividends may have a better chance of being able to afford a higher salary and compensation for the CEO.

In this case, possible reverse causality is addressed using the following robustness test. The 2SLS approach is used in this section. This method requires the creation of an instrumental variable. The newly created variable has to be correlated with managerial ability, but does not affect dividend payout except through managerial ability. The industry median of MA-score is employed in this study as the instrumental variable. Although the dividend policy of a given firm might have an influence on its managerial ability, it is unlikely to be related to industry-level. Industry-level managerial ability should function as a valid instrumental variable.

The results from the 2SLS are shown in Table 8. The first-stage model treats managerial ability of such firms as the dependence of industry-mean. The results show a positive and significant coefficient. Not surprisingly, calculation of the MA-

score is based on comparison of DEA (data envelopment analysis) within the industry. Therefore, the industry-median MA-score must have strong explanatory power for a firm in that industry. The second-stage model includes the dividend paid for total assets as a dependent variable. The predicted MA-score instrumented from the first-stage is an independent variable. The coefficient of the instrumented MA-score is positive and significant. Therefore, the results from the 2SLS substantiate the earlier findings that dividend policy is affected by managerial ability. Since the 2SLS analysis is substantially less susceptible to reverse causality, this conclusion appears to be robust.

The remaining parts of this study are arranged as follows. Section II is devoted to the review of related literature on managerial ability and its linkage to corporate policy, decision-making, firm performance, and insider trading. The essence of dividend theory and empirical studies are also discussed in this section. Section III sheds light on the hypothesis development. In section IV, the empirical method and the related variables are discussed. Section V discusses sampling under this study and the implications of descriptive statistics. The empirical findings are discussed in section VI, and the robustness of results is checked in section VII. Additional tests are shown in section VIII, and section IX offers concluding remarks from this study.

CHAPTER 2

LITERATURE REVIEW

This chapter aims to discuss previous studies relevant to the hypothesis developed in the next chapter regarding the influence of managerial ability on corporate dividend policy. As a result, the literature presented in this chapter focuses on these two areas. Firstly, literature on managerial ability in various dimensions is reviewed (i.e. role and responsibility, measurement, corporate financial policy, and performance). Secondly, classical theory and empirical research on dividends in association with corporate governance and financial performance is discussed.

2.1 Managerial Ability

2.1.1 Managerial Role and Responsibility

A manager has several roles in the organisation. A good manager must have an excellent understanding of his or her responsibilities, including setting strategies, developing tactics, and managing operational works. Generally, a manager's job description is not specifically stated. As a result, the daily routine may be determined by the organisational situation; for example, a manager has to be a problem solver, leading the organisation out of any complications, and also has to adopt the role of trainer and motivator for his associates, as well as being a major decision-maker. Despite all the urgent daily occurrences, a manager must not get carried away by small-scale problems and must have thorough comprehension of the ultimate goals and central direction of the organisation. It is necessary to have an excellent understanding of corporate goals, vision and mission statements, level of accountability, related business functions, and the appropriate treatment of clients and business partners.

Mintzberg (1973) published “The Nature of Managerial Work”. He discovered that managers spent most of their time engaged in ten specific roles, which are then divided into three categories as set out below.

1) Interpersonal Category-involves providing information ideas. As a figurehead, the manager is expected to be a source of inspiration and has to assume the leadership role in the team, department, or perhaps the entire organisation. Lastly, they must liaise with internal and external contacts.

2) Informational Category-involves processing information. They must regularly monitor relative alterations in the externality, productivity, and welfare of their teams. They must disseminate potentially useful information to their colleagues and teams. They must also assume the role of spokesperson for their organisation. This role is about communicating information and knowledge concerning the organisation to outsiders.

3) Decisional Category-involves using information. As an entrepreneur, the manager must stimulate and manage change within the organization, i.e. problem-solving, and the generation and implementation of new ideas. As a disturbance handler, the manager may need to assist in mediating disputes. When there is resource scarcity, the manager must be an excellent resource allocator to determine where limited resources should best be allocated. Lastly, a manager must take part in important negotiations (good negotiator).

According to Katz (1974), managers need to possess three particular groups of expertise, namely technical, human, and conceptual. Katz defined technical dexterity as proficiency in that specific business affair. Human skills describe competency in communicating, negotiating, and settling matters with other individuals or related parties. Conceptual expertness is characterised by the know-how of interrelationships inside the organisation and the ability to foresee and supervise progressive group intercommunication. Summarily, technical skills are associated with objects or processes; human skills represent individual expertise and conceptual skills describe the knowledge of how changes affect people, objects, and methods within the organisation.

The role of managers can be assigned to two theoretical groups: neoclassical and managerial. Neoclassical theories involve the apprehension that the ultimate goal

of a firm is profit maximisation. The firm is in existence to achieve the objective of profit maximisation which can be accomplished by the actions and choices of management. In order to maximise net profits as a player in the market, the firm chooses a strategy which affects market price, and total demand and supply in the industry. The neoclassical theory is related to the consumer, suggesting that consumer intention is to maximise their overall utility. This group of theories is modernised as a neoteric theory that separates long-run incentives (sustainability) and short-run incentives (profit maximisation). During the 1960s, there were challenges to the neoclassical theory, such as managerial and behavioural theories. Managerial theories, established by Baumol (1959, 1962), Marris (1964), and Williamson (1966) proposed that instead of taking action to maximise the value of a firm, managers are inclined to maximise their own utility instead. As a result, an organisation's behaviour and decisions are actually explained by the benefit to the manager. This theory has evolved into "principal-agent" analysis (Spence and Zeckhauser, 1971; Ross, 1973) and asserts that to a certain degree managers will execute a deal from which they will benefit. In summary, managerial models proclaim that managers maximise their own utility function (which may include salary, security, perks, power, and prestige) contingent on an arbitrary decision, based on the company's profitability constrictions.

2.1.2 Managerial Ability-Measurement

Many research papers have tried to focus on the quantification of managerial ability or talent. Such as examining managerial contributions to firm performance, investment decisions, corporate governance, executive compensation, and cross-border productivity differences. Prior research studies have relied on proxies of specific managerial features (ability, reputation, style, or talent) such as firm size, past abnormal performance, compensation, tenure, reputation (measured by media activity), education, or fixed effects.

The study of management compensation can be traced back to at least Roberts (1956) and even Bearle and Means (1932). However, it takes time for this research field to take off due to availability of data. Murphy (1985) is considered to be a landmark. He gathered data from 461 managers of 71 firms to estimate cross-sectional

relationships. By introducing the “fixed-effects” model, he found that management compensation and firm performance are strongly correlated. In the Harvard Business Review, he wrote a paper at that time stating that “CEOs are worth every nickel they can get”.

Jensen and Murphy (1990) found that CEO pay increased by \$32.5 for every \$10,000 increase in shareholder value (market capitalisation). In spite of its rather weak association, this still led to an unexpected rise in executive stock options by practitioners. In 1998, Hall and Liebman found a stronger relationship than that of Jensen and Murphy (1990). Specifically, CEO pay went up by \$5.29 for every \$1,000 of wealth generated for shareholders. These small changes in performance can have a huge effect during the lifetime of a CEO. The results clearly reflect the trend of performance-based compensation to continue growing over time.

Based on the notion of abnormal performance, the ability of a CEO can be reflected by their forecast accuracy. Forecast accuracy serves as an apparent measure of the extent to which a CEO’s managerial ability can deal with uncertainty. Specifically, a CEO with more accurate forecasts tends to have a better understanding of how changes affect the firm’s business to enable more effective handling of future events. Trueman (1986) asserted that the equity market value reflected the said ability. Substantial evidence has shown that capital market value forecast accuracy is a key source of information (Patell, 1976; Ajinkya and Gift, 1984; Waymire, 1984; Pownall and Waymire, 1989; Kasznik and Lev, 1995; Frankel, McNichols and Wilson, 1995; Collier and Yohn, 1997; Lennox and Park, 2006).

In 2011, Baik et al. used three proxies of managerial ability namely, press citation, DEA score developed by Demerjian et al. (2012), and industry adjusted return on asset. They indicated that voluntary management earnings forecast accuracy increases with these three proxies.

Klewes and Wreschniok (2010) claimed that reputation is one of the most valuable forms of capital because it can sustain competitive advantage for an individual (Bharadwaj, Varadarajan, and Fahy 1993). Reputation is defined as an essential market perception of his/her ability to ensure success and sustainability of the firm (Fama, 1980; Diamond, 1989; Holmstrom, 1999, and Milbourn, 2003). Reputation is widely regarded in association with long-term benefits for the CEO.

Firstly, greater reputation may lead to a higher chance of future reappointment (Fama, 1980; Hermalin and Weisbach, 1998; Holmstrom, 1999). Diamond (1989) asserted that reputable managers can obtain loan packages at a lower interest rate. The research by Eckbo and Thorburn (2003) stated that in an automatic bankruptcy auction, the higher the CEO's reputation, the higher the probability of them being reappointed.

Secondly, reputation can influence on compensation. It is positively associated with both cash compensation (Gibbons and Murphy, 1992) and stock-based compensation (Milbourn, 2003). Again, Eckbo and Thorburn (2003) argued the decrease in salary in accordance with the CEO's reputation during automatic bankruptcy auctions. Thirdly, managerial autonomy increases with reputation. Firms impose fewer restrictions on their operations if CEOs are perceived to be knowledgeable and high-profile meaning those CEOs will have better control over the firm's resources (Rosen, 1982; Kole and Lehn, 1999; Himmelberg and Hubbard, 2000; Prendergast, 2002; Hayward et al., 2004; Raith, 2005; Boot et al., 2006; Brau and Fawcett, 2006).

Highly reputable CEOs possess the necessary attributes and capabilities to carry out forward-looking activities (Park and Berger, 2004). It is plausible that there is less monitoring inside firms where the CEO has a good reputation. Since reputable CEOs are supposed to have more valuable skills and knowledge, firms may encourage them to have greater control over resources (Rosen, 1982; Kole and Lehn, 1999; Himmelberg and Hubbard, 2000; Hayward et al., 2004). Such CEOs are stimulated by the firms under their management to utilise their specific skills or put in extra effort through fewer limitations (Prendergast, 2002; Brau and Fawcett, 2006; Raith, 2005; Boot, Gopalan, and Thakor, 2006).

According to information on asymmetric situations (concerning the CEO's ability), stakeholders are forced to depend on the CEO's reputation (Fombrun, 1996; Hamilton and Zeckhauser, 2004). Grossman and Stiglitz (1980) and Stiglitz (1989) claim that consumers have less information than the CEO about deliverables so that they have to rely on the CEO's reputation. However, opportunistic actions become likely when considering information asymmetry between shareholders and CEOs. Therefore, the firms estimate the possibility and monitor the said opportunistic actions

of the CEOs because any action taken by them would be influenced by market perception (Sridhar, 1994).

Reputation can be measured by the number of press articles which cite the CEO. In 2003, Milbourn applied this measure and found that CEOs with greater reputations displayed pay-for-performance sensitivity. On the other hand, Liu, Zhang, and Jiraporn (2011) examined the relationship between the CEO's reputation and risk-taking behaviour and found that reputable CEOs tend to take more idiosyncratic and unlevered risks. Reputable CEOs tend to invest in research and development but try to avoid taking financial risk. Baik et al. (2011) used media citation to define celebrity managers and argued their superiority in accurate management earnings forecasts and market responsiveness.

Tenure is how long an individual spends in that position with a specific firm for a period of time. At the beginning of his/her tenure, the market has insufficient information to realise the CEO's ability (Gibbons and Murphy, 1992). Firstly, most new outside-hired CEOs do not have a proven track record. In addition, firm-specific human capital is not transferable from one firm to another. Secondly, it is unclear at the beginning how to detach the newly appointed CEO contribution from other elements of performance.

Managerial autonomy also increases with CEO tenure since longer tenure indicates a greater reputation. Long-tenured CEOs tend to face a smaller board size (Denis and Sarin, 1999; Baker and Gompers, 2003; Coles et al., 2008), a smaller number of independent board members (Hermalin and Weisbach, 1988, 1998), as well as less frequent board meetings and direct monitoring (Ryan et al., 2009).

Prior functional and managerial experience should make a candidate more valuable in the market place. Mintzberg (1973) and Katz (1974) argued that the development of managerial capability involves specific skills that are best learnt on the job. In addition, Castanias and Helfat (1991) noted that personal past experience may relate to certain circumstances. These experiences may form an individual skill set and world view (Hambrick and Fukutomi, 1991) to guide decision-making and strategic choices (Hambrick and Mason, 1984). Effective managerial capabilities are beneficial to the firm in that the manager can leverage his or her past experience to better deal with uncertainties or any unforeseen events which the firm may face (Pfeffer and

Salancik, 1978) or develop firm-specific capabilities that eventually create competitive advantage (Castanias and Helfat, 1991, 2001).

Educational background is also one of the key factors representing ability. Chevalier and Ellison (1999) investigated the effect of the age and educational background of mutual fund managers on the performance of funds under their control and found that those who were younger with a better educational background tended to achieve higher rates of return. Bhagat, Bolton, and Subramanian (2010) indicate that educational background can potentially impact on CEO ability in three possible ways. Firstly, it could contribute towards the CEO's knowledge, perspective, and ability to understand technical and abstract concepts. Secondly, it could also signify the CEO's intellect and ability to persist with challenging tasks. Lastly, social networks acquired at school can support his/her professional career in the future. However, they asserted that education is just one determinant of ability.

Managerial ability can also be extended to irrationality. An irrational manager departs from rational expectation and expected utility maximisation but does not become involved in moral hazards such as empire building or entrenchment (Baker et al., 2006). Such a manager believes that his actions can lead to maximisation of firm value but in fact deviates from it.

2.1.3 Managerial Ability-Corporate Policy and Decision-Making

The principal perception of the popular press and academic research is that managers with different styles and skill sets can make different decisions in their respective firms. A small body of research in the finance and accounting field has considered the effect of managerial traits on corporate decisions. Managerial style can have an effect on corporate policy, and such differences may also be reflected in managers' compensation levels (Bertrand and Schoar, 2003).

Reputation is strongly related to various long-term benefits, such as improving future compensation and providing greater managerial self-government (Fama, 1980; Gibbons and Murphy, 1992; Hermalin and Weisbach, 1998; Ryan et al., 2009). Therefore, this incentivises CEOs to boost and secure their reputations. Graham et al. (2005) noted in his survey paper that CEOs' reputational concerns are associated with their financial reporting decisions.

At the start of tenure, markets rely primarily on current performance to reflect managerial ability since he or she is not well-known to the market (Hermalin and Weisbach, 2009). In addition, Oyer (2008) and Axelson and Bond (2009) indicated that markets will label this manager as having low ability if he/she loses a high-profile job owing to a disappointing performance, and disregard market conditions. As a result, he or she will suffer from this detriment for the rest of his/her career. Thus, the manager is incentivised to report good performance to avoid being tagged as having “low ability”. Consistently, Diamond (1989) concluded that long tenure managers become less concerned with reputational building but focus on protection. Any assertive business announcement may make shareholders question the trustworthiness of previously proclaimed achievement and can substantially wreck a manager’s reputation. Thus, long-tenured managers will opt to stay away from aggressive financial reporting.

In investigating debt financing policy, Chemmanur, Paeglis, and Simonyan (2009) considered information asymmetry as an influence on leverage ratio. Firms with less information asymmetry tend to prefer equity issuance. Balakrishnan et al. (2014) ascertained that accounting conservatism can reduce agency cost and eventually enhance firm value. Managers with high ability more credibly convey intrinsic value to the investor which translates into an impressive share price.

By using manager fixed effects, Bertrand and Schoar (2003) examined whether and how an individual manager can influence corporate policy and performance. They found that manager fixed effects matter for a number of corporate decisions (investment, financial, and organisational practices). Specific patterns in managerial decision-making were found to indicate different styles across managers. Besides, management style is strongly associated with manager fixed effects in terms of performance, and a high performing manager is associated with higher compensation and working in a well-governed firm.

Risk-taking or aversion ability can basically be linked to employment history. Many research papers support the notion that CEOs who change their jobs frequently are more likely to bear extra risk. On the subject of labour economics, job search models exhibit that when all else is equal, risk-averse employees have a tendency to change jobs (Harris and Weiss, 1984; Pissarides, 1974, 1976; Vesterlund, 1997).

Based on job turnover theories, CEOs who change their jobs less often are more likely to be risk averters because they make a greater human capital contribution to a firm (Becker, 1962; Jovanovic, 1979b) or achieve better CEO-firm matching qualities (Jovanovic, 1979a; Mortensen, 1978). Survey evidence from organisational behaviour studies shows that people who change jobs more frequently have greater risk propensities (Nicholson et al., 2005; Pfeifer, 2008) and exploit the number of job changes as an empirical representation for the extent to which they are willing to engage in risky behaviour (Nicholson and West, 1988; Nicholson et al., 2005).

Managerial ability is negatively associated with risk aversion. Kulatilaka and Marcus (1994) documented that the propensity for early exercise of executive stock options increases with risk aversion and stock option wealth. Yang (2007) found that high-ability managers are willing to postpone exercising their stock options (to exercise at a higher price) as high stock wealth amplifies the effect of managerial ability on their expected utilities.

In considering managerial irrationality, a number of studies look at the irrational behaviour of managers involving overconfidence and optimism, and their effects on corporate policies. Ben-David et al. (2007) opined that an optimistic manager will overly estimate a firm's cash flow and either underestimate future cash flows volatility or overweigh private signals in relation to public information. Hackbarth (2007) theorised that optimistic managers tend to follow the pecking order since they overestimate growth in future earnings and believe external financing is too costly. On the other hand, overconfident managers, following a reverse pecking order, seem to underestimate the riskiness of future earnings, and perceive debt finance to be undervalued.

However, the latter axiom has been countered by empirical research on behavioural corporate finance. Based on the Duke/CFO (chief financial officers) Global Business Outlook survey, Ben-David et al. (2007) asserted that CFO overconfidence can be represented by the tightness of individual probability distributions for stock market returns. They reported that overconfident CFOs tend to use debt more aggressively, and pay fewer dividends. Malmendier et al. (2007) indicated that conditional on accessing public markets overconfident CEOs finance externally less frequently and are more likely to issue debt than equity.

Considering investment decisions, Kahnemann and Lovallo (1993) argued that an optimistic manager may overestimate the value of projects, creating private benefit, resulting in negative NPV (net present value) projects investment. Therefore, Gervais, Heaton, and Odean (2002) suggest that the hurdle rate be increased accordingly. Malmendier and Tate (2005) found that overconfident CEOs tend to overinvest when the firms are equity dependent and have internal funds. Ben-David et al. (2007) found similar evidence on CEOs. Since Roll (1986) was the first to use hubris to explain overbidding in mergers and tender offers to bidding firms, Malmendier and Tate (2008) found that overconfident CEOs could create value by destroying acquisitions and paying a higher premium, as well as being more likely to make acquisitions with internal financing and for business diversification. Therefore, the market will react more negatively to a merger or acquisition made by an overconfident CEO. Based on evidence from the UK market, Doukas and Petmezas (2007) classified managers as overconfident when they conduct five or more acquisitions in three years. Besides, markets do not realise as much as rational managers and exhibit poor long-term performance.

2.1.4 Managerial Ability-Firm Performance

In light of the importance of managerial ability, many scholars have tried to investigate how it can influence firm performance. This strand of research on how top management shapes firm performance can be traced back to the origins of organisational theory (Barnard, 1938; Child, 1972) and is also explicitly recognised in early conceptualisations of strategy (Hoskisson et al., 1999). In 2001, Pitcher and Smith asserted specific personal characteristics which are more important than the linkage between executives and performance of the organisation under their management. This finding has validated a substantial amount of research highlighting whether or not top management matters (Certo et al., 2006; Finkelstein and Hambrick, 1996)

Based on the upper echelon perspective, Hambrick and Mason (1984) indicated that decisions of top management will reflect on organisations. Demographic characteristics are the core of upper echelon research. Specifically, the upper echelon research stream focuses on examining the potential relationship

between demographic characteristics (including age) and firm performance (Carpenter et al., 2004; Finkelstein and Hambrick, 1996).

However, the stream of empirical results of this research field has been inconclusive (Carpenter et al., 2004; Certo et al., 2006). There are several arguments on certain ambiguous findings in this research field. Some arguments are based on a relatively narrow set of characteristics, composed primarily of educational background, functional experience, age, tenure, and size (Carpenter et al., 2004).

By investigating various aspects from IPO (initial public offering) to post-IPO performance, Chemmanur and Paeglis (2005) found a positive relationship between managerial quality and reputation, and offer characteristics and long-term performance. Consistently, Chemmanur et al. (2010) highlighted that a higher level of management quality is associated with less asymmetry, regardless of whether it is IPO or SEO (seasoned equity offering). However, the extent of association becomes more pronounced in the phase of SEO as it is typically performed by a more mature firm. Bertrand and Schoar (2003) asserted that top management is considered an integral part of ongoing corporate activity, especially in merger, acquisition or diversification decisions, financial structure, dividend policy, and levels of key financial factors. Switzer and Bourdon (2011) found that firm performance is positively associated with the quality of the top management team such as heterogeneous membership tenure, the presence of a dominant CEO, and MBA holders.

Carmeli and Tishler (2004) found positivity in managerial ability, resources, capabilities, and industrial performance on firm performance. The superiority of an industrial company can indeed explain the set of four core organisational resources and capabilities. Switzer and Huang (2007) also found a positive association between human capital characteristics and small and mid-cap mutual fund performance.

There is anecdotal evidence of the relationship between managerial reputation and firm performance. While many studies illuminate a bright side to reputational effect (Baik et al., 2011; Francis et al., 2008), Hayward and Hambrick (1997) documented that reputable managers are more likely to make inefficient investments. Malmendier and Tate (2009) claim that celebrated managers overemphasise their personal achievements by dedicating more time to outside activities, such as being guest speakers or having outside positions, thus deteriorating firm performance.

CEO tenure or turnover is a prominent theme in firm performance literature. By researching the concepts of CEO tenure, compensation, and firm performance, Nourayi and Mintz (2008) found that CEO compensation is related to tenure and firm performance. Other scholars like Ling, Simsek, Lubatkin, and Viega (2008) considered CEO tenure as a function of the Top Management Team (TMT) to influence firm performance. Their research discussed the fact that CEO tenure plays an important role in an organisation as noted by TMT influence and performance. Allgood and Farrell (2000) found a negative relationship between firm performance and CEO turnover. Compulsory turnover performance varied with CEO tenure. A key finding behind this study is that CEOs tend to become entrenched early on in their jobs but gradually realise their accountability. In addition, outside CEOs tend to have a probationary period for intensive performance appraisal and affirming accountability.

Bhagat, Bolton, and Subramanian (2010) documented that CEO education is an important criterion in the selection of a successor to a poorly performing CEO. The relationship between educational levels of new CEOs and those they replace is significantly positive. Besides, they found that newly hired CEOs with MBA degrees lead to an improvement in short-term operating performance.

Jalbert, Furumo, and Jalbert (2010) examined the educational backgrounds of CEO's from the largest US firms for the period from 1997 to 2006. This paper is known to be the first to consider CEO gender as a determinant of compensation and firm performance. They found a correlation between CEO education and firm performance.

Apart from pure educational background, Hutchison (2014) determines whether a certain type of CEO human capital investment is associated with firm distress/bankruptcy which is sequentially associated with firm performance. In this study, human capital is measured by using four different variables: CEO tenure, CEO compensation, qualifications, and age. Based on the study of Australian firms for the period from 2005 to 2008, the results show that the probability of bankruptcy is negatively associated with CEO's human capital. The probability of bankruptcy is positively associated with CEO turnover. A CEO with superior human capital is less likely to depart, which in turn may help to increase financial performance. In

consequence, increased financial performance is negatively associated with investment in general human capital.

2.1.5 Managerial Ability-Insider Trading

According to many research studies, managerial ability can be associated with the informativeness of his/her inside trading ideas since low ability managers have less accurate and timely reporting and disclosure practices than high-ability managers (Baik et al., 2011; Demerjian et al., 2013). Demerjian et al. (2013) found that high-ability managers are associated with higher earning persistence, greater quality accrual estimates, lower estimation errors for bad debt provision, and also less likelihood of restatements. Outsiders feel that information about firm performance from the aforesaid reporting and disclosure mechanisms is limited and of poor quality. Low ability managers might be more likely to engage in opportunistic inside trades since they can take advantage of undisclosed information. As a result, outside investors will respond more strongly to the insider trading of low ability managers. However, there is also opposition for high-ability managers, apart from building their reputation through transparency and informative disclosure (Trueman, 1986; Baik et al., 2011), and they can also profit from their superior comprehension of the business. They can form more accurate judgements on the right time to purchase and sell to obtain the highest profit. For instance, a manager may trade shares due to the impact of an externality on his firm being less than the market perceives. Previous research in this field has largely confirmed the ability of insider trading to identify mispricing in firms (Seyhun 1988; Karpoff and Lee 1991; Kahle 2000).

2.2 Dividends

2.2.1 Dividends-Their Importance in Corporate Policy

The history of corporate dividend policy began in the early sixteenth century when captains of sailing ships in Holland and Great Britain started selling claims in exchange for a share in the proceeds of voyages. Several decades later, these financial claims were becoming more and more popular and started to be bought and sold on the open market, and were then increasingly replaced by shares of ownership. In

addition, it is also interesting that large numbers of investors tried to buy from several captains to diversify their risk. (Frankfurter and Wood, 1997). As time passed, the profitability of these business ventures became more regular. The perception of distribution was generous and the traditional liquidation process became increasingly inconvenient and costly (Baskin, 1988). To forego this concern, profits were distributed rather than the entire capital. Increasingly, corporate charters began to restrict the payment of dividends to profits only.

Dividend policy continues to be one of the well-examined areas of managerial decision-making. It has continued to capture the interest of financial economists for almost a century. A good descriptive model of dividend policy is important for key decision makers on the aspect of firm behaviour, such as the relationship between investing and financing decisions. Understanding the context of dividends also underlies theories of mergers and acquisitions, asset pricing, and capital structure.

There are two alternatives for a company to make the most profit. Firstly, it can opt to preserve profits for the sake of developing something internally. On the other hand, it can choose to distribute profits to the shareholders. The said distribution can either be in the form of dividends or buying back the outstanding shares (Brealey et al., 2008). Focusing on dividends, the payment can be in various forms but the two most typical patterns are cash and stock dividends. In general, people prefer cash dividends to stock dividends but it is not always in this form. Conceptually, a stock dividend is somewhat analogous to a stock split as the company's assets continue to be unchanged (Keown et al., 2007).

A company's dividend policy usually depends on decisions by the board of directors. However, it is worth mentioning that there are exceptions to this rule. In some countries such as Chile and Brazil, companies are regulated to pay a minimum portion of their profits to the shareholders (Brealey et al., 2008). In addition, bondholders may impose covenants which obligate a company to pay them prior to increasing the dividend payments (DeFond and Jiambalvo, 1994).

Preinreich (1932) was the first to define dividends as merely residuary, such as paying cash dividends only if there is a portion of profits that cannot be reinvested. He also asserted that from the shareholder's viewpoint, dividend policy should involve the distribution of the entire increased wealth at regular intervals. Apart from the said

cash dividends, the declaration of stock dividends must be consistent with the rate at which profits are reinvested. Subscription rights must be issued at an equal value to the premium payable for the privilege of new capital contribution.

Sage (1937) classified dividend policies into three main groups: plow-backers, payer-outers and middle-of-the-roaders. Plow-backer means that a company strategises to fully reinvest its profits into the business regardless of countervailing factors. Payer-outers distribute all the profits to the shareholders. However, middle-of-the-roaders decide to avoid those two extremes but instead try to combine the better elements of each. This group focuses on examining and estimating corporate contingencies and financial needs prior to identifying the right dividend payout.

Lintner (1956) set the foundation for the modern concept of dividend policy. As a result of interviewing managers from 28 companies, dividends were concluded to be sticky, signify long-term sustainable earnings, paid by mature companies, and display smoothness over the course. Thus, when determining dividend policy, managers will set a targeted long-term payout ratio.

The work by Ang (1975) supports the idea of two general issues in dividend policy: the determinant of appreciated payout ratio and an intertemporal change in dividends.

2.2.2 Dividends-Irrelevant Theory

As an antecedent to the issuance of the classic Miller and Modigliani's work in 1961, a common belief was that firm value was highly correlated with dividends. For instance, Graham and Dodd (1934) argued that "the sole purpose for the existence of the corporation is to pay dividends" and firms with higher dividends tend to sell their shares at a premium (Frankfurter et al., 2002).

However, Miller and Modigliani (1961) theorised that under idealistic assumptions on a perfect capital market and rational investors, dividend policy would be irrelevant. The perfect capital market assumptions can be discussed as follows: 1) no tax inequality between dividends and capital gains; 2) the market has no transactional and bankruptcy costs; 3) information is symmetric and costless being

freely and equally accessed; (4) managers and investors have no conflicts of interest; and (5) all market participants have the same expectation (price-takers).

A perfect capital market is defined as when the share price and cost of capital may be affected by corporate dividends. Shareholders' wealth and dividend decisions are irrelevant and lead to indifference between dividends and capital gains. Moreover, there is no information asymmetry among all the actors in the market. This indifference can be explained by the fact that only income generation can affect shareholder wealth, not income distribution.

Therefore, dividends are irrelevant in this perfect world. It is claimed that firm value is influenced by the elementary power of earnings and investment decisions disregarding income distribution. For any given investment policy, the dividend policy that a firm decides to follow will have no effect on the current share price and the total returns for shareholders. From an investor's perspective, firm value is defined by capitalisation of the value of future earnings but not dividend policies. It is also suggested that stockholders are capable of creating their own home-produced dividends by selling or buying shares in a way that matches their preferences (Brigham and Houston, 2011).

This dividend irrelevance theorem has been the foundation of substantial research in the dividend area. Nonetheless, Ball et al. (1979) mentioned the difficulty in designing and conducting an empirical test on Miller and Modigliani irrelevance theorem. Since Miller and Modigliani structured their theorem on a particular set of assumptions for a perfect capital market, loosening up these assumptions has been fundamental to dividend studies. In accordance with the irrelevancy of dividend hypothesis, Black and Scholes (1974) studied the effect of dividend policy on share price by examining the relationship between dividend yield and stock return. By constructing 25 portfolios of common stocks listed on the New York Stock Exchange (NYSE), the results showed that dividend yield is not significantly associated with stock return for the whole extent of the time period (1936–1966) or for any sub periods. They concluded that relations between dividend yields and share prices are not statistically significant. Other studies by veteran researchers in financial economics such as Miller and Scholes (1978, 1982), Hess (1981), Miller (1986), and

in more recent times Bernstein (1996), also presented documentation backing the dividend irrelevance hypothesis.

2.2.3 Dividends-Relevant Theory

There are many studies showing naysaying evidence of the said irrelevance hypothesis. Ball et al. (1979) built on Black and Scholes's work, using the data from an Australian firm for the period of 1960 to 1969 to study the effect of dividends on firm value. They could not draw conclusive inference due to insufficient evidence to support the irrelevance theorem. Baker, Farrelly, and Edelman (1985) conducted a survey on the CFOs of 562 listed firms on the NYSE. The selected firms were from three different industry groups. The respondents strongly agreed with the idea of how dividend policy can affect share prices. In another study, Partington (1985) showed evidence from the Australian market that senior managers believed dividends to be a tool to gratify shareholders' needs and boost share price. In a further study, Baker and Powell (1999) conducted a survey on 603 CFOs of listed firms on the NYSE. They found that 90% of respondents believed in the relevancy of dividend policy to firm value as well as the cost of capital. Their more recent studies tend to reiterate that dividend policy matters in determining firm value. Other further studies have shown results which are inconsistent with the dividend irrelevance theory (Siddiqi, 1995; Casey and Dickens, 2000).

Introducing the imperfection of markets might change the view on the irrelevancy of dividend policy. The issue of dividends becomes more complicated. If dividends are believed to be relevant, this might be linked to further decision-making of firms on investment and financing activities. The following sections review the range of alternative explanations on the dividend irrelevance theory and why dividend policy might matter. It begins with the "bird-in-hand" theory.

2.2.3.1 Bird-in-hand Hypothesis

The term "bird-in-hand" is an alternative view for all the related studies which argue that *ceteris paribus*, an increase in firm value is associated with an increase in dividend payouts. Investors perceive cash dividends to be the "bird-in-hand", which are worth more than having no guarantee of capital gains in the future. Current dividends are much more expectable than future capital gains since the stock

price is also dependent on market sentiments and not fully controlled by the management team. Keown et al. (2007) stated that it shows a high level of uncertainty. A high dividend payout ratio can decrease the cost of capital, and henceforth increase firm value. In accordance with this theory, Diamond (1967) found that the impact of a dollar dividend on the stock price is four times that of retained earnings. Many studies are supportive to this theory including Gordon and Shapiro (1956), Gordon (1959, 1963), Lintner (1962), and Walter (1963).

Gordon (1959) opined that investors would get financial return from a certain stock on three possible hypotheses: to receive earnings; to receive dividends; and to get both. By using cross-sectional samples from four industries (chemicals, food, steel, and machine tools) for 1951 and 1954, he found that dividends showed a superior impact on share price than retained earnings. In addition, he claimed that the uncertainty of future earnings can explain the positive relationship between the required rate of return and retained earnings. In a similar fashion, Gordon (1963) concluded that dividend payouts are positively associated with the cost of equity. Based on the data of British firms from the period 1949 to 1957, Fisher (1961) also reached a similar conclusion on the effect of dividends and retained earnings on share price.

However, the bird-in-hand theory has been subjected to many opponents since it omits important factors. Miller and Modigliani (1961) argued against the bird-in-hand theory and called it the bird-in-hand fallacy. They claimed that corporate risk can only be mitigated by operating cash flow, not by the way earnings are distributed. The idea of using dividends to alleviate uncertainty in future cash flow seems to be theoretically probable (Friend and Puckett, 1964). Moreover, Bhattacharya (1979) suggested that the degree of dividend payout is influenced by corporate risk but not vice versa. The negative relationship between dividends and corporate risk has been pronounced by many scholars (Rozeff, 1982; Jensen, Solberg, and Zorn, 1992).

More recently, Baker, Powell, and Veit (2002) conducted a survey on the managers of listed firms on the NASDAQ to understand their opinions about the related issues of dividend policy. Their questionnaire contains a statement concerning the bird-in-hand hypothesis, stating that: “investors generally prefer cash dividends

today to uncertain future price appreciation”. Based on 186 responses, only 17.2% agreed with the statement, 28% had no opinion, and 54.9% disagreed. Therefore, they concluded that “this finding does not provide support for the bird-in-the-hand explanation for why companies pay dividends”. Keown et al (2007) also countered the bird-in-the-hand theory since it can work in the opposite direction. Managers have to issue new stocks to meet capital requirements if there is an increased dividend payment. A dividend payment is simply a way of transferring risk from the existing shareholders to the new. Albeit the theory contains some limitations, they asserted the importance of the bird-in-the-hand theory since investors still perceive dividend as positivity. The next section discusses the disadvantages of receiving cash dividends.

2.2.3.2 Tax-Effect Hypothesis

The Miller and Modigliani hypothesis assumes that the tax schemes for dividends and capital gains are no different. However, in reality, the effect of tax may be significant to dividend policy and firm value. The tax rate will have an effect on the demand for dividends since most investors pay attention to after-tax returns. To respond to this tax-preference, managers opt to increase the retention ratio of earnings in order to maximise shareholder wealth.

The tax-effect hypothesis is based on the assumption of favourable tax treatment for capital gains, as a low dividend payout ratio can contribute to firm value maximisation. Moreover, dividends and capital gains are taxed in different time horizons. Generally, dividends are taxed immediately, while capital gains are taxed when that stock is actually sold. Therefore, a low dividend-paying firm will have low equity costs and an eventual high stock price. This idea is almost opposite to the bird-in-the-hand hypothesis and challenges Miller and Modigliani irrelevancy hypothesis.

Since dividends apply a higher tax rate in comparison to capital gains, investors in higher tax brackets will therefore require higher risk-adjusted returns (pre-tax) to invest in the stocks with higher dividend yields. This is the foundation of a tax-effect hypothesis.

Brennan (1970) established a model comparable to the after-tax variant of the capital asset pricing model (CAPM). This model asserts that pre-tax returns, dividend yield, and systematic risk should be positively correlated. Securities that pay

large dividends are likely to recompense investors for the tax disadvantage of dividend returns by offering a lower selling price.

Several empirical research studies have tested Brennan's (1970) model in order to gain further insight into the correlation between dividend yields and stock returns. For example, Black and Scholes (1974) reported that there is no evidence that dividend yields and tax effects are correlated. Nonetheless, Litzenberger and Ramaswamy (1979) contradicted Black and Scholes (1974) in how they defined dividend yield and claimed that their conclusions are incorrect. Litzenberger and Ramaswamy (1979) enhanced Brennan's (1970) model using a monthly dividend yield definition and categorised securities into two yield groups: a positive dividend-yield group and zero dividend-yield group. Their results corroborated Brennan's (1970) model in that for a positive dividend-yield group, investors demanded an extra 23% of the dividend-increase before tax. The connotation of their research is that firms are capable of increasing the share prices by lowering the dividends. In addition, the share price will be higher by not paying any dividends.

However, Miller and Scholes (1982) disagreed with the aforementioned reasoning. They suggested that dividend yield should not be represented by monthly dividend yield. The reason for this is that in the short-term, there will be a diminutive informational impact if the firm passes up a dividend payment. As a result, Litzenberger and Ramaswamy's (1979) analysis showed an upward tendency for the dividend yield coefficient while Miller and Scholes (1982) discovered that the coefficient should not be statistically significant. Hess (1981) who studied the data from 1926 to 1990 also supported these results.

To counter the said argument, Litzenberger and Ramaswamy (1982) tried to address any potential information effects on the coefficient of dividend yield. The results are in line with their previous findings, displaying a positive and statistically significant dividend yield coefficient. Kalay and Michaely (2000) used weekly data to re-examine the Litzenberger and Ramaswamy (1979) experiment. Their experiment aims to determine whether the previously found positive dividend yield can be explained by tax effects or information effects, as assumed by Miller and Scholes (1982). They eliminated samples of all weeks containing dividend omissions. They found a significantly positive dividend yield coefficient, which is inconsistent

with Miller and Scholes's findings. In addition, Poterba and Summers (1984) used daily and monthly data from British firms and found supportive evidence for the tax-effect hypothesis.

In line with Litzenberger and Ramaswamy (1979) and Blume (1980), Keim (1985) estimated the relationship between long-run dividend yields and stock returns by applying the Sharpe-Lintner CAPM. Based on a sample of US firms from 1931 to 1978, the results are consistent with Blume (1980) since the relationship is non-linear, and rejected the postulation that average returns across portfolios are equal. In addition, he examined and found a positive effect of firm size and seasonal stock returns on the relationship between stock returns and dividend yields. Nonetheless, January was found to be non-linear for small firms. The results are robust for conditioning firm size. Besides, dividend yield and firm size (measured by market capitalisation) are positively correlated. Altogether, he drew the conclusion that the relationship between long-term dividend yields and stock returns may not only be explainable by the difference in marginal tax rates between dividends and capital gains. He suggested a yield-related tax-effect because the significant seasonal effect (January) on the relationship between dividend yields and stock returns is not entirely consistent with the after-tax CAPM. The inference stirs up the puzzle regarding yield-related tax-effect issues.

More recently, Morgan and Thomas (1998) examined UK firms in the period from 1975 to 1993 in order to find a relationship between their dividend yields and stock returns. Based on Keim's (1985) methodology, they examined a tax-based hypothesis and found a positive relationship for all years under the said period except for 1973. In 1973, the imputation tax system resulted in tax treatment disadvantages for capital gains in comparison to dividends received. For clarification, stocks with low yields should generate higher returns to recompense stockholders for the increased tax burden associated with capital gains, and vice versa. Contrary to prediction, he found a positive relationship between dividend yields and stock returns. Besides, the results suggest that the relationship between risk-adjusted returns and dividend yield is non-linear. This is not consistent with Brennan's finding. In addition, firm size and seasonality seems to affect the relationship between dividend yield and stock returns. There was therefore no supportive evidence for the tax-effect

hypothesis. In a previous study, Baker et al. (2002) surveyed the managers of 630 NASDAQ firms and found them to be weak or not unsupportive towards the tax-preference theory.

In summary, the tax-effect hypothesis can be derived from a simple proposition. Investors will value a dollar of capital gains greater than a dollar of dividends owing to: 1) dividends being charged at a higher tax rate than capital gains; and 2) capital gains tax being deferred until the gains are realised. For these reasons, lower dividend yield-stocks are offered at a relative premium to their higher dividend yield counterparts.

2.2.3.3 Clientele Effects of Dividend Hypothesis

Miller and Modigliani (1961) initiated the notion that dividend policy may be affected by dividend clientele. Each investor adopts distinctive proportions of different securities by considering particular assumptions against imperfections, such as different tax rates and transaction costs. In other words, the investor avoids paying unnecessary costs by selecting the appropriate type of stock suitable for their constraints. The term “dividend clientele effect” depicts the investors’ inclination to be attracted by a specific class of dividend-paying stocks. Despite the fact that there are several groups of investors and the firm might choose a dividend policy that entices a certain group, each type of investor should be equally valuable. Therefore, dividend policy continues to be irrelevant to firm value.

To illustrate, individual investors have a specific tax rate since their income and capital gains vary. As a consequence, investors always encounter transaction costs and costs incurred by adjusting their portfolios, separating investors into clientele. Since certain clientele are captivated by distinctive dividend policies, firms in the same industries usually attract similar types of investors due to their choice of dividend policy. Specifically, clientele preferring capital gains to dividends tend to invest in industries with high growth since such firms are required to hold more capital to fulfil their growth potential rather than distributing it to investors. On the contrary, firms that pay a generous amount of their earnings in dividends appeal to clientele preferring high dividends.

More recently, Allen, Bernardo, and Welch (2000) claimed that institutional investors tend to be attracted to dividend-paying firms since they obtain

relative tax advantages in comparison to retail investors. Besides, they are subject to the restrictions of institutional charters, which may force them to invest in dividend-paying stocks. High performing firms tend to pay dividends which appeal to institutional investors due to their superior ability to inform about firm quality. They concluded that the presence of dividends can be explained by the clientele effect. However, indifference between dividends and capital gains (i.e. tax exemption and tax deferral) can be found in some clientele (Elton and Gruber, 1970).

Another proposition is based on the emergence of transaction costs when changing portfolios. High and stable dividend stocks might be attractive to small investors because the transaction cost is more significant for them. On the contrary, wealthy and institutional investors tend to avoid transaction costs by investing in non-paying or low dividend-paying firms. These firms will reinvest the proceeds to fuel growth rather than payout transaction costs (Bishop et al., 2000). The other debate on the transaction costs of dividend payout is that firms may need external financing (equity or debt issuance) to restore cash payout. If the transaction cost is significant, firms are more likely to retain earnings rather than paying them out. Fazzari, Hubbard, and Petersen (1988) studied US manufacturing firms over a 15-year period (1970 to 1984) and found that retention of earnings accounts for 71.1 and 60% of the total source of funds and net profits, respectively. In addition, they found an implied negative relationship between transaction costs and dividend payments. However, in practice many firms decide to pay dividends in cash, while raising new debt and equity simultaneously, suggesting that dividend policy may also be influenced by other factors. The clientele theory can also lead to the implication that firms can avoid tempting shareholders to adjust their portfolios, which involve transaction costs, by stabilising dividend payout (Scholz, 1992).

The conceptual interpretation of dividend clientele hypothesis is considerably inconclusive. Although transaction costs and taxes may affect dividend policy, they are not sufficiently significant to explain its determination.

Empirical studies under this hypothesis have been conducted in many different ways. Various studies have focused on investor portfolios and their demographic characteristics including taxes. Pettit (1977) examined the investment portfolios of 914 individuals. He found that ages and dividend yield are positively

correlated, while incomes and dividend yield are negatively correlated. Specifically, elderly low-income investors tend to rely on cash flow from their portfolio stocks to fulfil their current consumption. However, the results have not been supported by the works of Lewellen et al. (1978) and Scholz (1992).

Richardson, Sefcik, and Thompson (1986) examined the increase in trading volume of US firms after dividend initiation in the period from 1969 to 1982. They found that the increase in trading volume associated with the announcement of change was largely driven by information contained in the dividend announcement and weakly related to clientele effect.

More recently, Dhaliwal, Erickson, and Trezevant (1999) examined institutional shareholding change subsequent to dividend initiation during the period from 1982 to 1995. The results were found to be supportive of the tax-induced clientele theory due to an increase in institutional ownership following dividend initiation. The results have been consistent with prior research from Bajaj and Vijh (1990); Ang, Blackwell, and Megginson (1991); and Denis, Denis and Sarin (1994).

Another effort to examine tax-induced clientele involves the study of the dividend effect around the ex-dividend days. Instinctively, dividends should be affected by a price drop on the day after the ex-dividend date. Considering the tax advantages of capital gains over dividends, a stock price declination may be less than the dividend paid since investors in higher tax brackets prefer capital gains. Elton and Gruber (1970) investigated the dividend effect for the companies on the NYSE. They concluded that dividend yield and the proportionated size of its ex-dividend price drop are positively correlated. In addition, they interpreted that firms not only appeal to certain clientele, but also captivate rational clientele.

Thereafter, the conclusion by Elton and Gruber (1970) was contradicted by Kalay (1982) who introduced the “short-term trading hypothesis” which stated that the positive correlation between price-drop ratio and dividend yield may not necessarily be caused by tax-induced clientele effects considering that an arbitrage opportunity arises for short-term traders who buy the stock prior to the ex-dividend date and sell it afterwards. The transaction costs that come with portfolio alteration are infinitesimal for this group of investors. Elton, Gruber, and Rentzler (1984) posited that it is important. Empirical research by Karpoff and Walkling (1988, 1990)

discovered that there is a positive relationship between excess ex-dividend-day returns and transaction costs, represented by bid-ask spread. The correlation is stronger for stocks with high dividend yields. Furthermore, around ex-dividend days, short-term traders make more transactions in high yield securities than their low yield counterpart. The implication is that short-term trading may affect the ex-dividend day stock price changes. Michaely and Vila (1996) also support these findings. Various research studies have analysed different markets and found mixed evidence. The markets examined were: Canada (Lakonishok and Vermaelen, 1983; Booth and Johnston, 1984), Finland (Hietala, 1990), Australia (Brown and Walter, 1986), Greece (Dasilas, 2009), Japan (Kato and Loewenstein, 1995), and New Zealand (Bartholdy and Brown, 1999).

2.2.3.4 The Signaling Hypothesis

This hypothesis was developed on the notion that managers who look after the firm usually obtain informational advantage over outsiders concerning its current and future prospects. The informational gap can explain the reason why intrinsic value is not fully realised by the market. If so, share price may not always be a precise indicator of firm value. Thus, managers seek a way to close the gap by sharing information directly to outsiders in a more accurate fashion. Historically, the cash flow distributed by a firm to investors often shaped the basis of market valuation (Baskin and Miranti, 1997). From the said notion, dividends are clearly a suitable alternative for managers to convey private information to outsiders. Many scholars have also suggested that dividend announcement might highlight implicit information about a firm's prospects. The proposition is known as "information content of dividend" or signalling hypothesis. Pursuant to this hypothesis, a signal is assumed to be reliable and poor performers are unable to mimic and send a false signal by increasing dividend payments. Hence, the market should react positively to dividend announcements (Ang, 1987; Koch and Shenoy, 1999).

Lintner (1956) argued that a firm will raise dividends only if managers believe that increased earnings are permanent. Hence, dividend increases signify long-term sustainability of earnings. This prediction is known as the "dividend-smoothing hypothesis". Lipson, Maquieira, and Megginson (1998) suggested that managers will initiate dividends only if they can be sustained by future earnings.

The signalling effect of dividends had been modelled until the late 1970s. The most cited models are those of Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985). Dividends are considered as credible signalling devices by the significant costs involved, making mimicking difficult for poor performing firms. However, there is a major criticism of these models since firms can opt to signal their prospects using less costly methods, such as repurchase (Allen and Michaely, 2002).

Research studies have examined two major relationships for dividend signaling analysis: share price movement with a dividend change announcement and dividend changes enabling the market to predict subsequent earnings. The influential findings on the first questions are reported by Pettit (1972), which recognised that share price responds positively after the announcement of dividend increases, and subsequential to dividend decreases announcements, stock prices decline. Pettit (1972) reasoned that dividend increases are positive while dividend decreases are unfavourable news, thereby causing the share price to react accordingly. He further proclaimed that dividend announcements may contain more information about the firm than earnings announcements. The study by Aharony and Swary (1980) involving control for coexistent earnings announcements also justifies Pettit's conclusions. Woolridge (1983) examined unexpected announcements and reported the similar results.

Asquith and Mullins (1983) studied the market response to dividend initiation, either for the first time or when restarting dividend payments after a long break (at least ten years). The results showed excessive returns of about 3.7%. By applying cross-sectional regression, they also found that dividend initiation and abnormal returns on the announcement day are positively correlated. Asquith and Mullins (1986) reiterated their earlier findings and draw a more supportive conclusion to the information content of dividend hypothesis.

By examining how the share price reacts to both initiation and omission of cash dividends, Michaely, Thaler, and Womack (1995) observed US firms for the period from 1964 to 1988. They documented negative abnormal returns for omissions and positive for initiations. They also noted that the market reacts to dividend omissions more significantly than for dividend initiations, and also found significant

long-run drifts in stock prices in response to dividend initiations and omissions. More recently, Bali (2003) reiterated the findings of Michaely et al. (1995).

Nonetheless, the signaling effect of dividends may be noted consistently across the markets. For example, Dewenter and Warther (1998) found that the impact of dividends as a signaling mechanism (omission and initiation announcements) in Japan is significantly lower than that in the US. These differences in findings are explained by the variations in corporate governance structures and the nature of corporate ownership between Japan and the US. Conroy, Eades, and Harris (2000) provided supporting evidence to the study by Dewenter and Warther's (1998) for Japanese firms.

Amihud and Murgia (1997) found supporting evidence from German firms listed on the Frankfurt Stock Exchange. In addition, they observed that dividends are still informative even though the earnings news was followed by dividend change announcements. Nevertheless, their findings naysaid the tax-based signaling model (John and Williams, 1985; Bernheim, 1991) since it contains no tax disadvantage on dividends. Travlos, Trigeorgis, and Vafeas (2001) also found favourable evidence on the dividend signaling hypothesis from the Cyprus Stock Exchange for the period from 1985 to 1995.

Numerous studies have struggled to address the question of whether dividend changes have an effect on the future earnings of a firm. Empirical research relating to this topic has produced puzzling results. Watts (1973) and Gonedes (1978) reported that information on dividends is insignificant. Benartzi, Michaely, and Thaler concluded in their 1997 study that dividend changes are strongly related to current and lagged changes in earnings. In addition, DeAngelo, DeAngelo, and Skinner (1996) found that such ability to predict future earnings is weak.

Two individual studies by Laub (1976) and Pettit (1976) challenged Watts' findings. They believe that dividends contain information about future earnings prospects beyond those predicted by past earnings. More recently, Nissim and Ziv (2001) studied dividend and earnings changes and found that they are positively correlated. This evidence is supportive to the signaling hypothesis. On the contrary, they found no relationship between dividend decreases and future profitability for control of current and expected profitability. They stated that the

results can be explained by accounting conservatism. In conclusion, the notion that dividend changes convey messages about future earnings prospects seems to have weak support.

2.2.3.5 Agency Problem Hypothesis

In reality, the assumption of no conflict of interest between managers and outsiders under perfect capital market is doubtful. The managers' interests are not necessarily the same as that of shareholders. Hence, agency cost occurs in association with managerial behaviour. The cost from the said potential conflict is implicit. Perhaps, the payment of dividends might be used to align interest and alleviate the said agency problem (Rozeff, 1982; Easterbrook, 1984; Jensen, 1986; and Alli, Khan, and Ramirez, 1993).

Furthermore, agency problems can arise between shareholders and bondholders. Since shareholders are known as residual claimers, excess dividend payments may expropriate wealth from bondholders to shareholders (Jensen and Meckling, 1976). To secure their claims, bondholders prefer to add constraints and conditions for dividend payment since shareholders are superior to them in accessing company cash flow. On the other hand, shareholders prefer to receive large dividend payments (Ang, 1987).

Easterbrook (1984) wrote a top-cited article arguing that dividends can alleviate agency problems by reducing free cash flow in the hands of managers. He hypothesised that dividend payments will force managers to raise capital from external sources. Thus, shareholders can reduce monitoring costs by riding on bankers and financial analysts who are capable of monitoring managers' behaviour. However, he pointed out that if a firm increases dividend payments irrationally, managers have no internal financial slack left and might take undesirable actions (i.e. overleveraged financial position, etc.).

Jensen (1986) provided another explanation along the lines of Easterbrook's argument. Based on the agency cost hypothesis, he opposed the argument that firms with free cash flow surplus give managers more flexibility to use the funds for their own interest. They might choose to increase the size of firms beyond the optimal point (overinvestment problem) in order to amplify the resources under their control and perhaps increase their remuneration, which is known to be

related to firm size (Gaver and Gaver, 1993). To prevent them from investing in subpar NPV projects, shareholders will force managers to pay dividends. As an “overinvestment” problem solver, an increase in dividend payments is positively associated with firm value, *ceteris paribus* (Lang and Litzenberger, 1989). Besides, he asserted that debt as well as dividends takes a similar role in trimming down the funds or resources under management control to eventually reduce the agency cost of free cash flow.

The relationship between agency costs and corporate dividend policy has been widely explored in many empirical studies. Rozeff (1982), for example, was among the first to formally model agency costs by using samples from US firms. The main idea of his model is to define the optimal dividend payout to minimise the sum of transaction and agency costs, and is called the “cost minimisation” model. The agency cost is represented by the natural logarithm of the number of shareholders (dispersion of ownership) and the percentage of common stock held by insiders (inside ownership). He found the agency cost variables to be significant and supports the agency costs hypothesis. Specifically, the benefits of dividends in agency conflict alleviation are greater for companies with lower insider ownership and/or higher dispersion of ownership. Many scholars found results that strongly supported Rozeff’s findings (Lloyd, Jahera and Page, 1985; Dempsey and Laber, 1992).

Inconsistent with the work of Rozeff (1982), Alli et al. (1993) used factorial analysis to model corporate dividend policy and found no significant explanatory power of ownership dispersion in dividend policy. Nonetheless, inside ownership was still found to be negative and significant in dividend payouts. Overall, their work still supports the agency cost hypothesis.

By applying three-stage least squares, Jensen, Solberg, and Zorn (1992) examined the determinants of cross-sectional differences in insider ownership, debt, and dividend policy for the years 1982 and 1987. Their results are consistent with the work of Rozeff (1982) and the agency costs hypothesis.

More recently, Holder, Langrehr, and Hexter (1998) found reports supporting the agency cost hypothesis on 477 US firms for the period from 1980 to 1990, and their findings are supportive to Jensen’s free cash flow hypothesis. Likewise, Saxena (1999) got similar results from examining samples of US firms in

the 1990s. Al-Malkawi (2005) found consistent results for Amman Stock Exchange in the period from 1989 to 2000.

Lang and Litzenberger (1989) applied Tobin's Q ratio to separate value-maximising firms and overinvesting ones. For firms with a low Q value, the dividend-increase announcement is followed by positive abnormal returns since the market perceives this action as overinvestment problem reduction. This is in support of the free cash flow hypothesis. In addition, they argued that the excess funds hypothesis provides a better explanation of how the share price reacts to dividend change announcements than the cash flow signalling hypothesis.

However, there are numerous studies that found little or no support for the excess cash flow hypothesis. The findings by Howe, He, and Kao (1992) counter those of Lang and Litzenberger (1989) and show that the relationship between Q and stock reactions to one-time dividend announcements are not statistically related. Additionally, Denis, Denis, and Sarin (1994) and Yoon and Starks (1995) drew the same conclusion, which supports the cash flow signalling hypothesis rather than the free cash flow hypothesis as the main reason behind stock price reactions to dividend change announcements.

By using a sample of self-tender offers, special dividends, and regular dividend increases, Lie (2005) indicated there was little evidence to support the agency cost hypothesis of free cash flow. In addition, he asserted that the overinvestment problem cannot be solved by increases in regular dividends and special dividends.

La Porta et al. (2000) provided empirical support for the agency cost hypothesis. Their study used sample companies from 33 emerging countries around the world. They simply classified the samples into two categories based on the extent of legal protection. Next, they examined the effect of legal protection on dividend payouts based on two alternative agency cost models: the "outcome" model and the "substitute" model. The first model indicates that in countries with strong legal protection systems, shareholders have greater rights and can force managers to eject cash. Thus, dividend payouts are positively associated with the degree of legal protection, all else being equal. In the latter model, dividends are considered as important tools for managers if they need to raise funds from capital markets. In

countries with inferior protection mechanisms, managers may need to pay more dividends to establish their corporate reputation from an investor perspective. For simplicity, dividends serve as a substitute for the legal protection of minority shareholders. This may especially be the case in most emerging markets. Based on this hypothesis, firms in countries with poor legal protection are expected to have higher dividend payouts, *ceteris paribus*.

In summary, the results from empirical evidence of the agency cost hypothesis are inconclusive. The agency cost hypothesis postulates that dividends can reduce the possibility of managers using internal funds for their own interest or tendency towards overinvesting. For this reason, dividends can serve as conflict alleviating tools, which in turn are the key drivers of firm value.

2.2.4 Dividends and Managerial Traits

Currently, there is no theoretical or empirical study underpinning managerial ability on dividend payment decisions. However, a number of studies have shed light on some managerial traits. Malmendier and Tate (2005) classified managerial beliefs using an overconfidence measure and determined that overconfident managers/CEOs are more sensitive to internal cash flow in their investment decisions. Overconfident managers/CEOs are more likely to engage in value-deteriorating investments. Their work in 2007 concluded that overconfident managers/CEOs are reluctant to raise capital through costly external financing and firms are undervalued by their perception. More recently, Deshmukh, Goel, and Howe (2013) developed a dynamic model and drew a similar conclusion. Firms managed by overconfident CEOs displayed a level of dividend payout one-sixth lower. Besides, the positive reaction of markets to a dividend-increase announcement is stronger for firms with overconfident CEOs.

CHAPTER 3

HYPOTHESIS DEVELOPMENT

Based on the previously discussed literature, the relationship between managerial ability and corporate dividend policy must be found since it is intermediated by the earning quality of the company. However, it is not theoretically apparent as to what the exact relationship should be. Prior studies suggest three branches of possible hypotheses.

3.1 Earnings Quality Hypothesis

The payment of dividend is one of the most important financial decisions for a company. Lintner (1956) conducted very comprehensive interviews with board members of 28 target companies from 1947 to 1953. This accounts for 196 observations. The interviews indicated that dividends are very important to shareholder perspective. Shareholders are interested in a relatively fixed payout ratio as they believe that the market puts a premium on gradual but stable growth. Lintner (1956) documented the stylised fact that a company tends to set long-standing targets for the dividend payout ratio based on the amount of positive NPV projects. Since increased earnings do not last forever, managers are unwilling to increase dividends unless they are believed to be sustainable at that new level. Similarly, Miller and Modigliani (1961) opined that dividend decisions depend on the estimation of long-run sustainable earnings (earnings quality).

The succeeding question is: How can managerial ability promote earnings quality? Demerjian et al. (2013) asserted that managers with superior ability tend to be involved with better earnings quality. For example, they tend to have fewer financial restatements and better accrual estimation. High-ability managers are expected to be more knowledgeable about the company and the business, as well as having the ability to utilise the information at hand for accurate forward-looking estimation and

higher earning quality (Libby and Luft, 1993). For example, in order to calculate the allowance for bad debt estimate, a more able manager might adjust the historical rate with various determinants (i.e. megatrends, market sentiment, as well as changes in internal factors). Besides, more able managers can report further justifiable financial assumptions (i.e. rate of depreciation, fair value, and other accrual estimates). It is therefore posited that earnings quality of a company will be improved if it is led by high-quality managers.

More able managers can lead to better earnings quality (or sustainability) which encourages them towards achieving a higher level of dividends. Thus, this study draws the hypothesis that “*ceteris paribus*, more able managers tend to pay more dividends than the less able”.

3.2 The Efficiency Hypothesis

This hypothesis argues that more able managers have greater, better quality investment opportunities than those with less ability. Carmeli and Tishler (2004) linked managerial ability with firm performance and found positive relations between resources, managerial capabilities, and the performance of industrial firms. They related these findings to the idea that the TMT (top management team) plays a significant role in generating profits for a firm and found that the superiority of an industrial firm can indeed explain this set of core organisational resources and capabilities. Switzer and Huang (2007) found a positive association between human capital characteristics and small and mid-cap mutual fund performance. Switzer and Bourdon (2011) found that top management quality (measured by member tenure, presence of dominant CEO, and MBA holders) and operating performance are positively correlated.

Under the principal-agent paradigm, Bhattacharyya (2000) developed a dividend payout model, where uninformed shareholders prepare a set of contracts to select agents by different productivity type. More attractive remuneration packages will be offered to more able agents. It can be in the form of information rent. This model is based on the assumption of competitive labour markets. More able managers have access to many more attractive projects (higher NPV) and therefore use internal

financial slack for those well projected rather than pay out dividends. The principal makes dividend choices by designing suitable remuneration packages. Hence, dividend policy, in equilibrium, is negatively correlated with managerial quality.

In summary, more able managers can operate the firm more proficiently and produce a higher rate of return than shareholders would earn by themselves. Therefore, they tend to retain operational proceeds within the firm to serve their growth agenda, rather than pay it out to shareholders. Thus, this study draws the hypothesis that “*ceteris paribus*, more able managers tend to pay less dividends than those less able”.

3.3 Signaling Hypothesis

Under this hypothesis, this study considers the relationship between dividends and earnings quality from a different perspective. In the presence of an agency problem, the controlling shareholders or managers will reap benefit at the expense of others (or outside) investors, which is generally regarded as the private benefit of control. To alleviate this problem, outside investors will put more pressure on the said controlling shareholders or managers to pay dividends. The funds paid out to investors cannot be used to further their own interests. DeAngelo, DeAngelo, and Stulz (2006) asserted that firms pay dividends to alleviate an agency problem which would result in excessive cash and low leveraged capital structure. Based on the data of long-standing dividend-paying firms in 2002, they documented that those companies would have much higher cash holdings than if they had not paid dividends. This retention would have given managers command of the said amount without having better investment opportunities. Nissim and Ziv (2001) and Lie (2005) concluded that managers may use accounting choices (called an earnings bath) as a safeguard for future periods following bad news. In this hypothesis, both more able and less able managers can use dividend policy to send signals to the market. It is not necessary for a company with more able managers to pay dividends. Therefore, this current study draws the hypothesis that “*ceteris paribus*, managers may choose whether or not to pay dividends regardless of their ability”.

CHAPTER 4

THE EMPIRICAL MODEL AND VARIABLE DESCRIPTIONS

4.1 The Empirical Model

This section sheds light on the main empirical model to analyse the influence of managerial ability on dividend policy. Prior to further discussion, I reiterate the research questions: Does managerial ability have an effect on the propensity to pay dividends? For dividend-paying firms, does managerial ability have an effect on the payout ratio? Are the results robust using different measures for dividends and managerial ability? For simplicity, the research framework can be drawn as per below:

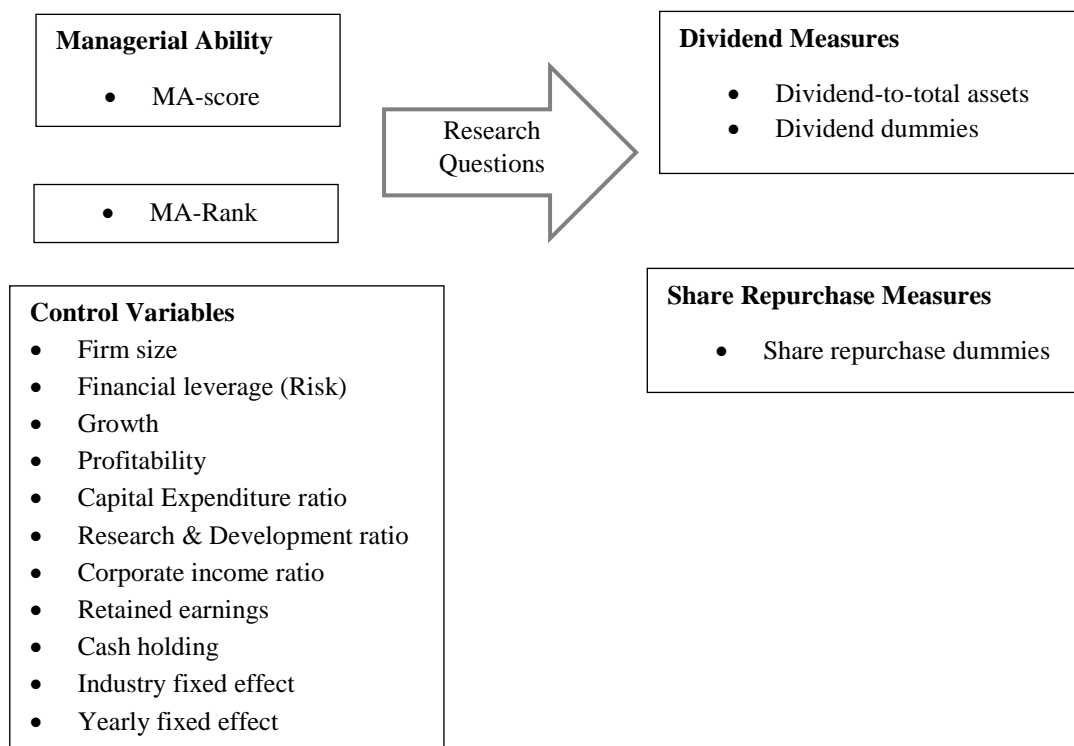


Figure 4.1 The Research Framework

To answer these three research questions, I set a control model by regressing dividends variable on year fixed effects, industry fixed effect, and the set of controls as shown as follow:

$$Div_t = \alpha_0 + \sum_j \alpha_j Control_{j,t} + \beta_0 MA_t + \sum_t \alpha_t Year_t + \sum_m \alpha_m Industry_{m,t} + \varepsilon_t$$

(X)

Where Div_t denotes dividend measure, $Industry_{m,t}$ represents industry measure, YEAR is variable to control year fixed effects, $Control_{i,t}$ represent firm-level control variables, MA_t is the managerial ability score as will be explained later, and $\varepsilon_{i,t}$ is an i.i.d error term.

The measurement of the three classes of variables under the study are defined as follows: 1) the dependent variable, which is the dividend measure; 2) the main independent variable, which is managerial ability; and 3) the control variables.

4.2 Main Dependent Variable

This study tries to investigate both the propensity to pay dividends and the dividend payout ratio. Two alternatives are employed to measure payout ratio: 1) the ratio of dividend to total assets; 2) the ratio of dividend to total revenue and 3) dividend dummy, which is equal to 1 when a company pays dividends and 0 for when they do not. Since all the aforementioned measures cannot be negative, Logit and Tobit regression is used. These kinds of equation treat dependent variables as “censored variables”.

4.3 Main Independent Variable

This study uses the measure of managerial ability (MA-score) developed by Demerjian et al. (2012). The process first applies a technique called DEA to calculate comparative firm efficiency within an industry. Specifically, it can be computed by scaling the sales generated by each firm using the key operational inputs. The DEA technique is used to solve the optimisation equation below:

$$max_v \theta = \frac{Sales}{v_1 CoGS + v_2 SG\&A + v_3 PPE + v_4 OpsLease + v_5 R\&D + v_6 Goodwill + v_7 OtherIntan}$$

Where;

CoGS	is Cost of Goods Sold
SG&A	is Selling, General and Administrative Expenses
PPE	is Net Property, Plant, and Equipment
OpsLease	is the present value of cash out flow from operating lease payments over the next five years. Basically, this information is available in the footnotes of the financial statements. Its inclusion increases comparability among identical firms which either purchase or lease their operating assets.
R&D	is the Net Research and Development expense (R&D). This net value is only calculated by using a five-year capitalisation period for R&D.
Goodwill	is the cumulative premium paid over for the fair value of a business acquisition. Generally, purchased goodwill is reported on the balance sheet.
OtherIntan	is other acquired and capitalised intangibles, apart from purchased goodwill. This includes items such as copyrights, client lists, patents, and trademarks.

The motivation of estimating DEA within the industry based on the notion of Fama and French (1997) means that peer firms can have similar business models and cost-revenue structures. The possible score is in the range of 0-1, with 1 being the most efficient way for a given set of inputs. DEA score indicates the extent to which the firm is efficient. Specifically, a firm would need to increase revenue or reduce costs to improve efficiency when it has a score of less than 1.

For general ratio analysis, DEA provides several advantages. Firstly, it allows the weight of each input to vary, while the traditional way restricts it to a certain level. Secondly, it compares a certain firm with the most efficient within the industry, while the traditional way compares the mean or median firms.

However, overall firm efficiency is attributed to both the manager and the firm. For example, a high-quality manager will possess a better business acumen and make better critical decisions, while a manager in a larger firm, regardless of his/her quality, can take advantage of its bargaining power over suppliers and customers to obtain better commercial terms. Therefore, Demerjian et al. (2012) remove key firm-specific characteristics, which may support or hinder managerial ability, including firm size, firm age, market share, positive cash flow, and complexity from multi-segment and international operations. The Tobit regression model is then estimated by the industry as follows:

Firm Efficiency

$$\begin{aligned}
 &= \alpha_0 + \alpha_1 \ln(\text{Total Assets}) + \alpha_2 \text{MarketShare} \\
 &+ \alpha_3 \text{Positive Free Cash Flow} + \alpha_4 \ln(\text{Age}) \\
 &+ \alpha_5 \text{Business Segment Concentration} \\
 &+ \alpha_6 \text{Foreign Currency Indicator} + \text{Year Indicators} + \varepsilon
 \end{aligned}$$

The residue from the estimation is attributed to the management team. This is considered as the MA-score. To mitigate the influence of extremes and increase comparability of the score across time and industries, decile ranks are created for MA-score by year and industry.

In summary, the MA-score allows scholars to better separate the efficiency of the manager from that of the firm and to keep the ordinal ranking of quality for a large sample of firms.

4.4 The Control Variables

4.4.1 Size

Company size is one of the most common variables in preceding studies. It is arguably one of the largest influencers in dividend payout ratios (Lloyd et al., 1985; Holder et al., 1998; Hedensted and Raaballe, 2008). Nonetheless, its measurement varies within certain studies. Commonly, it has been represented by: 1) the natural logarithm of sales (Lloyd et al., 1985; Holder et al., 1998: 2) the logarithm of the number of employees (Daunfeldt et al., 2009); and 3) market capitalisation (Al-Kuwari, 2009). In this study, market capitalisation is used. Market capitalisation

displays an advantage since it basically reflects both internal and external determinants, albeit it has a major drawback. However, this study still uses it to measure firm size. Lloyd et al. (1985) found that results are indifferent to the various sizes (market value of equity vs. sales). Lloyd et al. (1985) were among the first to consider the firm size as a variable under study when examining the relationship with dividends. They found that large firms, with more diverse shareholders, tend to pay higher dividends in order to alleviate agency problems. Many studies have thereafter reiterated such results (Hedensted and Raaballe 2008). In addition, there are other explanations regarding this finding. Holder et al. (1998) concluded that larger firms show better accessibility to external sources of finance and therefore find it much easier to pay dividends. In this current study, the size is gauged by using the natural logarithm of total assets.

4.4.2 Financial Leverage

From the balance sheet, financial leverage means the level of debt scaled by the level of equity. This factor is one of the most familiar considerations in studying the connection to dividend policies. It indicates a company's financial health. Previous studies have not drawn a uniform conclusion as to whether and how financial leverage can have an impact on dividend policies. Al Shabibi and Ramesh (2011) investigated firms in the UK and found no significant connection between the level of debt and dividend policies. On the other hand, Al-Kuwari (2009) firmly concluded that they are negatively related.

Financial leverage has been found to measure a broad range of formulas. Debt ratio, which is calculated by the ratio of total debt to total assets, is known to be a commonly used measurement. It better implies the broader sense of a company's abilities, albeit that it is not straightforwardly proportionate to debt and equity (Ferri and Jones, 1979; Aivazian et al., 2003). Therefore, debt ratio is used in this current study.

4.4.3 Growth

The growth rate of the company is commonly used in various studies. Such studies have drawn the inference that there is a negative relationship between growth

and the dividend payout ratio (Rozeff 1982; Lloyd et al., 1985; Holder et al., 1998). Growth in revenue has been used by most of the previous studies to measure growth rate. However, those studies have used revenue growth in various ways. Some studies have used growth opportunities to gauge growth and later anticipated the future revenue growth (Rozeff, 1982). This approach has a drawback owing to the fact that such estimation cannot be regarded as utterly accurate. Daunfeldt et al. (2009) used market-to-book values to measure growth and indicated that higher value signifies better future growth opportunities. A number of studies have also applied revenue growth from the previous year (Collins et al., 1996; Gill et al., 2010). In this current study, the same approach is followed.

The said negative relationship has commonly been explained by those high-growth companies which have to use retained earnings to finance part of their increased investment. Alternatively, they can opt to maintain dividend payouts at the same level by increasing external financing. However, such companies find it better to decrease their dividend payouts since external financing is costly (Rozeff 1982; Lloyd et al., 1985). It is also true for the opposition; companies with lower growth generally have to trim down their investments to eventually retain more earnings. According to agency theory, these companies should alleviate problems between managers and shareholders by paying higher dividends. Otherwise the managers may extravagantly invest in inferior projects at a cost to shareholders (Jensen, 1986).

4.4.4 Profitability

Profitability has been widely used as a variable in preceding studies to examine its association with the dividend payout ratio (Amidu and Abor 2006; Hedensted and Raaballe 2008). Most studies have shown that profitability and dividend variables are positively correlated. However, profitability has been measured using many approaches. Gill et al. (2010) and Amidu and Abor (2006) used the ratio of earnings before interest and taxes (EBIT) to total assets to measure profit. The return on equity (ROE) has been also used to measure profit (Al-Kuwari 2009). He asserted that ROE is among the best profitability measures since it reveals the capacity of internal cash generation. In this current study, ROE is used as a profitability measurement even though its major drawback is that it depends on the financial leverage of a particular business.

4.4.5 Capital Expenditure Ratio

Capital expenditure represents funds used by a company to acquire or improve operating assets such as plant, property, and equipment. It creates future benefits since the value of acquired or upgraded assets have a useful life extending beyond the taxable year. Even though the cost (except for land) on an accounting basis will be charged as depreciation over the useful life, cash payments will be made from the beginning or within a certain payment window. Therefore, sizeable capital expenditure will impact on the cash on hand during that fiscal year and eventually have an effect on cash dividend payouts. This study hypothesises the negative relationship between capital expenditure and dividends, and the capital expenditure ratio represents the ratio of capital expenditure to total assets.

4.4.6 Research and Development Ratio

R&D is a specific group of corporate activities that creates new products, services, and solutions. Gatignon and Xuereb (1997) opine that a company put efforts into R&D for innovation, creating new technologies, products, and services to satisfy customer needs and provide competitive advantage. R&D expenditure has been involved in various financial studies. Some studies have indicated that it can boost stock returns (Chui et al., 2010), market value (Lev and Sougiannis, 1996), and reduce systematic risk (McAlister et al., 2007).

Much empirical evidence has asserted the negative relationship between dividends and R&D expense. Thomas et al. (2003) suggests that dividends and corporate investments compete for limited funds. Thus, increasing the R&D budget comes at the expense of a lower dividend payout. Besides, this negative relationship becomes more pronounced when dividend imputation credit exists. Similarly, Smith (1995) indicates that investors prefer companies who pay higher dividends rather than those investing in R&D activities after legalising dividend imputation credit. In this current study, the R&D ratio is measured using the ratio of R&D expenditure to total assets.

4.4.7 Advertising Expense Ratio

Although advertising expenses are hard to explain because of industry variations, the product and market, according to the model used by Nerlove and

Arrow, can be used to find the optimal amount of advertising expense. Advertising and promotional expenses tend to remain the same over time due to limited budgets. This ratio becomes important because it is easier to use it as a budgeting benchmark than other qualitative aspects such as the type of product or the desired group of customers.

4.4.8 Corporate Income Tax Ratio

In general, corporate income tax is imposed by most countries on the operating income, net profit, or capital of certain types of legal entities. Corporate income tax is analogous to taxable income for individuals. However, some corporate acts may not be taxed (i.e. reorganisation). In some countries, there are tax exemptions for certain kinds of investment to promote economic development.

If their profits before tax are identical, a company with a higher corporate income tax rate will have a lower net income than another with a lower tax rate. Since dividend is subject to profit after tax made by a company, a negative relationship between corporate income tax rate and dividends is not expected. In this current study, corporate income tax ratio (tax ratio) is the ratio of corporate income tax to total assets.

4.4.9 Retained Earnings

Retained earnings are defined as the sum of profits accumulated by a company since the beginning, which are not distributed to the shareholders. Basically, a company decides to retain its profits for specific reasons. For example, retained profits will be used to pay off a debt (reduction in liabilities) or for investing in an operating asset (reinvestment). The retained earnings represent how a company has managed its profits.

The retained earnings represent corporate dividend policy as they reflect corporate decisions to either reinvest or distribute profits to the shareholders (Watson and Head, 2004). Theoretically, a company should retain its profits if reinvesting the profits can generate satisfactory returns. Otherwise, it is better to pay the profit out as dividends. The decisions are varied across the industry and dependent on the age of the company. For example, capital intensive or growing industries tend to retain more

earnings to reinvest. Ageing companies may require a significant portion of earnings for asset replacement. Since a greater dividend payout means less retained earnings, a negative relationship between them is not expected. In this current study, retained earnings are calculated using the ratio of retained earnings to total equity.

4.4.10 Cash Holding

Cash is the most liquid asset since it is readily available to pay off obligations on time, for investment in physical assets, and for making distributions to investors. Cash holding is important to companies especially during bad times. Companies need to accumulate cash reserves to survive and live up to their growth potential.

Patterns of cash holding can be explained by various classical theories. According to the trade-off theory, the level of cash holding can be optimised by marginal cost and benefit (Afza and Adnan, 2007). Cash holding can help to reduce the possibility of financial distress, allow fulfilment of investment policy when financial restraints are met, and minimise the cost of external fundraising or existing asset liquidation (Ferreira and Vilela, 2004). In 1984, Myers theorised the pecking order of financing and asserted that firms should first use internal financing, then move on to debt instruments, before finally using equity to minimise information asymmetry.

CHAPTER 5

SAMPLE, DATA, AND DESCRIPTIVE STATISTICS

5.1 Sampling Process

This study aims to understand how managerial ability affects dividend policy. The original sample includes all firms reported by the annual Compustat/CRSP Merged Database from 1990 to 2011 (23,394 firm-year observations). As discussed earlier, this study applies the measure of managerial ability presented by Demerjian, Lev, and McVay (2012). Firms whose data does not exist on the Center for Research in Security Prices (CRSP) or Standard and Poor's Compustat databases are then eliminated. This is insufficient to calculate the DEA efficiency estimation (and eventually the measure of managerial ability). The amount of capital expenditure expenses and R&D expenses will be set to zero if they are not reported.

The descriptive statistics for the discussed controlled variables and MA-score are set forth in Table 5.1. The number of observations, mean, median, standard deviation, and the 25th and the 75th percentiles are presented. The mean of MA-score is -0.0036, with a standard deviation of 0.18, while the 25th percentile is -0.1223 and the 75th percentile value is 0.1017. Based on the aforementioned empirical model development, this study controls the following firm characteristics: firm size (the logarithm of total assets), leverage (the ratio of total debt to total assets), ROE (the ratio of net income to total equity), earnings before interest, taxes, depreciation, amortisation, and rent (EBITDAR) (the ratio of EBITDAR to total assets), R&D ratio (the ratio of research and development expense to total assets), advertising ratio (the ratio of advertising expense to sales revenue), capital expenditure (the ratio of capital expenditure to total assets), growth (sales revenue growth this year), corporate income tax (the ratio of corporate income tax to total assets), cash holdings (the ratio of cash holdings to total assets), and retained earnings (the ratio of retained earnings to total equity). Table 5.1 Descriptive Statistics

This table 5.1 shows firm characteristics of 19,745 firm year observations from 1990-2011. Firm characteristics are from Compustat. Ln(Total Assets) is the logarithm of total assets. Leverage is the ratio of long-term debt to total assets. The two profitability variables are ROE and EBITDAR. ROE is returns on equity. EBITDAR is the ratio of EBITDA to total sales. R&D Ratio is research and development expense divided by total assets. Advertising Ratio is advertising expense to sales ratio. Capital Exp. is the capital expenditure divided by total assets. Growth is last year revenue growth. Corporate Income Tax is to divide corporate income tax paid by total assets. Cash holdings is to divide cash held by a firm by its total assets. MA-score is Managerial Ability score provided by Demerjian et al. (2012).

Table 5.1 Descriptive Statistics

Firm Characteristics	Observation	Mean	Median	Standard Deviation	25th	75th
Ln(Total Assets)	19,745	5.7278	5.6080	2.1081	4.3888	7.0438
Leverage	19,745	0.2993	0.1510	1.7073	0.0046	0.3779
ROE	19,745	-0.0604	0.0254	0.3910	-0.1293	0.0924
EBITDAR	19,745	0.0176	0.0926	0.6643	-0.0145	0.1570
R&D Ratio	19,745	0.0593	0.0012	0.1793	0	0.0711
Advertising Ratio	19,745	0.0163	0	0.0765	0	0.0060
Capital Exp.	19,745	0.0664	0.0369	0.0898	0.0171	0.0798
Growth	19,745	3.4427	0.1619	19.6596	0.0067	0.4645
Corporate Income Tax	19,745	0.0137	0.0041	0.0499	0.0041	0.0242
Cash holding	19,745	0.2491	0.1447	0.2563	0.0407	0.4057
Retain Earnings	19,745	-0.3547	-0.0343	1.0134	-0.6677	0.1898
Managerial Ability	Obs	Mean	Median	Standard Deviation	25 th	75 th
MA-score	19,745	0.0043	-0.0132	0.1773	-0.1126	0.1083

In Table 5.1, retained earnings to total equity displays negative mean and median values. This is consistent with a study by DeAngelo, DeAngelo, and Stulz in 2006. They reported a substantial increase in publicly traded industrial firms whose

retained earnings were negative from 11.8% in 1978 to 50.2% in 2002. According to the life-cycle theory of dividends, a proportion of publicly traded industrial firms pay high dividends when retained earnings represent a large fraction of the total equity (or total assets) and fall down to almost zero when they represent a small fraction. Fama and French (2001) found supportive evidence that the proportion of firms paying cash dividends dropped from 66.5% in 1978 to 20.8% in 1999. Therefore, the conclusion can be drawn that publicly traded firms incline towards small firms with low profitability but strong growth opportunity.

In order to investigate the difference between the two groups (dividend-paying firms and non-paying firms), this study commences with descriptive statistics for both groups. The first group consists of dividend non-payers with the second being dividend payers. Several prior findings have shown that dividend-paying firms and non-paying firms have dissimilar characteristics (Fama and French, 2001; DeAngelo, DeAngelo, and Stulz, 2006). The statistical results shown in Table 2 reveal that dividend-paying firms are larger and focus less on R&D and advertising than non-dividend-paying firms. It seems that the propensity to pay dividends and cash held by firms are strongly correlated.

The statistics for the independent variable MA-score are also reported in the lower section of Table 5.2. The MA-score, which is employed to represent managerial ability, is significantly higher for dividend-paying firms than for non-paying firms, signifying that firms with more able managers tend to pay dividends when compared to those with less able managers.

This table 5.2 shows firm characteristics and MA-score by dividend-paying firms and non-paying firms. Firm characteristics are from Compustat. Ln(Total Assets) is the logarithm of total assets. Leverage is the ratio of long-term debt to total assets. The two profitability variables are ROE and EBITDAR. ROE is returns on assets. EBITDAR is the ratio of EBITDA to total sales. R&D Ratio is research and development expense divided by total assets. Advertising Ratio is advertising expense to sales ratio. Capital Exp. is the capital expenditure divided by total assets. Growth is last year revenue growth. Corporate Income Tax is to divide corporate income tax paid by total assets. Cash holdings is to divide cash held by a firm by its total assets. MA-score is Managerial Ability score provided by Demerjian et al. (2012).

Table 5.2 Dividend-paying Firms vs. Non-Paying Firms

Firm characteristics	Dividend nonpayers			Dividend payers			Difference	
	Obs	Mean	Median	Obs	Mean	Median	<i>t</i> -statistics	<i>z</i> -statistics
Ln(Total Assets)	13,991	5.2668	5.2603	5,754	6.8486	6.8874	-50.9643***	-47.6961***
Leverage	13,991	0.2926	0.0934	5,754	0.3155	0.2587	-0.8571	-1.2116
ROE	13,991	-0.9145	0.0054	5,754	0.0150	0.0593	-17.5107***	-18.8996***
EBITDAR	13,991	-0.0147	0.0751	5,754	0.0963	0.1249	-10.7045***	-11.6354***
R&D Ratio	13,991	0.0726	0.0080	5,754	0.0269	0	16.3598***	16.1421***
Advertising Ratio	13,991	0.0178	0	5,754	0.0124	0	4.5822***	5.8605***
Capital Exp.	13,991	0.0634	0.0333	5,754	0.0738	0.0467	-7.4411***	-7.4490***
Growth	13,991	3.7981	0.1772	5,754	2.5786	0.1343	0.7101	0.8831
Corporate Income tax	13,991	0.0116	0.0024	5,754	0.0187	0.0101	-9.0374***	-9.8179***
Cash Holding	13,991	0.2847	0.1948	5,754	0.1625	0.0824	31.1732***	35.0389***
Retained Earnings	13,991	-0.4640	-0.1343	5,754	-0.0890	0.0480	-23.9735***	-26.0783***
MA-score	13,991	-0.0017	-0.0198	5,754	0.0188	0.0027	-7.4104***	-7.5413***

Note: ***,** indicate statistical significance at the 0.01 and 0.05 level, respectively.

Table 5.3 shows the statistics of the main dependent variables of firms with high and low MA-scores. The sample is divided into two groups based on their MA-score as to whether they are higher or lower than the median of overall observations. Table 3, Panel A, exhibits statistics for the dividend payout ratio and the proportion of dividend-paying firms.

Regardless of which dividend measure is considered, firms with higher ability managers have a greater proportion of dividend-paying firms than firms with lower ability managers. Firms with high-ability managers are more likely to pay dividends and the result is statistically significant. Dividend-paying firms with higher ability are more likely to show greater dividends.

Firms with a high MA-score are more likely to pay dividends. Findings from this study show that 29.99% of firms with high-ability managers, pay dividends, whereas only 25.62% of firms with low ability managers are dividend payers. The result from this primary test supports the earning quality hypothesis, which posits that firms with high-quality managers are capable of promoting earning quality (or sustainability) and encourage the payment of dividends. Dividend-paying firms with high MA-scores tend to pay greater dividends conditional on their total assets. Nonetheless, the result is not statistically significant.

In addition, Panel B displays the correlation coefficients between the MA-score and different measures for dividend payouts. The correlation coefficients are all positively significant, which is also consistent with the earnings quality hypothesis as explained earlier. However, it is too early to draw a conclusion as it is essential to control such firm-specific characteristics which may be associated with dividends. Therefore, multivariate regression is conducted in the following section.

Table 5.3 Correlation Analysis and Univariate Statistics

This table shows the dividend characteristics from firms with high and low MA-scores. The sample is divided using the median of all observations. The dividend and firm characteristics information is obtained from Compustat. MA-score is obtained from Demerjian et al. (2012).

Table 5.3 Correlation Analysis and Univariate Statistics

Panel A: Univariate statistics					
	Full sample	High MA-score	Low MA-score	Difference	
				(t-statistic)	(z-statistic)
Dividend/total assets	0.0145	0.0192	0.0093	11.7787***	12.1556***
Dividend/sales	0.0224	0.0238	0.0209	2.6288***	2.6400***
Dividend/net income	0.2867	0.3868	0.1654	2.8796***	2.9569***
Proportion of dividend-paying firms	0.2914	0.3172	0.2630		
N	19,754	10,343	9,402		
Panel B: Correlation coefficients					
	DIV./Total Assets	DIV/Sales	DIV/NI	DIV.dummy	
MA-score	0.1110***	0.0356***	0.0250***	0.0527***	
	(<0.001)	(<0.001)	(<0.001)	(<0.001)	

Note: ***,**,* indicate statistical significance at the 0.01, 0.05 and 0.10

This study investigates the correlation between variables by calculating a correlation matrix as shown in Table 5.4. The correlation matrix shows that dividends to sales, dividends to total assets, and dividends to net income are highly correlated. Moreover, all these three variables are positively correlated with the MA-score. Therefore, more tests are needed in order to examine the relationship between MA-score and dividend variables.

In order to address the multicollinearity problem arising when independent variables are highly correlated, in Table 5.5, the variance inflation factor (VIF) test is employed to quantify the severity of multicollinearity. As a rule of thumb, if the VIF value is less than 5, there is no multicollinearity problem. The result shows that there is no multicollinearity among the tested variables because the highest VIF here is only 3.04 for the EBITDAR ratio. Table 5.4 Correlation matrix

This table shows the correlation between each variable. Dividend and firm characteristics are from Compustat. $\ln(\text{Total Assets})$ is the logarithm of total assets. Leverage is the ratio of long-term debt to total assets. The two profitability variables are ROE and EBITDAR. ROE is returns on assets. EBITDAR is the ratio of EBITDA to total sales. R&D Ratio is research and development expense divided by total assets. Advertising Ratio is advertising expense to sales ratio. Capital Exp. is the capital expenditure divided by total assets. Growth is last year revenue growth. Corporate Income Tax is to divide corporate income tax paid by total assets. Cash holdings is to divide cash held by a firm by its total assets. MA-score is Managerial Ability score provided by Demerjian et al. (2012).

Table 5.4 Correlation Matrix

variables	Dividend /total assets	Dividend /sales	Dividend /net income	MA- score	Ln (Total Assets)	Leverage	ROE	EBITDA R	R&D Ratio	Advertisi ng Ratio	Capital Exp.	Growth	Corporat e Income tax	Cash Holding	Retained Earnings
Dividend/total assets	1.0000														
Dividend/sales	0.6951*	1.0000													
	0.0000														
Dividend/net income	0.1587*	0.1308*	1.0000												
	0.0000	0.0000													
MA-score	0.1110*	0.0356*	0.0250*	1.0000											
	0.0000	0.0000	0.0004												
Ln(Total Assets)	0.0423*	0.0795*	0.0267*	0.0540*	1.0000										
	0.0000	0.0000	0.0002	0.0000											
Leverage	0.0261*	0.0036	0.0045	0.0254*	-0.0943*	1.0000									
	0.0003	0.6120	0.5275	0.0004	0.0000										
ROE	0.1010*	0.0563*	0.0187*	0.2607*	0.2269*	0.0917*	1.0000								
	0.0000	0.0000	0.0084	0.0000	0.0000	0.0000									
EBITDAR	0.0218*	0.0200*	0.0119	0.1118*	0.2671*	-0.7227*	0.1137*	1.0000							
	0.0021	0.0050	0.0947	0.0000	0.0000	0.0000	0.0000								
R&D Ratio	-0.0291*	-0.0287*	-0.0132	-0.0132	-0.2362*	0.4337*	-0.1320*	-0.5964*	1.0000						
	0.0000	0.0001	0.0633	0.0645	0.0000	0.0000	0.0000	0.0000							
Advertising Ratio	0.0265*	-0.0041	-0.0058	0.0534*	-0.1309*	0.0344*	-0.0583*	-0.1160*	0.0071	1.0000					
	0.0002	0.5677	0.4115	0.0000	0.0000	0.0000	0.0000	0.0000	0.3160						
Capital Exp.	0.0271*	0.0668*	0.0008	-0.0227*	0.0294*	0.0164*	-0.0171*	-0.0061	-0.0573*	0.0168*	1.0000				
	0.0001	0.0000	0.9062	0.0014	0.0000	0.0214	0.0162	0.3913	0.0000	0.0184					
Growth	0.0008	0.0007	-0.0003	0.0194*	-0.0238*	0.0002	-0.0307*	-0.0074	-0.0026	0.0112	0.0111	1.0000			
	0.9156	0.9227	0.9696	0.0065	0.0008	0.9797	0.0000	0.3010	0.7179	0.1155	0.1184				
Corporate Income tax	0.1209*	0.0441*	0.0072	0.1959*	0.0690*	-0.0141*	0.1814*	0.1358*	-0.0414*	0.0267*	0.0008	-0.0070	1.0000		
	0.0000	0.0000	0.3140	0.0000	0.0000	0.0469	0.0000	0.0000	0.0000	0.0002	0.9091	0.3226			
Cash Holding	0.0411*	-0.0232*	-0.0272*	-0.0666*	-0.3108*	-0.0959*	-0.1687*	-0.1084*	0.2922*	0.0467*	-0.1788*	0.0069	-0.0240*	1.0000	
	0.0000	0.0011	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3314	0.0008		
Retained Earnings	0.0670*	0.0423*	0.0192*	0.2095*	0.3276*	0.1639*	0.5682*	0.0425*	-0.1668*	-0.0258*	0.0639*	-0.0144*	0.1893*	-0.2699*	1.0000
	0.0000	0.0000	0.0069	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003	0.0000	0.0427	0.0000	0.0000	

Note: * indicate statistical significance at 0.05

This table shows regression results of dividend dummy and MA-score and the variance inflation factor of each variable. Firm characteristics are from Compustat. Ln(Total Assets) is the logarithm of total assets. Leverage is the ratio of long-term debt to total assets. The two profitability variables are ROE and EBITDAR. ROE is returns on assets. EBITDAR is the ratio of EBITDA to total sales. R&D Ratio is research and development expense divided by total assets. Advertising Ratio is advertising expense to sales ratio. Capital Exp. is the capital expenditure divided by total assets. Growth is last year revenue growth. Corporate Income Tax is to divide corporate income tax paid by total assets. Cash holdings is to divide cash held by a firm by its total assets. MA-score is Managerial Ability score provided by Demerjian et al. (2012).

Table 5.5 Variance Inflation Factor Analysis

Variables	Coefficient	Standard Error	VIF	Tolerance value
MA-score	0.4777*** (2.64)	0.0181	1.14	0.8781
Ln(Total Assets)	0.0646*** (39.82)	0.0016	1.29	0.7753
Leverage	0.0012 (0.43)	0.0028	2.46	0.4069
ROE	0.0223** (2.32)	0.0096	1.57	0.6375
EBITDAR	-0.0275 (-3.48)	0.0079	3.04	0.3287
R&D Ratio	-0.0816*** (-3.65)	0.0223	1.77	0.5642
Advertising Ratio	0.0361 (0.90)	0.0403	1.05	0.9530
Capital Exp.	0.1154*** (3.38)	0.0342	1.04	0.9601
Growth	0.0000 (0.42)	0.0000	1.00	0.9976

Table 5.5 (Continued)

Variables	Coefficient	Standard Error	VIF	Tolerance value
Corporate Income tax	0.3201*** (5.07)	0.0631	1.10	0.9126
Cash Holding	-0.1861*** (-13.82)	0.0135	1.32	0.7598
Retained Earnings	0.0066* (1.68)	0.0039	1.72	0.5827

Note: ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10

CHAPTER 6

EMPIRICAL RESULTS

In order to obtain further understanding, multivariate regression analysis is used in this study to control a large number of previously defined variables which impact on dividend policy. A natural logarithm of total assets is included to control the firm size. Financial leverage is documented to influence dividend payout (Al-Kuwari, 2009). Thus, debt ratio is controlled by interpolating the ratio of long-term debt to total assets. Additionally, growth opportunities have an influence on dividend payouts (Rozeff, 1982). This present study also incorporates the R&D ratio and advertising expense to total assets to represent opportunities for new investment.

Additionally, debt holders generally impose covenants on dividend payouts and therefore it can be concluded that financial leverage may also influence dividend policy. The ratio of income tax to total assets is included to control the effect of dividend tax efficiency (John and Knyazeva, 2006). Since mature firms usually have more capital to spend, they are inclined to pay more dividends than new firms. Therefore, in this study a control variable of the ratio of retained earnings to total equity is subsumed into the analysis. The amount of cash on hand of the company is also considered by adding the ratio of cash and marketable securities to net assets (total assets subtracted by the amount of marketable securities and cash). A share repurchase variable is included in this study for control in accordance with its growing importance as another method of cash allocation. To control potential changes over time and industrial effects, year and industry dummies are included (based on industry categorisation as set out in the work by Campbell in 1996).

Table 6.1 presents logistic regression results. As with Demerjian et al. (2012), this study clusters standard errors by industry as well as by year. Logistic regressions with a dummy variable functioning as a dependent variable are used in the first two models. The dummy variable representing the propensity to pay dividends is equal to one if a firm of any size pays dividends. This study seeks to determine how

managerial ability impacts on the propensity of companies to pay dividends. The interest variable is the MA-score. As a result, the coefficient of this variable is positive and highly significant (P-value <0.01), suggesting that firms with more able managers exhibit a greater likelihood to payout dividends. Non-monotonic relations can be formed, meaning that a change in managerial ability of firms with more able managers and those with less able managers will have a different effect on dividend policy. This study uses a different measure of managerial ability, with the MA-score powered by two, to address possible non-monotonic relations with the propensity to pay dividends in the latter two models. The results are positive but insignificant. Therefore, the results can be interpreted as being consistent with the earnings quality hypothesis, where managerial ability has substantial influence on pivotal corporate decisions in the same manner as dividend policy. More able managers can help to improve corporate earnings quality (or sustainability), encouraging larger dividend payments.

This table reports the result of Tobit regression models. The dependent variable is the dividend dummy that equals one if the firm pays a dividend. MA-score is provided by Demerjian et al. (2012). Ln (Total Assets) is the logarithm of book value of total assets. Leverage is the ratio of long-term debt to total assets. Growth is last year revenue growth. Profitability is the ratio of net income to total sales. R&D Ratio is research and development expense divided by total assets. Advertising Ratio is advertising expense to sales ratio. Capital Exp. is the capital expenditure divided by total assets. Growth is last year revenue growth. Corporate Income Tax is to divide corporate income tax paid by total assets. Cash holdings is to divide cash held by a firm by its total assets. Retained Earnings is the ratio of retained earnings to total equity. Repurchase Dummy equals one if the firm repurchases common stock. The standard errors are adjusted for clusters in firms and the z -statistics are reported in parentheses.

Table 6.1 The Likelihood of Dividend Payouts and Managerial Ability

	Model 1	Model 2	Model 3	Model 4
Intercept	0.3313 (1.53)	0.3356 (1.55)	0.3450 (1.59)	0.3485 (1.61)
MA-score	0.1422*** (5.66)	0.1441*** (5.74)		
MA-score ²			-0.0372 (-0.42)	-0.0252 (-0.29)
Ln(Total Assets)	0.0806*** (31.46)	0.0788*** (30.50)	0.0801*** (31.29)	0.0784*** (30.34)
Leverage	-0.0042 (-1.15)	-0.0043 (-1.17)	-0.0024 (-0.66)	-0.0025 (-0.68)
ROE	0.0233* (1.81)	0.0233* (1.81)	0.0346*** (2.72)	0.0349*** (2.74)
EBITDAR	-0.0391*** (-3.72)	-0.0395*** (-3.77)	-0.0295*** (-2.84)	-0.0298*** (-2.88)
R&D Ratio	-0.0034 (-0.11)	-0.0059 (-0.19)	0.0124 (0.39)	0.0102 (0.32)
Advertising Ratio	0.0414 (0.75)	0.0395 (0.71)	0.0717 (1.29)	0.0699 (1.26)
Capital Exp.	-0.2060*** (-3.87)	-0.1980*** (-3.72)	-0.2060*** (-3.87)	-0.1983*** (-3.72)
Growth	-0.0001 (-0.12)	0.0001 (-0.07)	0.0001 (0.08)	0.0001 (0.12)
Corporate Income Ratio	0.4351*** (5.16)	0.4289*** (5.09)	0.4925*** (5.86)	0.4864*** (5.79)
Cash Holding	-0.0729*** (-3.58)	-0.0744*** (-3.66)	-0.0795*** (-3.90)	-0.0813*** (-3.99)
Retain Equity	-0.0001* (-0.03)	0.0011 (-0.22)	0.0022 (0.41)	0.0012 (0.23)
Repurchase Dummy		0.0473*** (4.78)		0.0463*** (4.67)
Industry Dummy	Yes	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes	Yes
Pseudo R ²	0.1524	0.1530	0.1516	0.1521
Wald X ² (23)	5909.55***	5932.44***	5877.73***	5899.57***
No of observations	19,745	19,745	19,745	19,745

Note: ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

In Table 6.2, this study investigates the impact of managerial ability on the magnitude of dividend payouts, measured by the ratio of dividends paid to total assets. In the execution of this regression analysis, only dividend-paying firms are included. The ordinary least squares (OLS) regression results are presented in Table 6.2. In this regression, the standard errors are adjusted for clustering at firm level. The MA-score displays positive and significant coefficients in both cases (to control share repurchase or not). Firms that pay larger dividends have superior managers. This is consistent with this study's preceding discoveries. Superior managerial ability is correlated with a higher inclination to pay dividends, and larger dividends when considering dividend-paying firms only.

This table reports the results of OLS regression for dividend payers only in Models 1,2 and 3. The dependent variables are the ratio of 1) Dividend to total assets, 2) Dividend to Sales, and 3) Dividend to Net Income. MA-score is provided by Demerjian et al. (2012). Ln(Total Assets) is the logarithm of book value of total assets. Leverage is the ratio of long-term debt to total assets. Growth is last year revenue growth. Profitability is the ratio of net income to total sales. R&D Ratio is research and development expense divided by total assets. Advertising Ratio is advertising expense to sales ratio. Capital Exp. is the capital expenditure divided by total assets. Growth is last year revenue growth. Corporate Income Tax is to divide corporate income tax paid by total assets. Cash holdings is to divide cash held by a firm by its total assets. Capital Retained Earnings is the ratio of retained earnings to total equity. The standard errors are adjusted for clusters in firms and the *t*-statistics are reported in parentheses.

Table 6.2 Dividend Payouts and Managerial Ability

Dependent Variable	Dividend-paying firms only		
	Model 1	Model 2	Model 3
	Dividend to Total Assets	Dividend to Sales	Dividend to Net Income
Intercept	0.0406 (1.00)	0.0672 (1.28)	4.107 (0.90)
MA-score	0.0897*** (10.56)	0.0383*** (3.49)	2.280546** (2.41)
Ln(Total Assets)	-0.0092*** (-11.32)	-0.0058*** (-5.48)	-0.0583 (-0.64)
Leverage	0.0658*** (16.17)	0.0089* (1.70)	1.551*** (3.42)
ROE	0.0180*** (3.70)	0.0160** (2.55)	-0.2285 (-0.42)
EBITDAR	0.0422*** (6.22)	0.0112 (1.28)	1.839** (2.43)
R&D Ratio	-0.0636** (-3.96)	0.0182 (0.88)	0.4554 (0.25)
Advertising Ratio	0.2438*** (7.38)	0.0626 (1.47)	-4.9647*** (-1.35)
Capital Exp.	0.0143*** (0.88)	0.0084 (0.40)	-0.7914*** (-0.44)
Growth	0.0001 (0.05)	0.0001 (0.04)	-0.0004 (0.24)
Corporate Income Ratio	0.4589*** (13.33)	0.2105*** (4.74)	-3.4516 (-0.90)
Cash Holding	0.0540*** (6.19)	0.1253*** (11.13)	-0.4713 (-0.48)
Retain Equity	-0.0075*** (-3.83)	-0.0091 (-3.56)	0.1188 (0.54)
Industry Dummy	Yes	Yes	Yes
Year Dummy	Yes	Yes	Yes
F-statistics	15.62***	14.20***	12.14***
Adjusted R^2	0.2519	0.1529	0.1136
No. of Observations	5,754	5,754	5,754

Note: ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

CHAPTER 7

ROBUSTNESS CHECKS

Table 7.1 runs robustness checks on the likelihood of dividend payouts and alternative measures of managerial ability. Firm efficiency and MA-rank are used in substitution of the MA-score. As discussed in the literature, firm efficiency is measured by using DEA to assess firm capability as a member of an industry. MA-rank means the ranks of the MA-score as provided by Demerjian et al. (2012). Consistent with the earlier findings, both are positive and significant in the tendency to pay out dividends.

This table 7.1 shows the results of Tobit regression models. The dependent variable is the repurchase dummy that equals one if the firm repurchases its shares. MA-rank is the rank of MA-score as provided by Demerjian et al. (2012). Firm Efficiency is made by using data envelopment analysis (hereafter, DEA) to estimate firm efficiency within the industry. Ln(Total Assets) is the logarithm of book value of total assets. Leverage is the ratio of long-term debt to total assets. Growth is last year revenue growth. Profitability is the ratio of net income to total sales. R&D Ratio is research and development expense divided by total assets. Advertising Ratio is advertising expense to sales ratio. Capital Exp. is the capital expenditure divided by total assets. Growth is last year revenue growth. Corporate Income Tax is to divide corporate income tax paid by total assets. Cash holdings is to divide cash held by a firm by its total assets. Retained Earnings is the ratio of retained earnings to total equity. Repurchase Dummy equals one if the firm repurchases common stock. The standard errors are adjusted for clusters in firms and the z -statistics are reported in parentheses.

Table 7.1 The Likelihood of Dividend Payouts and Alternative Measure of Managerial Ability

	Model 1	Model 2
Intercept	0.2831 (1.30)	0.2049 (0.94)
MA-rank	0.0817*** (5.52)	
Firm Efficiency		0.2093*** (9.18)
Ln(Total Assets)	0.0805*** (31.45)	0.0702*** (25.29)
Leverage	-0.0039 (-1.07)	-0.0055 (-1.49)
ROE	0.0243* (1.89)	0.0158 (1.23)
EBITDAR	-0.0381*** (-3.63)	-0.0457*** (-4.34)
R&D Ratio	-0.0023 (-0.07)	-0.0110 (-0.35)
Advertising Ratio	0.0455 (0.82)	0.0214 (0.39)
Capital Exp.	-0.2071*** (-3.89)	-0.1797*** (-3.38)
Growth	-0.0001 (-0.05)	-0.0001 (-0.21)
Corporate Income Ratio	0.4417*** (5.25)	0.3846*** (4.56)
Cash Holding	-0.0728*** (-3.58)	-0.0625*** (-3.07)
Retain Equity	-0.0002 (-0.04)	0.0029 (-0.56)
Industry Dummy	Yes	Yes
Year Dummy	Yes	Yes
Pseudo R ²	0.1524	0.1537
Wald X ² (23)	5907.99***	5961.85***
No. of observations	19,745	19,745

Note: ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

Share repurchases are comparable to dividends because both require the firm to pay out cash to shareholders. In recent times, many firms choose to repurchase their shares more and more. As a result, share repurchase is becoming a more general method and even takes the place of dividends in some firms. One of the important differences between dividends and share repurchases is that share repurchases are cash distributions and considered to be less obligatory compared to dividends. Preceding research displays a distinct unfavourable market reaction to dividend cuts or discontinuation. Therefore, dividends notably oblige managers through large penalties for dividend decrease or omission, making dividends a more adequate pre-commitment instrument in the existence of an agency problem. In contrast, the adjustability correlated with share repurchases gives managers extra alternatives. Kooli and L'Her (2010) found evidence of the distinction between dividends and share repurchases.

In this section, the influence of managerial ability on the selection of share repurchase and dividend payouts is investigated. Firms with more able managers may be inclined towards dividends rather than repurchase, considering that dividends create a stronger long-term commitment to shareholders. This makes it more difficult for managers to be appropriate to shareholders (the reason being that dividends diminish what is left for appropriation). This result conforms to the earnings quality hypothesis.

Similar to John and Knyazeva (2006), a regression analysis is run in this study to consider the choice between dividends and share repurchase. The results are shown in Table 7.2. The first model compares dividend-paying firms that use repurchase only. The second model examines firms which pay dividends and also use repurchase with those that use repurchase only. Finally, the third model contrasts firms which pay dividends only with those that use share repurchase only. Three models display consistent results where the MA-score is positively associated with dividend-paying firms, implying that the overall ability of managers affects payout choice between dividends and share repurchase. More able manager prefer dividends over share repurchase.

This table 7.2 reports the Tobit regression results showing the likelihood of payout choices. In Model 1, the dependent variable is a dummy variable that equals one if the firm pays a dividend and equals zero if the firm uses a stock repurchase

only. In Model 2, the dependent variable is the dummy variable that equals one if the firm both pays a dividend and uses a repurchase, and equals zero if the firm uses a stock repurchase only. In Model 3, the dependent variable is the dummy variable that equals one if the firm only pays a dividend and equals zero if the firm uses only a stock repurchase. The standard errors are adjusted for clusters in firms and the z-statistics are reported in parentheses.

Table 7.2 Managerial Ability and Payout Choices (Dividend vs. Repurchases)

Dependent variable	Model 1 (Wald-statistics)	Model 2 (Wald-statistics)	Model 3 (Wald-statistics)
	DIV vs. REP ONLY	DIV & REP vs. REP ONLY	DIV ONLY vs. REP ONLY
Intercept	-0.8661** (-2.24)	0.2931 (0.43)	0.9188*** (2.73)
MA-score	0.2382*** (5.25)	0.3238*** (2.66)	0.2606*** (4.66)
Ln(Total Assets)	0.0328*** (7.40)	0.1482*** (12.12)	0.0158*** (2.83)
Leverage	-0.0430** (-2.66)	-0.1249* (-1.70)	-0.0479*** (-2.56)
ROE	0.0461* (1.84)	-0.1121 (-1.45)	0.0729** (2.45)
EBITDAR	-0.1540*** (-4.50)	0.2514 (1.50)	-0.1819*** (-4.55)
R&D Ratio	-0.3221*** (-4.01)	-0.2338 (-0.77)	-0.3773*** (-4.06)
Advertising Ratio	0.0741 (0.51)	0.4399 (1.25)	-0.0248 (-0.14)
Capital Exp.	0.0938 (1.01)	-0.4655 (-1.53)	0.1266 (1.15)
Growth	0.0001** (0.94)	-0.0044 (-1.23)	0.0001** (0.86)
Corporate Income Ratio	0.5620*** (3.21)	0.6413 (1.35)	0.4619** (2.14)
Cash Holding	-0.2363*** (-5.65)	-0.1763 (-1.60)	-0.2709*** (-5.33)
Retain Equity	-0.0221** (-2.20)	0.0298 (1.09)	-0.045*** (-3.70)
Pseudo R^2	0.1713	0.2178	0.1977
Wald X^2	3131.93***	1852.43***	3041.27***
No. of Observations	8,843	4,677	7,255

Note: ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

CHAPTER 8

ADDITIONAL TESTS

It could be argued that the results in this study are affected by reverse causality. Specifically, dividend policy and managerial ability are endogenously determined. For instance, the firms that can afford to pay more dividends may be in a better financial position than non-dividend-paying firms. As a result, it is possible that these firms will attract more able managers. According to the efficient labour market theory by Jensen (1986), more able managers will earn higher total compensation. Apart from the said theoretical ground, the positive association has been supported by many empirical studies. Ángel and Fumás (1997) found an unmistakable relationship between the size of firms and management pay mediated by manager ability. From their study in 2003, Brenner and Schwalbach revealed that strong manager quality and pay are significantly correlated in both Germany and the UK. The quality of the manager was measured by the variables of education and experience. Therefore, dividend-paying firms will have a higher chance of affording the CEO's salary and compensation.

This study attempts to address possible reverse causality by the following robustness test. The two-stage least squares (2SLS) approach is used in this section. This approach requires an instrumental variable, correlated with managerial ability, but does not affect dividend payout except through managerial ability. The industry median of the MA-score is applied as the instrumental variable. Although the dividends of a given firm might influence managerial ability, it is unlikely to be related at industry-level. Therefore, industry-level managerial ability should function as a valid instrumental variable.

The results from 2SLS are shown in Table 8.1. Model 1 is the first-stage regression, where managerial ability is the dependent variable. The industry median of MA-score is included as an independent variable and displays a positive and significant coefficient. Not surprisingly, calculation of MA-score is on the basis of

comparing DEA within the industry. Therefore, the industry median of MA-score must have strong explanatory power for an MA-score of a firm in that industry. Model 2 is the second-stage regression, where dividend paid to total assets is included as a dependent variable. The predicted MA-score instrumented from the first-stage is an independent variable. The coefficient of the instrumented MA-score is positive and significant. Therefore, the results from 2SLS substantiate the earlier findings in this study which show that dividend policy is affected by managerial ability. Since the 2SLS analysis is substantially less susceptible to reverse causality, this conclusion appears to be robust.

This table 8.1 shows the results of the 2SLS regressions. My instrumental variables are the MA-score (industry median). The discussion about the rationale and validity of the instrumental variables is discussed in Chapter 8. The *t*-statistics are reported in parentheses.

Table 8.1 Two-stage Least Squares (2SLS) Regressions for Dividend Payouts and Managerial Ability

Dependent variable	Model 1	Model 2
	First stage	Second stage
	MA-score	DIV/TA
Intercept	-0.0555 (-0.96)	0.0404 (0.990)
MA-score (industry median)	0.7692*** (37.69)	-
Predicted MA-score	-	0.0840 (4.51)
Ln(Total Assets)	0.0041*** (3.54)	-0.0092*** (-11.22)
Leverage	0.0140** (2.42)	0.0659*** (16.13)
ROE	0.0546 (7.91)***	0.0185*** (3.64)
EBITDAR	0.0985 (10.30)***	0.0430*** (6.01)
R&D Ratio	0.2362 (10.43)***	-0.0619** (-3.67)
Advertising Ratio	0.1858 (3.96)***	0.2449*** (7.38)
Capital Exp.	0.0098 (0.43)	0.0145 (0.371)

Table 8.1 (Continued)

Dependent variable	Model 1	Model 2
	First stage	Second stage
	MA-score	DIV/TA
Growth	-0.0001** (-2.37)	-0.0001 (0.04)
Corporate Income Ratio	0.3004*** (6.15)	0.4615*** (13.08)
Cash Holding	-0.0218* (-1.75)	0.0539*** (6.17)
Retain Equity	0.0087*** (3.09)	-0.0075*** (-3.81)
Adjusted R^2	0.4365	0.2070
No. of Observations	5,754	5,754

Note: ***, **, * indicate statistical significance at the 0.01, 0.05 and 0.10 level, respectively.

CHAPTER 9

CONCLUSION

The area of managerial traits has been intensively debated among scholars for many years. In recent years, the focus seems to be more on a firm's managerial ability. Literature can be found in relation to various corporate activities and performance (i.e. earnings management, corporate tax avoidance, and financial performance etc.). However, there has been no attempt to solve the puzzle of the impact on payout to shareholders.

This study sheds light on the association of managerial ability with dividends, which is known to be a classical corporate policy dating back to at least five hundred years ago. An hypothesis is developed under two contrary premises. Managerial ability can be posited as a dividend driver since more able managers can improve earnings quality and encourage greater dividend payouts. In contrast, firms with superior managers might not necessarily use the dividend mechanism to signify how good they are. Therefore, they are less likely to pay dividends, and those that do, may pay less.

To measure managerial ability, this study applies a new measurement technique, developed by Demerjian et al. (2012) on the back of the DEA technique. This technique has been widely accepted by researchers in recent years to determine the genuine contribution from managers.

Using a sample of 23,394 firm-year observations for US listed firms from 1990 to 2011, the empirical findings here exhibit a positive and significant relationship; that is, firms with more able managers display a stronger propensity to pay dividends, and those paying dividends also distribute at a larger payout ratio. The results are robust in controlling a large number of firm-specific characteristics, namely: firm size, leverage, profitability, growth opportunities, possible tax effects, and share repurchase activity. The evidence is in agreement with the prediction of earnings quality hypothesis, where more able managers are beneficial to firms. They

can manage resources more wisely and help to improve and sustain corporate financial performance (or earnings quality), thereby encouraging firms to increase the level of dividends, constituting a long-term commitment to shareholders. The non-monotonic relationship is investigated in this study but shows no significant results. To address endogeneity concerns in the empirical results, 2SLS equations are constructed using the industry-median MA-score as an instrument variable. As a result, the inference is that it is unlikely to be mistaken for reverse causality.

This study makes several contributions to financial literature. Firstly, it is the first to investigate the association between managerial ability and dividend policy. Secondly, it provides strong evidence regarding the effect of managerial ability on other corporate decisions by showing that it matters in dividend policy. Thus, the findings in this study display important public policy implications.

In addition, based on the results of this study, the following suggestions are put forward for practitioners:

- 1) It is suggested that this insight can be used for the board of directors as a key criterion to recruit new capable top management. Specifically, the candidates' track record can be observed to establish how he or she set the dividend policy in the past and they can bring these corresponding attributes to the new firm.

- 2) It is also suggested to the board of directors to use the dividend policy as a benchmark or key performance indicator (KPI) to assess the performance of top management.

- 3) It can also be suggested to shareholders that the dividend paid is a key indicator signalling CEO competence.

- 4) Based on the MA-score calculation technique, managerial attributes can be segregated from firm efficiency. Board members and shareholders can apply the equations in this study to track the actual driver or hindrance of dividend payout. Without these advanced models, board members may misguidedly decide to sack a capable CEO following two consecutive fiscal years of poor dividends. On the contrary, board members might opt to award a poor CEO whose achievement is mainly driven by a rosy business environment.

Moreover, prior to this research, in order to create the model to determine the dividend payout ratio, only firm performance and characteristics were taken into

account. For example, Lloyd et al. (1985), Hedensted and Raaballe (2008), and Holder et al. (1998) argued that larger firms are more likely to pay dividends because they need to reduce agency costs and have better access to capital markets. Rozeff (1982), Lloyd et al. (1985), and Holder et al. (1998) found that there is a negative relationship between the growth of the company and the dividend payout ratio. The reason for this is that high-growth companies have to use retained earnings to finance part of the increased investments since external financing is costly. Much empirical evidence has asserted a negative relationship between dividends and R&D expense. Thomas et al. (2003) suggests that dividends and corporate investment compete for limited funds. Thus, increasing the R&D budget comes at the expense of lower dividend payouts. Besides, this negative relationship becomes more pronounced when dividend imputation credit exists. Similarly, Smith (1995) indicates that investors prefer companies paying higher dividends rather than those investing in R&D activities after legalising dividend imputation credit.

However, with the empirical evidence from this research, the MA-score is another factor that can also be used to explain the dividend payout ratio. Therefore, the model to determine the dividend payout ratio will be more precise if the MA-score is added as an explanatory variable.

Nevertheless, this study displays number of limitations and its evidence relies on proxies for managerial ability. Although selected measures try to separate the contribution of managers from overall firm efficiency, it can only represent the score of the entire team. It might not be a good indicator for the individual performance of CEOs or CFOs. Basically, dividend payout is based on the previous year's performance. It might be the case if a firm replaces a key management position in the current year but dividends are made on the performance of a previous CEO or CFO.

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