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Dividend Policy

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Abstract: The aim of this article is to analyze the various aspects of dividend policy. Emphasizing tax issues, theoretical frameworks of informational asymmetry of corporate governance and life cycles, we show that a static vision of dividends has been gradually replaced by a dynamic vision. Nevertheless, in spite of the numerous studies dealing with this topic, Black's (1976) "dividend puzzle" still remains unsolved.

JEL Classification: G35

Introduction

To quote Baker et al. (2001, p. 255): "Despite his voluminous amount of research, we still do not have all the answers to the dividend puzzle". In other words, we do not know why some firms pay dividends and others not. The explanation of dividend puzzle of Black (1976) remains valid. The belief of Black (1976, p. 5) is still the current opinion "Why do corporations pay dividends? Why do investors pay attention to dividends? (...) I claim that the answers to these questions are not obvious at all. The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just do not fit together".

We referred to Baker's et al. quotation (2001) and Black's quotation (1976) to point out that after more than 30 years in which various and numerous studies have been undertaken, the dividend issue remains one of the most complex and open in the financial literature. Before discussing the issue, we must stress on two main points that describe dividends. First, dividends are not compulsory. They can be explained using both theories or empirical events. Second, dividends cannot be solely considered as a short term objective of investors. Thus, when Telefonica announced in 1998 that the firm would not pay dividends and would use this money to develop its business, the share increased by 9%. However, when Microsoft decided for the first time in 2003 to pay a dividend, its share price also increased. As a consequence, the decision to pay (or not) dividends is a decision which cannot be analyzed independently of the context in which it falls.

Since the first study of Lintner (1956) and Miller and Modigliani (1961), a vast body of literature has been devoted to the dividend issue. Several frameworks have been considered.

The first stems from an economic point of view. In this framework, dividends can be considered either in terms of supply and demand (John and Williams, 1985; Ambarish and al., 1987) or in terms of life cycle (Baker and Wurgler, 2004a).

The second is interested in the method of dividend payment (cash or shares) and focuses on tax or legal considerations.

The third, by taking into account market imperfections, analyzes the relationship between dividend policy and value creation.

The fourth, which also considers market imperfections, deals with factors influencing dividend policy. Thus, is dividend policy a residual or managed policy?

All these studies, even if they contribute to a better understanding of the stakes and limits of dividends, have not reached a consensus so that the famous Black (1976) “dividend puzzle” still remains relevant.

The aim of this article is not to provide a general framework of analysis, but to provide the reader with various, recent findings that explain dividend payment policy and highlight the determinants of this policy.

Our paper will be organized as follows. Firstly, we will focus on the relationships between dividends and value by considering the symmetrical (asymmetrical) information framework and investor heterogeneity. Then, we will focus on the characteristics and practices of firms by considering life cycle theory and corporate governance. Finally we will conclude.

1. Dividend policy and value: History of a long way

In this part, we will analyze the determinants of dividend policy and the relationship between dividend and value. Our discussion will be based on the Lintner’s study (1956) and Miller and Modigliani’s theory (1961), where they assume that markets are efficient and information is symmetrical (A). Using these models, we will reconsider the determinants of dividend policy and its relationships with value via the heterogeneity of investors (B) and informational asymmetry (C).

A. Dividend policy in a framework of symmetrical information

A.1. Lintner's analysis

A.1.1. Lintner's model

The models which attempt to explain dividend policies rely on the idea that the variations of payments over time can be explained by the fact that firms tend to adjust their dividend according to a target dividend. The first model carried out in this field is that of Lintner (1956) which considers (1956, p. 107) that: “the model can be represented like the following equation $\Delta D_{it} = \alpha_i + c_i (D_{it}^* - D_{i(t-1)}) + u_{it}$ where ΔD_{it} is the change in dividend payments, c_i indicates the fraction of the difference between this ‘target’ dividend D_{it}^* , and the actual payment made in the preceding year, $D_{i(t-1)}$, D_{it}^* represents the dividends which the company would have paid in the current year if its dividend were simply based on its fixed target payout ratio r_i applied to current profits, $D_{it}^* = r_i P_{it}$ and r is the target of payout ratio¹ with P_t current year’s profits after taxes and D_{it} and $D_{i(t-1)}$ are the amounts of dividends paid in year $t-1$ and t by the firm i .”

This model was designed starting from discussions with professionals and CEOs. Lintner points out that dividend policy is not uniform and underlines that:

- managers think that firms must reach a long-term payout ratio;

¹ The “ i ” identifies the individual company.

- profit is the main factor which explains dividend payment;
- managers are reluctant to correlate dividend payout with firms' profits;
- managers are more focused on the rate of dividend payments and the way it changes over time than on the amount of dividend payments;
- investment policy has only a slight influence on dividend policy.

A.1.2. Empirical research

Numerous empirical studies sought to test the robustness of the Lintner's model. Thus, Fama and Blacomin (1968) showed that the probability of a rise (drop) of dividend yield is more important when profits increase (drop). These results are consistent with those of Watts (1973) and of Fama (1974). Healy and Palepu (1988) point out that dividend distribution allows for the communication of information concerning expected profits, which supports dividend policy that Lintner had emphasized². Moreover, Fama and French (2001) reconsider the concept of profitability. The authors point out that over a long period, on average, firms which never pay dividends are less profitable than those which pay dividends.

Still in the same vein, several authors sought to highlight the relationship between losses and dividend policy. De Angelo et al. (1992) studied dividend policy of companies having one year of losses following at least 10 years of profits. Their study found that losses are a necessary (but insufficient) factor that explains the drop in dividends³. The firms which reduced their dividends face more severe problems than those which did not reduce them.

In research from 1996, the same authors study dividend policy implemented by firms whose annual results dropped after at least nine years of growth. They do not show that dividend payment makes it possible to identify the firms whose future profits will grow. For them, a dividend is not a reliable signal able to give information about expected profits because managers tend to overestimate them. From there, Johnson (1995) takes into account the influence of financial indicators in the understanding of dividend decrease. Their study suggests two interesting results. First, profits tend to decrease just before the period when a reduction in dividend payments occurs, and then tend to increase just after this period. Second, a cut in dividend payment is generally a signal announcing restructuring programs.

A more recent study carried out by Goergen et al. (2005) reviews the relationship between profits and dividends through the concept of target ratio. Studying German firms⁴, the authors show that these companies have a long term target dividend ratio. If a relationship exists between performance and dividends, the relationship is not between profits and dividends but rather between cash flow and dividend because cash flow is a better performance indicator than profits. Skinner (2004) also analyzes the relationship between profits and dividends. His results are consistent with those of Lintner; he found that companies are reluctant to increase dividend payments if they are not sure to keep on paying dividends at the same rate. Skinner also points out that such payments (especially when they are substantial) represent a means used by companies to convince investors that their financial statements⁵ are reliable.

² It must be noted that after Lintner's study (1956), a huge body of literature has been devoted to the relationship between value and the changes of accounting methods.

³ Managers justify dividend decreases because of a depressed market (42 cases) or because of a depressed economic environment (30 cases). Within such situations, managers justify dividend decreases in order to maintain a certain amount of cash flow (29 cases). In any case, when a company is in distress, it tries to reduce, at least partially, its dividends, in order to increase safety margins and to use its funds for new investments (14 cases on 78).

⁴ It must be noted that the German governance system is quite different from the US system. The German governance system is characterized by a concentration of shareholders, a pyramidal structure and the influence of banks in the ownership structure.

⁵ The author deals solely with cash dividends and not with special dividends or share repurchases because the latter are punctual decisions which are not likely to influence the future of a company (DeAngelo et al. 2000).

If profits have an influence on dividend payments, one may wonder, as Lie (2005) does, if dividend decreases have an influence on corporate operating performance. In fact, Lie (2005) reviews the relationship between performance and dividend. Building on the study of Nissim and Ziv (2001)⁶, he points out several results. First, dividend decrease does not involve a change in expected corporate performance. Indeed, the information conveyed by a dividend decrease might explain the performance of a company over the previous year, which would confirm the study of Grullon et al. (2002). Furthermore, Lie (2005) notes that profits drop before a decrease or a dividend cancellation. Second, the absence of performance decrease may result from the problem of bias survivor as seen in previous empirical studies. Indeed, the lack of data (related to the fact that the less effective firms are probably those who have the greatest probability to file for bankruptcy) can explain the results of the studies we have just presented. Third, dividend decrease is not connected with the increase of share repurchases (Vermaelen, 1981). The substitution effect (Grullon and Michaely, 2002) does not obviously appear in Lie's study (2005). Fourth, dividend omission can result from the weakness of financial flexibility or more precisely of a situation where it is not possible to increase a dividend because of a liquidity problem. This concept of low financial flexibility is, according to Lie, the source of dividend decreases. Fifth, dividend decrease or omission may result from the will to seize the growth opportunities which, on the long term, would increase the performance. The results emphasize that firms reduce their investments after a dividend decrease or a cancellation.

Ultimately, the results of Lie (2005) tend to confirm Lintner's results (1956). To quote Lie (2005, p. 51): "Managers might very well expect downturns in firm performance. Yet, perhaps because they hope that the performance unexpectedly improves, they do not cut dividends until after a period forces them to do so". In parallel with this study, Brav et al. (2005), by interviewing professionals (CFO and CEO), show that paying dividends might be a priority. Indeed, a cut or an omission occurs only in cases of exceptional circumstances. Nevertheless, dividend policy is a second-order policy because the increase in dividends is taken into account only after investments and the needs of funds necessary to firm operations.

In all these studies, the authors analyze the ability of profit to give information on dividend payments. The studies also have in common that the authors consider, more or less, that information between stakeholders is symmetrical. This point of view is also shared by Miller and Modigliani, who attempt to deepen the relationship between dividend and value.

A.2. Miller and Modigliani's analysis

As we already underlined, the expression "dividend puzzle" refers to the difficulty to ascertain if a dividend payment is compulsory or not. Three theses are presented in the literature: neutrality, payment and non payment. These theses are consistent with Lintner's previous research (i.e. there is a relationship-correlation, at least in the long term, between profit and dividends). So, we can question if the firm's value depends (or not) on dividend policy and/or earnings (i.e. corporate performance).

According to financial theory, the firm's value can be viewed as the expected cash flows of the firm. One can quote, without being exhaustive, Miller and Modigliani (1961), Friend and Puckett (1964), Watts (1973), Fama (1974), Black and Scholes (1974), Black (1976), Rubinstein (1976), Ross (1977) or Miller and Scholes (1982). The analysis of Miller and Modigliani (1961) suggests that investment decisions and dividend policy do not interact. In their study, Miller and Modigliani (1961) highlight the 'neutrality' of dividend policy. They find this

⁶ Nissim and Ziv (2001) highlight that earnings (profits) are abnormally high in the two years following an increase in dividends while they (earnings) remain steady after a decline in dividends. They point out that dividend increase is a positive signal of the expected corporate performance and that dividend omission does not allow information about the expected corporate performance to be conveyed.

result using the following assumptions: no difference between dividend tax and tax on profits, no transaction costs, no cost issues and finally non informational asymmetry. In other words, the firm's value is independent from dividend policy in a perfect market. This approach supports work done by the same authors concerning capital structure; i.e. one does create value only by using debt. Finally, Modigliani and Miller explain why debt (1958) as well as dividend payment do not create value. Thus, dividends do not allow shareholders to become richer because (in theory) dividend payment is offset by the same decrease in share value.

Based on this result, studies which were undertaken later have attempted to check if the neutrality theorem remained valid even if some assumptions were not fulfilled. We will discuss this point and especially the importance of investor heterogeneity (clientele effect and tax effect) (B) and that of the ex-ante and ex-post informational asymmetry (C).

B. Dividend and investor heterogeneity: clientele effect and tax effect

If some assumptions of Miller and Modigliani's model are relaxed, it becomes possible to analyze whether the neutrality of dividend distribution still remains valid. One may then wonder to what extent market imperfections⁷ could render a dividend policy relevant in order to increase a firm's value.

The problem can be divided into two questions. Are firms with the highest dividend yields more attractive for investors (clientele effect) than others? How does the share value react when a company decides to pay a dividend (ex-date effect and tax effect)?

B.1. Clientele effect: theory and evidence

In 1961, Miller and Modigliani (1961) suggest that investors decide to invest in a firm according to its dividend policy. Each payout attracts a type of investor. A change in the payout policy leads to a change in the ownership structure. Nevertheless, this payout change does not influence the firm's value because a priori no class of investors (called here clientele) is better than another. The reason for which investors (or clientele) want different dividend yield is due to the level of taxation. This argument is consistent with the study of Shefrin and Thaler (1988)⁸.

One may suppose then that firms with low dividend yields are attractive for investors whose taxation is the highest, whereas investors with low level of taxation are interested in firms with high dividend yields. An excellent literature review was made on this topic by Allen and Michaely (2003). Investors' age and income have been considered in Miller and Modigliani's analysis. Miller and Modigliani (1961) have the following reasoning. If the characteristics of investors are essential, "young accumulators" will prefer shares paying low (or no) dividends whereas older people -or retired person- will prefer high dividends to maintain their purchasing power (Miller and Modigliani, 1961, p.431)⁹.

⁷ Market imperfection reveals a plural reality. It can be a question of, without being exhaustive: taxation, transaction and issuing costs, informational asymmetry between the various investors or between managers and shareholders, legal and institutional factors, and different degrees of rationalities or of psychological behaviours. This last aspect was studied by Miller (1986) who showed that dividend income is different from a capital gain. In the first case, the shareholder perceives an income whereas in the second he perceives a profit that results from an investment. As Miller (1986) specifies, the barrier for some investors is purely psychological.

⁸ In a recent study, Dong et al. (2005) show that individual investors prefer (for firms which do not pay dividends in cash) a dividend paid in shares rather than no dividend, even, if according to the authors, dividend payment in shares is, in fact, a split.

⁹ The life cycle has been studied by Shefrin and Statman (1984). Shefrin and Statman (1984) suggest a theory called "the behavioural life cycle". In fact, investors do not want to use their capital but prefer to use regular income, such as dividends. It is particularly true for retirees because they do not have current incomes anymore. For this clientele, a dividend is a means to complement their revenues. This theory is in the vein of Gordon's studies (1961, 1962). For Gordon, shareholders prefer a dividend today to an uncertain profit in capital in the

According to Miller and Modigliani (1961) and Shefrin and Statman (1984), the optimal level of dividend yield can be different according to whether an investor is an individual or a pension fund. This was largely studied by Elton and Gruber (1970). These authors measure the clientele effect by studying how the values of shares behave over the ex-dividend period. By considering short term and long term taxation rates as equal, an identical taxation level for all investors and a homogeneous ownership structure, Elton and Gruber (1970) point out the conditions in which an investor is indifferent when it comes to selling or buying a stock before or after the ex-dividend date. However, this conclusion is questioned, on the one hand, by the fact that the ownership structure is non homogeneous and, on the other hand, by the presence of market actors for whom capital gains and dividend gains are not taxed at the same rate. Generally speaking, the influence of taxation is real only for a portion of all securities. However, the taxation level of investors cannot be the only consideration. Transaction costs should also be taken into account¹⁰. From this point, Elton and Gruber (1970) point out that dividend policy is influenced by the marginal tax rate of shareholders¹¹.

Nevertheless, the results of empirical studies remain unclear. Indeed, such authors as Hess (1982) or Barclay (1987) do not validate the clientele effect. De Angelo et al. (2004) suggest that the clientele effect is only one second-order factor able to explain dividend policy, and that the amount of dividends has been concentrated considerably on a very low number of companies over time.

In a recent study, Graham and Kumar (2006) try to assess the clientele effect using a dataset of more than 60,000 “retail investors” over the period 1991-1996. This paper follows the study of Brav and Heaton (1997), Dhaliwal et al. (1997) and Grinstein and Michaely (2005). Thus, Graham and Kumar (2006) note that “retail investors” do not prefer to pay dividend shares compared to those which pay some.

In the same vein, Dong et al. (2005), by considering the Dutch case (where since 2001, dividends and capital gains are taxed at the same rate), try to understand the determinants which explain why individual investors want dividends or not. The authors point out that individual investors have a preference for dividends even if the taxation of dividends is higher than that of the taxation of capital gains. In addition, the authors point out that CFOs consider that dividends convey information on the management’s confidence about future growth opportunities. Nevertheless, and in a paradoxical way, managers say one should not use dividends as a gauge to reveal the ‘fair value’ of the firm. Also, the oldest investors with weak revenues are fond of dividends. These preferences are a function of the tax incentives.

B.2. Ex-dividend date and tax effect: theory and evidence

B.2.1. Dividend versus capital gain

The date on which the board authorizes the dividend is the declaration date. After that the firm is supposed to pay the dividend. A firm will pay the dividend to all recorded shareholders

future. This "theory" is called "bird in the hand". Nevertheless, Gordon's studies (1961, 1962) are based on the uncertainty concerning future dividends while the analysis of Shefrin and Statman (1984) is based on the immediate consumption of dividends rather than capital gain.

¹⁰ An investor who wishes to receive a regular income from his shares has the choice between buying stock which will pay dividends in cash or buying stock which does not pay dividends but which will be sold in order to make a profit According to Allen and Michaely (2003), the transaction costs generated by the dividend payment in cash (borne by the individual investor) are substantially weaker than the transaction costs due to the bid and sale of shares.

¹¹ More precisely, Elton and Gruber (1970) analyzed ex-dividend day returns for a sample of NYSE firms and found that the average price change on the ex-dividend day is less than the value of dividend. They also found that the price-change-to-dividend ratio increases with the dividend yield. Investors with high marginal tax rates hold stocks looking for low dividends and vice-versa, which is consistent with a tax clientele effect.

on a specific date, called the record date. To receive dividends, shareholders have to purchase shares three days before the record date. This date is known as ex-dividend date. 'Ex-date effect of dividends' means that a share, purchased on its ex-dividend day, does not include a claim to a previously announced dividend (declaration date). Because of the price change of a share, it is possible to estimate the marginal valuation of dividends and capital gains in the market.

Following this line, Brennan (1970) highlights the relevance of a non payment dividend policy in the case where dividend taxation is greater than capital gain taxation.

Nevertheless, this argument is questioned by Miller and Scholes (1982). For these authors, investors who hold a share portfolio can use debt to buy new shares. The tax deduction due to financial interest can offset the amount of dividends received. The aim of this portfolio strategy is to cancel the influence of taxation. Moreover, in order to avoid the financial risk related to debt, an investor can invest his money in a tax-free asset. Miller and Scholes (1982) argue that if the stock price drop on the ex-dividend day is different from the dividend amount, short-term traders who face no differential taxes on dividends versus capital gains could make arbitrage profits. We can argue that Miller and Scholes (1982) represent the opposite view in the "short-term trader" hypothesis. This hypothesis has been checked by Booth and Johnson (1984) on the Canadian market.

By considering that capital gains do not have the same taxation level as dividends, such authors as Litzenberger and Ramaswamy (1979, 1982) suggest, first, that investors will prefer capital gains (in comparison with dividends) and, second, that the tax effect is difficult to assess because of the influence of the "clienteles effect". In this line, Kalay (1980) considers that the marginal tax rate has no influence on a stock value decrease during the ex-dividend period. Consequently, it is difficult to conclude that share value is only influenced by the "clienteles effect" or the "tax effect". However, Kalay (1980) highlights a positive correlation between the ex-dividend relative price drop and the dividend yield. This is consistent with a tax effect and a tax induced clienteles effect (dividend capture theory).

However, the influence of taxation is questioned by the new legislative measures of the US Congress. Indeed, the American Congress voted in 2003 for "tax relief" which greatly changes taxation on investments. From this point, capital gains and dividends are taxed at an equal rate of 15%. Then the difference between dividends and capital gains (on taxation levels) disappears. The decision of Microsoft to pay dividends since 2003 is probably due (in part) to this new regulation.

Finally, if the tax legislation has an influence on dividends, then one should observe a relationship between tax legislation and dividend amounts. A study was conducted by Pattenden and Twite (2008) on the Australian market. The introduction of a dividend tax system in Australia is a significant change which explains if tax incentives influence the payments of dividends and if this change alters the balance between dividend payment and retention in corporate dividend policy. The authors highlight dividend policy sensitivity to major tax changes. The authors argue that the introduction of a dividend tax encourages the firm to initiate dividends, to raise existing dividends and/or to change the form in which the dividend is paid. The results reveal that dividend initiations, all dividend payout measures - gross, regular and net dividend payout ratios- and the use of dividend reinvestment plans increased subsequent to the introduction of dividend taxation. Furthermore, even after allowing for new equity issues, the introduction of dividend taxation raises dividend payouts. Finally, the volatility of gross dividend payout increased under dividend taxation.

B.2.2. The determinants of tax legislation

In a recent study, Bank et al. (2009) consider that if taxation has an influence on dividend policy, it would be interesting to understand the causes of policy taxation. Thus, by taking the

example of the United Kingdom, they distinguish several fiscal periods (1949-1951; 1952-1958; 1958-1964; 1965-1973; 1973-1997; 1997-2004). These periods are the consequences of political choices. Thus, social democrat governments (left) prefer to give advantages to employees (who are reluctant to receive dividend payments because they consider them a disadvantage -weaker wages for example-) whereas the conservative governments (right) prefer to give advantages to investors. If the authors find a correlation between the fiscal policy and the political choices of governments, they remain nevertheless careful because they were not able to assess a clear relationship between them. In fact under right leaning governments, we should see more dividend payments than under left leaning governments.

In a recent study, Brav et al. (2005) point out, through interviews with professionals, that if the taxation is a means of understanding dividend policy, it remains a second-order cause due to tax legislation. This result is consistent with the study of Allen and Michaely (2003). For these authors, the recent increase in dividend payments since the beginning of 2000 cannot be solely explained by tax systems for two main reasons. First, Brav et al. (2005) highlight a rise of dividends before the change of tax legislation. Second, they notice that a large number of companies pay dividends to shareholders for whom taxation is not an issue. For these authors, the main reasons for dividend payments are twofold: high income growth (which is consistent with Lintner's analysis, 1956) and investors' demand.

Finally, the explanations based on clientele effect and tax effect do not seem to be able to fully explain dividend payments. These are the reasons why some authors sought other explanations starting from the theories related to informational asymmetry. This is the next point of this paper (C).

C. Dividend and informational asymmetry

Since Akerlof (1970) and Jensen and Meckling (1976), it is now largely accepted that all stakeholders do not all have the same information at the same time. This phenomenon is known as informational asymmetry. This one can be ex-ante (signalling) or ex-post (agency).

By considering informational asymmetry either ex-ante or ex-post, various studies suggest that dividend has an effect on firm value. Dividend can be considered as a signal (Battacharya, 1979) or as a pressure tactic used by shareholders on managers (Jensen, 1986).

C.1. Dividends and signalling hypothesis

Akerlof (1970) showed that in a situation of informational asymmetry - within the market of lemons - exchanges are not possible. In order to allow these exchanges and to make it possible to discriminate good cars from lemons, the author uses the term of signal, i.e. information able to allow someone to distinguish the quality of different cars. From there, Spence (1974) then Riley (1975) specified the conditions which should be fulfilled to reach a signalling equilibrium (i.e. how information allows for assessing the 'fair' value of each car). Indeed, a few assumptions must be checked to obtain a steady and efficient balance. The cost of the signal must be negatively correlated with the real value of the 'signalled good'. A marginal increase in signal has to involve a marginal increase in the real value. Finally, expectations of the investors must be checked ex-post. As a consequence, managers should be able to send to shareholders relevant signals aimed at convincing them that their decisions are the right ones and are willing to increase the value of their firm.

C.1.1. Dividend: signal... differentiated

The signalling theory of dividends represents a means to convey information about the future profit of a firm. A change of dividend policy is then a signal given to investors concerning expected future cash flows.

One of the first empirical studies has been made on the US market by Taylor (1979). According to Taylor (1979), if one does observe a change in a stock's price during a period over which a firm announced it will pay dividends (i.e. dividends can be considered a signal), the positive result (i.e. the observed stock's price) remains unclear. Indeed, in most of the cases, dividend and earnings announcements are done at the same time. In such a situation, it is not possible to assess whether a change in a stock's price is due to dividends or to profits. To our knowledge, Aharony and Swary (1980) are the first authors to have distinguished dividend announcements and profit announcements¹². They show that when dividend payments drop, the share price drops on average by 3.76% and when the dividends rise, the share price increases on average by 0.72%. These two results are statistically significant.

In another study, Kalay (1980) points out that dividends are used as a means to provide investors with financial disclosure information. Dividend payments represent a positive signal sent by managers to shareholders. Indeed, high and regular dividend payments are expensive¹³. As a consequence they can be paid solely by companies making profits. A non-competitive firm, which will attempt to pay high dividends, would be, in the long term, compelled to reduce or to remove them. This would be negatively appreciated by the financial markets.

This result is consistent with Bhattacharya (1979), Miller and Rock (1985), John and Williams (1985) and Ambarish et al. (1987). Generally speaking, a dividend is considered a signal, but the information conveyed can be interpreted in different ways. For Healy and Papelu (1988), a dividend is a signal of future profits. The authors show that dividend payments are followed by an abnormal stock increase of 4%. Thus, Healy and Papelu (1988), in the line of Asquith and Mullins (1983), point out that, at least one year before the announcement of the first payments (omissions), earnings significantly increase (decrease). They also show that profits of companies which pay dividends for the first time increase substantially over the year where dividends were paid and over the following two years. This supposes that the first payment is considered as an important act of management. If dividend payments are considered as good news, on the contrary, their omission or decrease can be considered as bad news¹⁴. In another study, De Angelo et al. (1992) suggest that a dividend is not in itself a signal, but a variation of dividend payments over consecutive years must be considered as a signal. Indeed, they point out that firms tend to reduce their dividends when they perform poorly; dividends then reflect the financial health of companies. A dividend decrease indicates that managers are not confident about the future of their company and that financial difficulties may occur. For De Angelo et al. (2000), a dividend can be considered as a signal only if a firm already pays dividends regularly. Special dividends do not convey the same information (on future forecasts) as do regular dividends.

Concerning special dividends, De Angelo et al. (2000) note that they gradually disappeared over the period 1950-1990 to become a rare phenomenon in US. In the 1940's, 61.7% of the firms listed on the NYSE paid special dividends. In first half of 1990's, only 4.9% did so. This reinforces the idea that the evolution of special dividends may be a useful signal (on which relevant decisions can be based) only if the message sent to shareholders is clear.

Denis and Obosov (2008) show that we can consider dividends as signals according to the firm characteristics. Indeed, Denis and Obosov point out that solely large and profitable companies pay dividends. For these firms, a dividend is not considered a signal. On the contrary, for firms who have been listed on the stock exchange only for a short time, a dividend is a true signal. This difference is also pointed out by Brav et al. (2005), through

¹² Their sample is made up of 2,610 dividend announcements following profit announcements. Ultimately, their sample is made up of 149 firms over the period 1963-1976.

¹³ One of the most important characteristics in the theory is that the firms have to pay dividends regularly.

¹⁴ One finds this result in the study of Michaely et al. (1995).

interviews with managers who do not confirm the role of dividends as a signal. Moreover the role of this signal has to be defined according to the type of information which is conveyed. Indeed, in a recent study, Asem (2009) examines the relationship between dividend and signal. He points out that if a firm experiences a loss and at the same time continues to pay dividends, dividends may appear as good news in terms of future growth opportunities, whereas an increase in dividends when profits remain steady is not in itself good news. This shows how difficult it is to understand the true meaning conveyed by a dividend signal. The meaning of the signal depends on the country. Thus, Baker et al. (2006) point out that the signalling role of dividend is more important for US companies than for Norwegian firms.

C.1.2. Dividends: contagion or competitive effect

If a dividend is considered a signal, one may wonder what the influence of dividend policy is on competitors. For example, a dividend decrease can be interpreted differently by competitors. If a competitor thinks that such a decrease highlights the fact that a company is experiencing temporary difficulties, it might be tempted to cut prices in order to exploit its temporary advantage (in this case, a dividend decrease is a positive signal for competitors - competitive effect-). Or, on the contrary, such a decrease may reflect sectorial difficulties or economic recession which can lead investors to think that difficulties are structural, and, in the long term, that the whole sector or economy will be affected. (The decrease in dividends is, in this case, a negative signal for competitors - contagion effect).

The study of Laux et al. (1998) attempts to investigate separately the competitive effect and the contagion effect associated to dividend policy. This study points out that a dividend change gives information to competitors. Its results suggest that the share price of competitors, with low market power, have to bear a decrease. On the contrary, firms with high market power are influenced differently when their competitors decide to decrease the amount of dividend payments. These firms experience an increase in their stock price when their competitors increase dividend payments (competitive effect). But, when their competitors decide to decrease their dividend payments, it has no influence on their stock price.

Finally, to highlight the informational influence of dividends, authors who were interested in this issue studied either:

- the relationship between dividend and corporate profit (John and Williams, 1985);
- the change of market value following a first dividend payment or a payment resumption after a stop (Asquith and Mullins, 1983);
- the change of share value after a first distribution or an omission (Healy and Papelu, 1988; Michaely et al., 1995);
- or, the change of share price of the competitors after a change in dividend policy from other firms (Laux et al. 1998).

C.2. Dividends and agency problem

Following Jensen and Meckling (1976), a firm can be seen as a nexus of contracts. Managers, appointed by shareholders, have to act (in theory) on their behalf. If, in theory, managers have to act according to shareholders' interests and to maximize a firm's value, they can nevertheless behave opportunistically in various ways. As their incomes are generally a function of the firm's size, managers can be tempted to maximize turnover (and not profits) and build empires in order to reinforce their prestige (Hubris Hypothesis of Roll, 1986). They can also be tempted to implement particular investment strategies. Insofar as their incomes depend exclusively on the company which has hired them, they may choose investment plans whose profitability/risk profile is excessively weak (conglomerate mergers for example, Amihud and Lev, 1981). The effects of such a policy are not generally in line with shareholders' interests (Lang and Stulz, 1994). Managers can also act against shareholders'

interests, e.g. they can earn excessive wages thanks to their relationships with the Board of directors. Shareholders then will have to design methods able to control managers and to check that the latter are committed to increasing the firm's value.

Several control mechanisms can be used to reduce and limit manager power (Charreaux, 1997), such as debt or dividends. For instance, dividends can be used as a means of control. First, if managers have to borrow funds from investors, their dividend policy will play a significant role on these investors. Second, because revenues of shareholders depend (in part) on dividends¹⁵, dividend policy appears to be a means for managers to show they take into account shareholders' interests.

Rozeff (1982) and Easterbrook (1984) justify dividend policy and dividend payments as means to put pressure on managers. As managers are compelled to pay high dividends, this will increase the probability of issuing new shares in the future. Dividend policy is a means to control 'managers' using 'the market'.

Within a framework of ex-post informational asymmetry, one can follow the example of Jensen's (1986) - Free Cash-Flow Theory¹⁶ - and consider dividend payments a means of solving the agency problem which exists between shareholders and managers. Indeed, dividends are a pressure tactic which lead managers to invest only in projects with positive NPV. Dividend payments decrease the level of "free resources" which can be used by managers and increase the incentive to put funds into profitable investments. This argument is also presented by Lang and Litzenberger (1989) who point out that a dividend increase causes a stronger increase in a stock's price for companies with free cash-flow than for firms without free cash-flow. Moreover, Black (1976) previously stated that dividend payments could be likely to reduce an over-investment problem by reducing the free cash flow problem.

All previous studies we have presented allow for a better understanding of dividend policy, but they still remain fragmented. Indeed, they do not take into account some alternative policies such as share repurchases. Moreover, these studies are usually static (cross sectional), but political and economic cycles can have an influence on a firm's life and especially on dividend policy. Lastly, they do not take into account corporate governance, whereas this is an essential explanation for understanding the firms in an asymmetrical framework. All these features will be covered in the following section.

2. Dividends: the end of history or is history starting again?

This section deals with the latest theories and empirical studies aimed at complementing previous research focused on dividend policy. We will first analyze alternative methods of dividend payments, such as share repurchases, to understand how they can (or cannot) be a substitute for a dividend payment (A). Then we will analyze the dynamics of dividend policy (B). Finally, we will focus on the relationship between a firm's characteristics (through corporate governance) and dividend policy (C).

¹⁵ In a 2000 study, De Angelo and De Angelo suggest that there is a relationship between the performance of a company and its profits. Indeed, in the case of Mirror Company, the authors highlight that to recover its profitability the company used a range of restructuring measures, including layoffs, change in strategy and a significant dividend increase. This (dividend increase) can appear a priori paradoxical, but the reasoning is as follows: by paying dividends, corporate managers made the situation even more difficult, which would enable them to take very strong decisions to improve it. Undoubtedly they would not have taken such decisions if they had not previously increased the amount of dividend payments. This approach follows Jensen (FCF –free cash flow-) according to which the difficulty facilitates the restructuring measures which would not have been undertaken otherwise.

¹⁶ For Jensen (1986), the FCF is the cash-flow available after all the projects with positive NPV were engaged.

A. Share repurchases vs dividends

In Lintner's model (1956), companies have 'a managed dividend policy' (i.e. they seek for a target dividend). Share repurchases are virtually absent in Lintner's study (1956) and in Miller and Modigliani's (1961). Indeed, these operations were quite rare at that time.

The recent French statistics emphasize that in 2008, companies listed on the CAC 40 stock market index have repurchased (in net value) €1.2 million worth of shares (i.e. 1% of their average market value in 2008)¹⁷. How is it possible to explain this phenomenon? A possible argument might be found in the relationship between share repurchases and dividends and, in particular, in the fact that dividends and share repurchases may be either complementary or substitutable. To analyze this relationship, we will present studies focused on the "tax effect", the "clienteles effect", informational asymmetry and the use of free cash-flow (FCF).

A.1. Share repurchases, dividends and tax incentive

For Grullon and Michaely (2002), tax effect has an influence on the choice between dividend and share repurchases because for a shareholder, it costs less to receive shares than dividend income. This choice depends on investor characteristics. There are two categories of investors. The first category is made up of investors with low taxes, whereas a second category is highly taxed. According to their level of taxation, investors will prefer either high dividend yields, or high capital gains via share repurchases. According to the 'clienteles effect', we should observe a correlation between share repurchases and low dividend yield.

Moreover, empirical studies do not achieve clear results (Bagwell and Shoven, 1988; Dann, 1991). When a share repurchase occurs, shareholders who have participated in this operation are taxed on the income they receive. On the contrary, shareholders who have not participated, hold an important place in the ownership structure without having to pay new taxes. As the taxation on capital gains is lower than dividend taxation, one should observe a preference for share repurchases. However this is not true for all investors. Allen et al. (2000) point out that institutional investors have a preference for dividends. A dividend is a means to attract institutional investors in the ownership structure. The aim of this choice is to allow major investors to be able to monitor firms. Thus, it is hardly possible to think that taxation is the unique cause which may explain the substitution between share repurchases and dividends.

A.2. Share repurchases, dividends and asymmetrical information

Within the signalling theory framework, and more particularly the POT framework (Pecking Order Theory), a share issue is a signal – sent by a firm – indicating share overvaluation. Consequently, shares repurchase means that a share is undervalued and contributes to increase the value of the remaining shares. From this point, Brennan and Thakor (1990) explain the choice between share repurchases and dividend payments using the informational asymmetry among investors. For Brennan and Thakor (1990) uninformed shareholders prefer dividends because a share repurchase involves a wealth transfer from uninformed to informed shareholders. Informed shareholders will sell their shares only if they are overvalued. Otherwise, they will not. If the ownership structure is made up of informed shareholders, share repurchases will be chosen. Share repurchases, in this case, can be viewed as a good investment opportunity.

The previous arguments lead us to wonder whether dividends and share repurchases are complementary or substitutable. Albouy and Morris (2006) point out that share repurchases increase when companies pay dividends. This shows that these two financial actions have common objectives, in particular to give back free cash flow (FCF) to shareholders. In

¹⁷ It is important to notice that share repurchases are mostly undertaken by large firms. ArcelorMittal, GDF Suez, Sanofi Aventis, Total and Oréal. 78% of the shares purchases are realized by these groups.

addition, Albouy and Morris (2006) stress that, during an economic expansion, the announcements of share repurchases are made by firms to avoid dilution of the EPS (earnings per share), whereas in a period of low economic growth (or recession), share repurchases are able to highlight the share value. In addition, there is no relationship between share repurchase and change in capital structure.

Informational asymmetry can be also analyzed ex-post. According to Dereeper and Romon (2006), share repurchase is related to the development of stock options. If Fenn and Liang (2001) show a negative relationship between dividends and stock options, the relationship becomes positive between stock options and share repurchases. Indeed, the existence of stock options leads managers to use share repurchases (rather than dividends) because this repurchase offsets the effect of exercised options; they preserve the share value by reducing capital dilution. For Fenn and Liang (2001), managers prefer share repurchases to dividends because the majority of option contracts do not take into account the change in exercise price at the date of dividend payment. The dividend payment leads to a decrease in option value.

A.3. Share repurchases, dividends and free cash-flow

In relationship with the theory of the free cash-flow (FCF), share repurchases can be viewed as a means to reinvest funds, previously allocated to mature sectors, towards sectors with high expected profits. As dividend payments are not always steady, a share repurchase is a means to give shareholders their money back within a period of economic growth. The total amount of funds paid to shareholders in the USA was 33% in 2007, compared with 20% in 2008. Stock repurchase would thus be a substitute for dividends. However, this substitution effect is far from being agreed upon in the literature.

For Albouy and Morris, (2006), the relationship between share repurchases and free cash-flow must be more deeply analyzed. These authors, studying firms on the Canadian market of Toronto between 1990 and 1999, found two periods: periods during which share repurchases are frequently used, and periods during which these repurchases are not frequently used. Over the former, the objective of repurchases is to avoid capital dilution whereas over the latter, the objective is to send a signal to financial markets to allow them to assess the true value of assets. Several studies (Bagwell and Shoven, 1988; Li and McNally, 2000) point out the relationship between a firm's growth opportunities and the probability of share repurchases, and confirm the role of share repurchases as a substitute to dividends over periods of economic growth.

Ultimately, as Grullon and Michaely (2002) point out, share repurchases are concentrated in only 20% of American companies. These firms pay funds to shareholders using either dividends or share repurchases. The authors stress that 35% of companies jointly use dividends and share repurchases.

In another study, Dereeper and Romon (2006) highlight that firms which pay dividends are also those which have the highest level of share repurchases. Share repurchases and dividend payments appear to be complementary. In addition, the authors show that firms with a high level of share repurchases are large companies with medium growth opportunities and high economic and financial profitability. They also observe that numerous individual investors have a positive influence on share repurchases. Moreover the concentration of ownership structure and/or the difference between the main shareholders and all others (in % of voting) has a negative influence on share repurchases. Ultimately, share repurchases appears to be another way for investors to make money which may complement dividend incomes. The fact that dividends and share repurchases are not substitutable incomes can be found in a study by Brav et al. (2005).

De Jong et al. (2000) are also interested in the choice between dividend payments and share repurchases. Their results are the conclusions of an empirical study undertaken on

Canadian firms. They show that the choice is made in three steps. First, the question is to find out if managers decide (or not) to pay cash to shareholders. Second, the question is then to decide if the payment is done using cash or share repurchases. Third, the ‘payout’ is assessed depending on cash flow and on the fiscal preferences of investors (behavioral tax preferences). The authors point out that the payout is low when the firm has a stock option policy (Lambert et al., 1989). From this point, one can observe that dividends were studied in connection with share repurchases. Nevertheless, this new approach is not sufficient to completely understand dividend policy. That’s why other studies relied on a dynamic approach (B) or used governance theory (C).

B. Life cycle theory: Propensity to pay dividends and catering theory of dividends

B.1. Propensity to pay dividends

In a well-known article from 2001, Fama and French noted that only 21% of American companies (on the NYSE) paid dividends compared with 67% in 1978. For Fama and French, this evolution is the result of a change that has affected many companies. Indeed, because of the ‘new economy’ and the increase of IPOs (initial public offerings), US firms were, on average, smaller and had more growth opportunities than previously. These growth opportunities had a negative influence on dividends because firms have attempted to capture all these opportunities using cash. The other reason is the propensity to pay dividends, which can be explained by numerous factors¹⁸.

Finally, two main reasons remain to explain dividend decrease. The first is a firm’s profitability. Indeed, firms making IPO offerings are much younger than in the past. These ‘young firms’ are less profitable than ‘mature firms’, which explains why they are reluctant to pay dividends. The second is the decrease in the propensity to pay dividends. The authors note that, in 1978, 72% of firms paid dividends compared with only 30% in 1998.

In addition, several other reasons can also explain this situation. First, the development of stock options among managers makes these stock options less attractive for managers. Indeed, dividend payments reduce the share value and consequently the value of a stock option. This result is highlighted by DeJong et al. (2000) on the Canadian market. Second, corporate governance reduces the use of dividends as a means to exert pressure to the benefit of other techniques (expert committees, independent administrator in boards of directors or incentives such as stock options). Third, the decrease of transaction costs allows investors to frequently change their portfolios. Fourth, tax legislation leads investors to prefer to receive a capital gain rather than dividends.

B.2. Catering theory of dividends

From the analysis of Fama and French (2001), Baker and Wurgler (2004a) suggest a new explanation called “catering theory of dividends” to explain dividend policy over time. According to this theory, investor preferences can change over time. Indeed, characteristics of firms can change over time; a company operating in an industrial sector with high growth opportunities will have less incentive to pay dividends than a company working in a stable market with fewer growth opportunities.

¹⁸ The authors note that a company which would have paid a dividend 20 years ago has little chance to pay a dividend today. Thus, Microsoft had still not paid dividends since 2001 in spite of huge profits, no debt and a huge cash surplus of \$24 Bn.

Over the period 1971-1977, the amount of dividends paid by American companies consistently decreased. Baker and Wurgler (2004a) built a measurement of the propensity of dividend payments (difference between the real proportion of companies paying dividends – during a given period – and the expected theoretical proportion). Using this indicator and its variation, the authors found several periods over the period 1963-2000: a first period from 1963 to 1966 during which propensity to pay dividends increases each year, a second period (1967-1973) in which propensity decreases each year, a third period between 1973 and 1979 when propensity to pay increases again and finally, a fourth and last period from 1978 to 2000 with again a high decrease. With this result, the authors highlight a close empirical link between the propensity to pay dividends and catering incentives. Dividends tend to disappear during pronounced booms in growth stocks and reappear after crashes in such stocks.

In parallel, Baker and Wurgler (2004a) design an indicator called “dividend premium” which measures the average differential of a firm’s value between the companies paying dividends and others not paying dividends. The authors show that this premium has an influence on dividend payout. Managers would adjust in the short term their dividend payout to profit from the premium. The four previous periods observed seem to corroborate this argument. When the premium is positive, managers have incentives to pay dividends. But, in the case of negative premium, managers are reluctant to pay dividends. Thus, the propensity to pay dividends is low and the premium is negative when the investors have a positive (optimistic) feeling for shares with growth opportunities (those who offer low dividends). In fact, in this study, Baker and Wurgler (2004a) show that there are cycles during which investors are willing to buy at a high price stocks belonging to firms which pay dividends.

In a complementary study, Baker and Wurgler (2004b) attempt to find out if the results observed do not reveal an ‘irrational behavior’ of financial markets. They hypothesized that if, over a period P , investors tend to increase the value of firms which pay dividends, one should observe, during the following period (in $P+1$), lower profitability of their shares compared with those of companies not paying dividends. Observations indicate that managers have opportunistic behaviors. One can deduct that dividend policy follows the following reasoning. When feeling towards high growth shares is positive (i.e. when the dividend premium is weak or even negative), managers tend not to pay dividends. This was precisely the case during the Internet bubble in 2000. On the contrary, when feeling towards high growth shares is negative (strong premium with dividends) then investors try to seek shares with fewer growth opportunities, i.e. those which are less risky. These are the reasons why dividend payments may change over time.

Finally, companies attempt to follow investor demand either using high growth opportunity shares or using high dividend payments. Thus, for example, when shares perform poorly, investors tend to increase the value of shares which pay dividends in order to offset a past of poor quality.

To summarize, in their study of 2004a, Baker and Wurgler argue that managers will change dividend policy opportunistically when the feeling of investors towards dividends is positive (or negative). In their paper of 2004b, these authors bring empirical evidence to the “catering theory”, in particular for firms which are used to paying dividends regularly but which may one day decide to reduce them when nobody expects such a reduction.

B.3. Evidence from the market: size and growth opportunities

The first important study which has attempted to study the arguments of Fama and French (2001) or of Baker and Wurgler (2004a and b) was undertaken by De Angelo et al. (2004). On the basis of the study of Fama and French (2001), who point out a dramatic decrease in dividends between 1978 and 2000, De Angelo et al. (2004) chose to deepen their analysis

over the same period (using a sample made up of American companies) in order to confirm their results. They provide several conclusions.

First, the decrease in dividends is concentrated on small companies which paid few dividends. The suspension of dividend payments has, according to the authors, a weak influence on the supply of dividends.

Second, if the authors observe a decrease in the number of companies paying dividends (58.8% between 1978 and 2000), thus corroborating the study of Fama and French, they moderate this result by highlighting a greater concentration of firms paying dividends. If a greater number of companies do not pay dividends, “the more generous” dividend paying firms continue to pay more and more dividends. For the authors, dividends, contrary to the results of Fama and French, did not disappear. They are simply concentrated among a small number of companies. Thus, the 25 most generous firms offer 54.9% of the total amount of dividends paid by industrial companies. The authors also notice that among companies whose profits are high, a great number do not pay dividends (Microsoft, Oracle, Cisco are quoted as examples) not because they are reluctant to do so, but because growth opportunities are so high that they prefer to reinvest funds in very profitable projects. If one considers the 100 firms paying the highest dividends from 1978 and 2000, we can observe that the amount of dividends they pay, within the total amount of dividends paid, increased from 67.3% to 81.8%. More accurately, the 28 firms paying the highest dividends make up 50.1% of the total amount. This dividend concentration is parallel with the concentration of profit.

Third, the authors point out that if the number of firms paying dividends dropped between 1978 and 2000, the amount of dividends paid increased over the same period (\$31.3 billion in 1978 and \$101.6 billion in 2000). This result still holds when figures are calculated in constant dollars (\$31.3 billion in 1978 and \$38.4 billion in 2000). The authors conclude that the decrease of the number of firms which do not pay dividends has been offset by the increase in the amount of dividends paid by the most generous firms. This is why a larger amount of dividends is paid by a restricted number of firms. This result is consistent with the analysis of Black and Scholes (1974) and Miller (1977) which asserted that the aggregate amount of dividends paid in a given economy is more important for investors than the number of firms paying dividends.

Fourth, the authors assess the concept of “propensity to pay dividend” highlighted by Fama and French (2001). Thus, analysing solely companies which pay dividends, the authors observe that the payout ratio, calculated using aggregated value, goes from 37.9% to 35.5%, but this payout increases if one considers the median values (26.2% in 1978 compared with 28.4% in 2000). This result may then contradict the idea of a dividend suspension and reinforces the idea of their concentration by a small number of firms.

Fifth, the authors attempt to identify the characteristics of the firms paying high dividends. As one could expect, profit can be considered as a main element able to explain payments, but other criteria have to be taken into account such as growth opportunities. Microsoft is the full illustration of this phenomenon. Whereas the company makes very high profits, it doesn't pay dividends in order to invest more money into new projects able to increase shareholder profit.

Behind the argument of Fama and French (2001) or of DeAngelo et al. (2004), one can see the life cycle theory which relies on the comparison between advantages and costs of cash retention. This retention/distribution evolves over time as profits accumulate and investment opportunities decline so that paying dividends become increasingly desirable as a firm matures. Thus, DeAngelo et al. (2006) find that propensity to pay dividends is positively related to the total ratio of retained earnings to total equity (RE/TE), which is the proxy for the firm's lifecycle stage.

The arguments of Fama and French (2001) and of Baker and Wurgler (2004a and b) are confirmed by a study by Von Eije and Megginson (2006) carried out on European companies.

Over the period 1989-2003, the authors point out that the dividend policy of European firms bears a strong resemblance to dividend policy of American companies. They point out an important decrease in dividend payments until 2000 and then an increase as from 2001 and some differences and similarities between European and American companies. They notice that the percentage of European companies paying dividends dramatically decreases whereas, at same time, the amount of dividend payments (calculated using current or relative value i.e. as a function of profits) increases considerably. They also notice a concentration of dividend payments among a small number of companies. Finally, they highlight two interesting points. First, firms' characteristics¹⁹ change over the period 1989-2003 and the "propensity to pay" slightly decreases over this period – from 87% over the period 1989-1993 to 83.2% in 2003. Second, the percentage of firms paying dividends declined in dramatically; if 81.4% of companies paid dividends in 1999, only 62.5% did so in 2003. This change is all the more important for small companies.

On the other, hand the catering assumption of dividends is not systematic for European firms (Denis and Osobov, 2008). The authors do not observe that propensity to pay dividends can be explained by a change in investor behavior vis-à-vis the shares paying dividends or not. More accurately, Denis and Osobov (2008) find common determinants of dividends across countries. They are in line with Fama and French (2001) and find that the likelihood of paying dividends is associated with firm size, growth opportunities and profitability (Benito and Young, 2001 ; Ferris et al., 2006 and Renneboog and Trojanowski, 2005a). Working on six countries (US, Canada, UK, France, Germany and Japan) over the period 1989-2002, they find that the likelihood of paying dividends is strongly associated with the retained earnings to total equity ratio. More accurately, the fraction of firms paying dividends is high when firms' equity consists primarily of retained earnings and low when retained earnings are negative. Furthermore, they find some hints of declines in the propensity to pay dividends in firms that appear to be at the margin for paying dividends (i.e. firms with low to medium ratios of earned-to-contributed ratios). In addition, the likelihood of paying dividends is associated with firm size, growth opportunities and profitability.

If these results make it possible to highlight the dynamics of dividends, they are still insufficient to successfully arrange the pieces of the puzzle mentioned by Black (1976). This is the reason why we will use governance theory to better understand dividend policy, and the relationships between dividends, share repurchases and stock options (C).

C. Dividend and governance

A company can be analyzed using its capital structure or its ownership structure, or by using the legal and political system of the country where it is located. This is why we will analyze the relationship which may exist between these parameters and dividend policy.

C.1. Dividend and ownership structure

An important body of literature on corporate governance has been published since Demsetz (1983a) or Charreaux (1997). The theory of corporate governance is divided into numerous research branches. Our objective is to explore them and clarify dividend policy of firms. Actually, dividend policy depends on several characteristics of the shareholders, and especially their taxation level and to what extent managers have invested in the capital of their firm.

¹⁹ The characteristics able to influence the propensity to pay dividends highlighted on the American market (i.e. size or the growth of assets) is not highlighted on the European market. Moreover, share repurchases are complementary to dividend payments.

C.1.1. Tax heterogeneousness

As previously mentioned, dividend taxation can influence payout policy. Indeed, some shareholders, such as pensioners or pension funds, need regular incomes which can influence firms and lead them to regularly pay dividends. This reasoning is in line with a study by Elton and Gruber (1970) (see B.1 section). Nevertheless, some authors like Black and Scholes (1974) or Miller and Scholes (1982), even if they do not question market imperfections, still suggest that it makes sense to avoid paying dividends. By this, they confirm Miller and Modigliani's (1961) neutrality thesis.

Their argument is the following and is based on the heterogeneity of shareholders which can be made up at the same time with shareholders with high and low taxation rates. For Miller and Modigliani, the first category (shareholders with high taxation) look for low dividends whereas the second (highly taxed and/or whose needs for regular cash is important) will prefer companies paying high dividends. Some partial equilibrium will then appear on the market so that when all groups of shareholders are satisfied, a firm will not be able to increase its value using a new dividend policy.

C.1.2. Management ownership

As Jensen (1986) points out, dividends are a means to put pressure on managers. When shareholders are committed to a generous dividend policy, managers who want to make profitable investments are then constrained either to issue new shares or to increase debt. Indeed, the use of debt leads managers to be more effective and to invest solely in profitable projects. In case of difficulty (distress) and when creditors are no longer confident, one may observe a dividend decrease.

If a dividend payment can solve these agency problems by means of increasing control and monitoring (Easterbrook, 1984) and by means of reducing FCF (Jensen, 1986), then one may see a relationship between ownership structure and dividend policy. By studying a sample of more than 600 English firms over two periods (1987-1991 and 1992-1996), Farinha (2002) found an U relationship between dividend payments and the number of shares held by managers. When managers held less than 30% of the total shares, the authors notice a negative relationship between the amount of shares held by insiders²⁰ and dividend payments, and a positive relationship when managers held more than 30%. The study of Schooley and Barney (1994) shows a similar result and also points out a non-monotonic relationship between dividend payment and shares held by managers.

Nevertheless this relationship remains unclear. Eckbo and Verma (1994), for example, emphasize that managers are reluctant to pay dividends in order to increase the amount of money they may use to develop the firm's business. For this reason, the authors think that one should observe a negative relationship between dividend payment and the percentage of shares held by managers.

C.2. Dividend and ownership structure: shareholder concentration

The concentration of ownership structure may also have an influence on dividend policy²¹. Calvi-Reveyron (1999), working over the period 1988-1994, highlight through an empirical study on 131 French firms, that family firms are less generous than others in terms of

²⁰ Insider ownership is defined as the percentage company's shares directly or indirectly controlled by the firm's managers, by their families or family trusts - as disclosed in a firm's annual report -.

²¹ Also let us note that within companies where ownership is concentrated, shareholders are members of the board of directors. They know each other and they also know the managers. Moreover, they know better than anybody else what the future projects of the firm are and its growth opportunities. As a consequence, the information role of dividends no longer holds for these shareholders.

dividend payments, and that the percentage of shares held by managers has a negative influence on dividend payout. Moreover, the index of dispersion of capital does not affect the level of dividend payments operated by these firms.

Guler (2003) and Shleifer and Vishny (1997) point out that minority shareholders appreciate dividend payments when their level of control weakens. Nevertheless, within companies where shareholders are numerous and dispersed, Stulz (2004) notices that shareholders are not able to influence managers to make them pay FCF (free cash flow).

In the German context, Guler and Yurtoglu (2003) analyzed the ownership structure of 266 firms between 1992 and 1998. This study shows that when the amount of shares held by the first shareholder increases, then most of the time this increase leads to an increase in dividend payments. On the contrary, when the amount of shares held by the second shareholder tends to increase, then dividend payment also decreases. In the same way, on the German market, Goergen et al. (2005) point that, when the ownership is not scattered and there are majority shareholders, then dividend policy doesn't serve as a means to control managers. In line with this work, Mod' s et al. (1995) study on the US market highlights that the dispersion of the shareholding (measured using the number of owners) has a positive influence on "payout ratios". However the characteristics of shareholders may influence dividend payments. The observation of high "payouts" when majority shareholders are made up of institutional investors reinforces the idea that dividend is the price paid to investors for controlling the firm (Shleifer and Vishny, 1986).

In another work, Renneboog and Trojanowski (2005) analyze the relationship between dividend policy and ownership structure and more especially the influence of majority shareholders. The authors notice that majority shareholders negatively influence dividend payments. Nevertheless this negative influence depends on shareholder characteristics (industrial firms, financial institutions, etc.). Shareholders who are able to control a company appear as a means to overcome agency problems arising from free cash flow and which may influence an investment policy. The authors show that a firm's profitability is a main factor explaining dividend policy. However, when firms are controlled by a majority shareholder, the relationship between profit and dividends tends to loosen. This study does not reinforce the study of Zeckhauser and Pound (1990) who studied the US market and found that dividend payments do not change according to the presence of majority shareholders. As a consequence, these authors conclude that ownership concentration and dividend policy cannot be considered substitutes.

C.3. Dividend, legislation and politics

C.3.1. Legal and financial system: civil law vs common law

Institutional diversity in the world may allow for a better understanding of what is an optimal dividend policy. For La Porta et al. (1997), one of the main features which explains the financial behavior of firms is the legal system. Indeed, investment and financial policies of companies strongly depend on the level of protection of creditors. The authors conclude that the creditors' rights are better guaranteed (and respected) in countries with "common law" than in the countries with "civil law". Consequently, La Porta et al. (1998, 1999) conclude that "common law" system (or Anglo-Saxon system) is better than "civil law system" for creditors and has an influence on dividend policy.

In the line of La Porta et al. (1999), Von Eije and Megginson (2006) point out differences between countries with "common law" and countries with "civil law". When a company's headquarters is located in a common law country, the authors note a stronger propensity to pay dividends than when they are based in civil law countries. These results support the agency theory assumption that investors who are protected by strong legal protections use

their rights to receive high dividends especially when firms have low growth opportunities. The authors point out two sorts of agency problems. The first (outcome theory) considers dividends a result of the legal protection of shareholders. Thus, shareholders (those in the minority) use dividends to spend funds in excess. They can also act using their voting rights (for instance they can choose managers who will be willing to give them high dividends) or by using their rights as a pressure tactic (i.e. they can sell their shares, which they consider undervalued, to other investors). This is generally done using a tender offer. The second considers dividends as a substitute for legal protection of shareholders. To be able to issue funds when needed, firms need to strive to develop a good reputation in order to provide confidence to shareholders and as a consequence will pay dividends to reinforce their reputation. This is particularly true in countries where protection of shareholders is weak. All other things being equal, the dividend “payout” must be larger in countries where shareholders are well protected than in countries where they are not.

The authors point out that firms which operate in countries where minority shareholders are well protected by the legal system pay stronger dividends. Moreover, in these countries, firms experiencing strong growth expansion pay fewer dividends than firms experiencing low growth expansion thus corroborating the idea that it is better to keep cash when investment opportunities are strong. When shareholders are not well protected, dividends do not seem to be correlated with growth opportunities. This situation is probably the result of an agency problem. Finally, the authors point out that dividend payments are correlated with the degree of stock liquidity.

Another study, using companies from ‘common law’ and ‘civil law’ countries, undertaken by Ferris et al. (2006) attempts to empirically validate the theory suggested by Baker and Wurgler. The authors examine a dataset of 23 countries from 1995-2004. In this sample, there are ‘common law’ and ‘civil law’ countries. Indeed, the level of shareholder protection might influence the supply of dividends provided by corporate managers. The authors suggest there are important cross-sectional differences in the ability of dividend catering to explain the decision of firms to pay dividends. In ‘common law’ countries (where shareholders’ rights are better protected), the managers are more responsive to investors regarding dividends. In ‘civil law’ countries, managers are controlled by insider shareholders. But these insiders can exploit their informational advantage at the expense of minority shareholders. The results suggest that these insiders have less interest in dividend catering. We can suggest that they enjoy their private profits of control or an unwillingness to respond to what they perceive as temporary market misvaluations in their firm’s equity due to investor preferences. In ‘civil law’ countries, the controlling shareholders are less interested in exploring transitory market misvaluations of their firm’s stock due to dividend policy. Perhaps they are unable to exploit these misvaluations because of illiquidity in their home stock market.

C.3.2. Political system

Bank et al. (2009) note that the environment in which firms operate may have an influence on financial decisions (in particular between democratic and stable countries as compared to countries where there is unrest). But within the group of stable countries, are there any differences? As Bank et al. (2009, p. 208) underline “Are prevailing explanations for corporate institutions, based upon market forces, technological developments and the quality of the legal system, necessarily incomplete because no explicit allowance is made for the role of politics?”.

The authors attempt to fill this gap and study the situation of the United Kingdom over the period 1949-2002. More precisely, the authors analyze whether the conservative party or labour may have an influence on dividend policy or not. The choice is all the more judicious as English firms have a more generous dividend policy than those of other industrialized countries (in the 1990s whereas only one American company out of four paid dividends, the

ratio was five out of six in the United Kingdom). The authors point out that politics does not significantly influence corporate governance and that the alternation between the conservative and liberal parties does not significantly change dividend payments. All main results are presented in the table 1 below.

Conclusion

As a conclusion, one may think that the explanation of the dividend puzzle suggested by Black (1976) remains truer than ever because there is no theory able to completely explain dividend policy. The aim of this article was to point out the various theories and empirical research dealing with dividend policy, without being completely exhaustive. For example, it might be interesting to analyze the relationship between the organization of firms and their dividend policies (Desay et al., 2007). It might also be interesting, following Chemmanur and Tian (2007), to design a model which will allow for analyzing the relationships between dividends and value and for understanding the information provided by companies to their investors when they intend to reduce their dividend payments. If firms' characteristics influence financial markets, the communication policy of companies is probably an essential component on which little research has been carried out. Finally, it might also be interesting to analyze to what extent firms which pay dividends have better performance than those which do not pay dividends. As the topic is far from fully understood, there is an ample room for future research.

Table 1: Dividend policy

The first column explains the theoretical framework and the authors. The second column describes the main hypotheses. The third column highlights the main empirical results.

Framework and main references	Hypotheses	Main empirical results
<u>Symmetrical framework</u>	<u>Dividend, value and performance</u>	
Lintner (1956)	Firms tend to adjust their dividend according to the target dividend. Profit is the main factor to explain dividends. Managers are focused on the rate of dividend payments. Investment policy has a slight influence on dividend policy.	Fama and Babiack (1968) The probability of a rise (drop) of dividend yield is more important when profits increase (drop). Healy and Papelu (1988) suggest that dividend distribution allows for the communication of information concerning expected profits
Modigliani and Miller (1961)	Dividends have no influence on value.	Brennan (1970) He highlights the relevance of non payment dividend policy when the dividend taxation is greater than capital gain taxation DeAngelo and DeAngelo (1992) They highlight that firms with losses reduce dividend but with delay (loss is a necessary-but not sufficient- factor that explains the drop in dividends. Goergen et al. (2005) They show that companies have a long term target dividend ratio.
<u>Market imperfection</u>	<u>Clientele effect and tax effect</u>	
Elton and Gruber (1970)	Clientele effect Conditions for which an investor is neutral between a buy-sell of a share and dividends.	DeAngelo et al (2004) They highlight that clientele effect is a second-order factor able to explain dividend policy. Dong et al. (2005) They point out that individual investors have a preference for dividends even if dividend taxation is higher than capita gains taxation.

		Graham and Kuymar (2006) They highlight that ‘retail investors’ do not prefer to pay dividend shares compared to those which pay some.
Miller and Scholes (1982)	Tax effect A ‘good’ portfolio strategy is to cancel the influence of taxation.	Litzenberger and Ramaswany (1979) They suggest that investors prefer capital gains.
		Kalay (1980) He highlights a positive correlation between ex-dividend relative price drop and the dividend yield.
		Booth and Johnson (1984) They argue that if the stock price drop on the ex-dividend day is different from the dividend amount traders who face no differential taxes on dividends versus capital gains could make arbitrage profits.
Akerlof (1970) Jensen and Meckling (1976) Jensen (1986)	Asymmetrical framework (signaling and agency theory)	Bhattacharya (1979), Taylor (1979) and Miller and Rock (1985) They suggest that dividends can be considered as a signal.
		Kalay (1980) He points out that dividends are used as a means to provide investors with financial disclosure information.
		DeAngelo et al. (1992) They point out that dividend is not a signal but the variation of dividend payment can be considered as a signal.
		Denis and Obosov (2008) Dividend is a signal according to the firm characteristics.
		Rozeff (1982), Easterbrook (1984) Dividend payment is a mean to put pressure on managers

<u>Life cycle theory and catering theory of dividends</u>	Life cycle theory and catering theory of dividends	
Fama and French (2001) Baker and Wurgler (2004a)	Investors's preferences can change over time.	Fama and French (2001) Baker and Wurgler (2004a) A company operating in an industrial sector with high growth opportunities will have less incentive to pay dividends than a company working in a stable market with fewer growth opportunities.
Baker and Wurgler (2004b)	Dividend premium Managers adjust in the short term their dividend payout to profit from the premium.	DeAngelo and DeAngelo (2006) They find that the propensity to pay dividends is positively related to the total ratio of retained earnings to total equity which is the proxy for the firm's lifecycle stage. Denis and Obosov (2008) They do not observe that propensity to pay dividends can be explained by a change in investor behavior vis-à-vis the shares paying dividends or not.

<u>Corporate governance and free cash flow theory</u>		
<u>Ownership structure</u>		
Demsetz (1983a) Jensen (1986) Schleifer and Vishny (1997)	The corporate governance has an impact on dividend policy	Schooley and Barney (1994) They suggest a non-monotonic relationship between dividend payment and shares held by the managers. Farinha (2002) The author finds a U relationship between dividend payments and the number of shares held by managers. Mod's et al. (2005) They highlight a positive influence of 'shareholding dispersion' on payout ratios. Renneboog and Trojanowski (2005).

		They notice that majority shareholders negatively influence dividend payments.
Legal, financial and political system La Porta et al. (1997, 1998 and 1999)	The creditors's rights are better guaranteed (and respected) in the 'common law system' than in the 'civil law system'	Ferris et al; (2006) The level of shareholder protection might influence the supply of dividends provided by corporate managers. Bank et al. (2009) They point out that politics does not significantly influence corporate governance.

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