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Factors influencing dividend policy decisions.

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1. Introduction

When discussing dividends with different stockholders I personally know (family members and friends), they always seem to talk about "acting like a good parent", or about the fact that they sometimes receive offers of share repurchases and their reactions to such offers, and overall about how they were perceiving, as human beings, the dividend decisions that the firms are taking.

During the first year of my Master's degree in Business Engineering at the Louvain School of Management, I had the pleasure to attend a course given by Professor Bruno Colmant about "Equity and Fixed Income". While discussing the dividend discount model and firms' dividend decisions, I began to look with a different eye at a topic that I had already discussed beforehand. I was wondering about the signaling power of dividends during a class given by Pr. Colmant. Instead of answering directly to my question, we walked together and he referred me to a document in which I would find some answers. Being interested in the topic, I started looking further into the other factors that could be part of a firm's dividend policy decisions.

Thus, the goal of this Master's thesis shall be to try listing and describing the possible factors influencing both a company and its stockholders while discussing the dividend policy. It is interesting to note that these factors could be more than just financial or economical, as an important side of human psychology seems to be playing a major part in those difficult financial decisions.

To achieve that goal, we shall first remind the reader of Graham & Dodd's (1951), John Lintner's (1956) historical basis then present Walter (1956) and Gordon's (1956) theories of relevance , then Modigliani & Miller 's (1958, 1961) famous irrelevance papers of regarding dividend policy, their restrictive assumptions and where they decided to stop their work. From there, we shall review their constraints and try to identify the effects that actually appear whenever we look at a "closer-to-reality" situation - as opposed to Modigliani & Miller's theoretical approach of.

2. Introduction to dividends

Even though dividends and other forms of remuneration have been existing for centuries (Frankfurter & Wood, 2003), we shall center our analysis on the past sixty years, choosing Lintner in 1956, as a starting point.

It is first important to point out that as listed companies are very diverse, operating in various business sectors and under very different regulations, the results found in this analysis may not be applicable to any given company. Dividend policy being also a very controversial topic, authors have multiple theories or views that might contradict each other. Moreover, there rarely is a strong empirical support for one theory in particular. We shall thus proceed using a very conceptual approach.

a) Common payout practices

Before discussing the factors that may potentially influence dividend policy decisions, it seems important to present the most common practices regarding payout policy. We can first identify two major ways for companies to pay out cash to shareholders : dividends and share repurchases. The existence of two methods of payment is obviously a major factor influencing the dividend policy decisions. It shall therefore be often mentioned throughout this dissertation. Both dividends and share repurchases are split into multiple types, thus we can also identify multiple policies of dividends payout.

First, the different types of dividends:

- Regular cash dividends: the most common practice in term of dividends, when a company pays a percentage of its earnings to its shareholders in respect with a structured payment schedule.
- Special dividends: Extra dividends in addition to the regular dividends. They used to be a common practice but partially disappeared because small special dividends are considered close substitutes to regular ones, however, large special dividends survived (DeAngelo et al., 2008).
- Stock dividends: instead of cash dividends, the payment can sometimes be made in the form of additional shares (generally in fraction per existing share).

There are also multiple methods of repurchasing shares:

- Simply buying shares back on the market
- Making a tender offer to shareholders (an offer to repurchase, usually at a premium price)
- Through a (private) negotiation with a major shareholder
- Or finally, through a "Dutch auction" : the shareholders offer their shares within a selected price range, then the firm buys them at the lowest price that contains the total number of shares that they want repurchased (Bagwell, 1992).

And lastly, two major ways to handle dividend policy:

First, the residual dividend policy. Due to the existence of flotation costs, new equity capital is more expensive if financed by the issuing of shares rather than by retained earnings (Keown et al., 2005). Thus, the firm should first accept investments with positive Net Present Value (NPV), finance these investments with funds the company already possesses (and by issuing new shares if some capital is missing), and only after that, distribute the leftovers to the shareholders as dividends (Keown et al., 2005).

Second, a dividend policy that is considered a priority in regards to some required level of dividends. Examples of these levels could be a constant dividend per share, a constant payout ratio, dividends at a constant growth rate...

b) Classical theories

As a basis for further analysis, it is crucial to remember of some classical authors' works. First of all, Graham and Dodd (1951), who suggested that there is a need of a certain stability and continuity in the dividend policy, as well as John Lintner (1956) who explained how to reach such an end by relying on his theoretical model of corporate dividend behavior.

1. Graham & Dodd.

Graham and Dodd (1951) were the first to talk about the exaggerate reaction of the market to the announcement of a dividend change in their section about "Market Exaggerations Due to Factors Other than Changes in Earnings. They used as an example a company that would see its stock price increase by $20 just because the dividend rate rises

from $5 to $6 (Graham and Dodd, p.679). Their observations were thus that the stock price is positively affected by higher dividends and negatively affected by lower dividends. Their conservative approach can be written as follows:

$$P = M\left(D + \frac{E}{3}\right)$$

where M , the multiplier, is the reciprocal of the 'assumed' appropriate Capitalization rate, D is expected dividends, and E is expected earnings. (B. Graham and D. L. Dodd, Security Analysis (New York: McGraw-Hill Book Co., 1951; 3d ed.), p. 410.)

A variation of price may range up to four times its minimal value if the amount is distributed as dividends as opposed to be kept as retained earnings. This is called the “Bird in the Hand” argument, coming from the famous expression "A bird in the hand is worth two in the bush". The idea is that there is a preference for what is certain, and dividends have a more tangible value for a stockholder than any other possible future appreciation.

2. Lintner

John Lintner (1956) reviewed over 600 listed, well-established companies and picked 28 that were diverse enough but with a minimum of 3 within each breakdown of his chosen characteristics for his paper. *"Other factors included company size, frequency of change in rates, relative average earnings on invested capital, average price-earnings ratios, balance-sheet and fund flow liquidity, stability of earnings, capitalization, use of stock dividends, extras and splits, and the size and relative importance of stock ownership by management and other control groups."* (Lintner, 1956, p.98). His goal was to analyze and understand how company were choosing to release a payout for any given period.

His first observation on the matter was that the question asking how much dividends should be diverted to the shareholders is only ever considered after the management has deemed that a change in the existing rate could be desirable. This means that the variable in this decision rather consists in a change in the existing rate, than in an amount setting a fully new established rate (Lintner, 1956).

The entire process results in a very progressive distribution, with a lot of consistency in the dividends paid out according to the pattern of dividend decision. It is thus important to note that "*any reason that would lead the management to decide to change the existing*

rate [...] had to seem prudent and convincing to officers and directors themselves and had to [...] provide strong motivations to management" (Lintner, 1956, p. 100). It also needs to be persuasive and thus acceptable for the financial community, and especially for the stockholders. According to Lintner (1956), "current net earnings" was the best factor to take all these requirements into account. He thus used:

$$Payout\ ratio = \frac{Dividends}{Current\ net\ earnings}$$

Each company has a target payout ratio in regards to their dividends distribution, this target being an ideal level that the company is trying to reach. As current net earnings fluctuate each year, the dividends should also follow the fluctuations. The second factor that Lintner identified was the speed of adjustment of the dividends in order to reach the target payout ratio. Most companies (two-thirds) in Lintner's study had well-defined, even though flexible, lines of thoughts regarding the speed necessary to achieve a full adjustment of the dividends towards the target payout ratio.

Even though Lintner (1956) only kept two factors (the target payout ratio and the adjustment speed), they reflected on different factors : the growth and earnings prospects of the company studied being some of the most other important ones, as well as the growth prospects of the industry, "*the average cyclical movement of investment opportunities, working capital requirements, and internal fund flows, judged by past experience; the relative importance attached by management to longer term capital gains as compared with current dividend income for its stockholders, and management's views of its stockholders' preference between reasonably stable or fluctuating dividend rates, and its judgment of the size and importance of any premium the market might put on stability or stable growth in the dividend rate as such; the normal pay-outs and speeds of adjustment of competitive companies or those whose securities were close substitutes investment-wise; the financial strength of the company, its access to the capital market on favorable terms, and company policies with respect to the use of outside debt and new equity issue and management's confidence in the soundness of earnings figures as reported by its accounting department, and its confidence in its budgets and projections of future sales, profits, and so on*" (Lintner, 1956, p. 104). However, he decided not to look further into these factors and their relative impact or importance on the two factors he had identified.

Although the standards for these factors vary considerably from one company to another (in Lintner's study, the target payout ratio varied from 20% to 80%, usually stabilizing around 50%), the standards within the companies are themselves invariant for

most companies. However, it is important to note that after these standards have been established, any listed company undertaking its planning in light of the dividend policy it is expected to operate a distribution. Managements therefore has to plan ahead so that they shall not be short in liquidity positions, which sometimes means either having to use outside capital to undertake profitable investments projects, or even abandon them (Lintner, 1956).

The above results are valid for about two-thirds of the companies studied by Lintner (1956). The other companies had no established standards in regards to the two factors identified. One of the company used a median of the market yield to calculate its distribution, another had very fluctuating dividends that reflected a capricious personality among the top management. Other than that, the companies studied appeared to have well-defined dividend policies that depended directly on some of the multiple factors quoted above (taken into account by the payout ratio and the adjustments). And finally, as the main factor was net earnings; which are affected by taxes: the higher the tax liability, the smaller the dividend (Lintner, 1956).

Lintner then suggests this equation to describe the evolution of dividends:

$$\Delta D_{it} = a_i + c_i(D_{it}^{*} - D_{i\,(t-1)} + u_{it}$$

with:

- ΔD_t the change in dividend payments,
- $D_{it}^{*} = r_i P_{it}$, r is the target payout ratio, P_t is the current year's profits after taxes,
- D_t and D_{t-1} the amounts of dividends distributed in the years identified by t,
- i identifies the individual company,
- a a constant that is generally positive (sometimes 0) to reflect the reluctance to reduce dividends and the will to raise them,
- c_i a parameter that indicates the fraction of the difference between the target dividend D_{it}^{*} and the actual payment in the preceding year $D_{i\,(t-1)}$,
- u_{it} an error term.

This equation explained about 85 percent of the variations in dividend distribution for the companies that Lintner worked on. This model could be described as a 'softening' or even 'partial adjustment model'. As said above, instead of adjusting directly dividends to the

current net earnings using the target payout ratio, dividends are partially adjusted (at about 25-30% per year) towards the target payout ratio in order to avoid at all a cost reduction of dividends. Fama and Babiak (1968) later comprehensively studied Lintner's model by applying it to a new time period (1946 through 1964) and found that it performed well; many other studies also confirmed it throughout the years (Allen & Michaely, 2003, p.351).

c) First theories of relevance

Walter's (1956) and Gordon & Shapiro's (1956) papers both approach dividend policy as relevant and influencing the value of the share.

1. Walter

First of all, James E. Walter's approach to the question. He built a theoretical model to show the relationship between dividend policies and stock prices (Walter, 1956).

Some assumptions were made for the demonstration: in Walter's world, the firm has an infinite life horizon, the retained earnings are the only source of financing, the cost of capital (market capitalization rate) as well as the rate of return on investment are constant and that any change in earnings is immediately distributed to shareholders. (Walter, 1956, p.31). His findings can be expressed in the follows mathematical terms:

$$V_c = \frac{D + \frac{R}{k_e}(E - D)}{k_e} = \frac{E}{k_e} + \frac{R - k_e}{k_e^2}(E - D)$$

with

- V_c the present value of any common stock
- D the cash dividends
- R the rate of return on additional investment
- k_e the cost of capital (market capitalization rate)
- E the earnings

This mathematical representation thus defines the price of a share as the total sum of the present value of all the dividends $\frac{D}{k_e}$ and the present value of all the returns on investments made from the retained earnings.

The firm's dividend decision depends on its investment opportunities. As dividends are paid to the shareholders, they have the possibility to reinvest it further to generate returns. We assume that the shareholders' investment will be at the most profitable rate. For the firm, this problematic is called the opportunity cost of capital.

The conclusions of Walter's model were that if $\mathrm{R} > k_{\mathrm{e}}$, then the firm should reinvest the entirety of their earnings and not distribute any dividend; if $\mathrm{R} < k_{\mathrm{e}}$ then the shareholders would be better off reinvesting their dividends thus there would be a total distribution, and finally, if $\mathrm{R} = \mathrm{k_e}$, the firm would be indifferent between dividends and investments.

The Walter model shows that dividend policy is relevant and has bearing on the value of the share.

A criticism against this model is that the assumptions are rarely realistic; a constant R or $\mathrm{k_e}$ are very rare in real life, because when a firm invests, the risk changes (and thus, the cost of capital $\mathrm{k_e}$ too)

2. Gordon

Myron J. Gordon and Eli Shapiro (1956) developed a share valuation model that is now known worldwide as the Dividend Discount Model (DDM). With this model, they established the relation between the current known price and the possible, expected future dividends (Gordon, 1956). They then start with a discontinuous equation that increments at a t rate (at every dividend payment). The profit rate of a share (k) is the rate of discount that links the expected dividends and the price of a share and its value should satisfy:

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

With P_0 the current known price and D_t the expected future dividends.

In order to depict this problem in a mathematically convenient way, it is assumed to be continuous. There are therefore two ways to find D_t:

First of all, we know that a corporation retains "*a fraction b of its income after taxes, and two, that a corporation is expected to earn a return of r on the book value of its common equity*" (Gordon, 1956, p.105). The expected dividend is given by:

$$D_t = (1 - b)E_t \quad (1)$$

With E_t the earnings per share after taxes at time t.

Several problems may be encountered; mainly that future dividends are uncertain because the necessary information is unavailable to outsiders and the fact that this formula is set in an infinite horizons. Therefore, the future dividends are estimated, being derived from known data objectively, by methods reasonable and not in conflict with normal financial behavior, and that would lead us to a rate of profit implicit in the expectation (Gordon, 1956).

In order to solve the infinite horizon, the authors look at the increase of earnings as a compound interest problem and introduce a new variable, the annual, constant growth rate $g = br$. It results into the following, world famous equation:

$$P_0 = \frac{D_0}{(k - g)}$$

Thus, $k = \frac{D_0}{P_0} + g$, the rate of profit at which a share is selling is equal to the dividend yield plus the expected growth of the dividend (Gordon, 1956, p.106).

As $g = br$, similar conclusions as Walter's model can be concluded in regards of the cost of capital k and the rate of return r about the optimal dividend policy decisions. If $r > k$, there should be little to no dividends payed. If $r = k$, the price of the share is unaffected by the dividend policy. Finally, if $r < k$, there should be a total payout (100% of earnings distributed).

An overly simplified conclusion of this model would be that if a company increases dividends payment, it is increasing its value. To make sure that such a conclusion isn't drawn from his paper, Gordon (1959, 1962) uses the definition of the growth rate $g = b$ (retention rate) * r (rate of return) and equation (1) to write his Dividend Discount Model as follow:

$$P_0 = \frac{D_0}{(k-g)} = \frac{E_0\,(1-b)}{k-rb}$$

The works of Modigliani and Miller in 1958 and 1961 challenge the model that Gordon and Shapiro published in 1956. While we will discuss these works in the next chapter, it is first interesting to see Gordon's point of view on the matter and his defense against the MM claims of capital structure irrelevance and dividend irrelevance. Gordon (1962) argues first that firms typically maintain their debt equity ratio (their capital structure) and do not usually take part in share repurchase; which was true, at his time. The point he makes is that, in practice, dividends investors always expect the corporation to maintain its current capital structure. While this might have been true in 1962, we know that nowadays the existence of share repurchases is a considerable factor.

An argument that has been brought is that, even if a corporation will not retain a fixed fraction b of its income in every future period, we are not interested by what they will actually do but rather by what the corporation is expected to do by the investors (Gordon, 1962, p.39). Using a fixed value for b as an assumption is thus valid, because the model looks at the situation from an investor's point of view. Whether this is correct to assume this stability or not had already been proven before in Lintner's works, among others. Corporations are indeed usually responding positively to the need of stability asked by investors (Gordon, 1962).

Thus, the first major difference that can be observed between the situation in practice and the theoretical models is explained mainly by the fact that investors assess their expectations under imperfect information. When a dividend payout happens, the gap between the expected payout and the actual payout resides in that lack of information and the dividend policy would thus be a provider of financial information about the corporation. Further discussions about a possible relevance of dividend policy will be held in a later section in this Master's thesis.

3. Modigliani and Miller: Theories of irrelevance

Two years after Gordon and Shapiro's paper about the capital equipment analysis (and the required rate of profit), Modigliani and Miller (1958) published the first of two fundamental theorems. Under restrictive assumptions that would depict a perfect world, Modigliani and Miller (or MM, in 1958 & 1961) proposed a financial theory stating that the market value of a firm is independent of its capital structure or its dividend policy but is instead determined by the value of its underlying assets, its operating profits and its investment decisions. Their contribution to the financial literature cannot be underestimated, as they established a theoretical basis for new discussions regarding dividend policy and the cost of capital.

This entire chapter describes MM findings in a chronological order, starting with their capital structure neutrality theorem in 1958, followed by their dividend irrelevance theory, including the remarks and corrections later brought on for their two theories and finally, reviewing the importance of the assumptions established in their findings. These assumptions are to be discussed and criticized in later chapters for their restrictiveness; the conclusion that dividend policy is irrelevant should be received guardedly considering the strength of the constraints in effect for this theory. Authors recently went even deeper in their critics of MM work, namely DeAngelo & DeAngelo (2006), going as far as challenging the foundations and the relevance of the studies themselves. Chapter four will cover these critics and the different factors that appear when these assumptions are put aside.

But before diving into their theories, it seems wise to underline the assumptions of MM:

- First, that capital markets are perfectly efficient, meaning that no transactions from a single seller or buyer should be large enough that it would influence the ruling price; the information is free and available to everyone; there are no transaction costs or flotation costs and finally, no taxes differential between the multiple alternatives for both parts on the equity market (firms and investors) (MM, 1961, p.412).

- Second, investors have a rational behavior: they are indifferent between a cash payment or an increase of the same amount of the market value of their shares.

- Finally, perfect certainty: the guarantee that the firm will continue to operate in an infinite horizon, which means no bankruptcy costs.

a) MM 1958 : capital structure neutrality

Before diving into the details of their dividend policy irrelevance theorem, it is worth mentioning the work they published just three years prior. Let us first quote the authors and the propositions they established:

Proposition I: *"the market value of any firm is independent of its capital structure and is given by capitalizing its expected return at the rate ρ_k appropriate to its class*." (MM, 1958, p.268)

Or, equivalently: "*the average cost of capital, to any firm is completely independent of its capital structure and is equal to the capitalization rate of a pure equity stream of its class.*" (MM, 1958, pp. 268-269)

Proposition II: "*the expected yield of a share of stock is equal to the appropriate capitalization rate ρ_k for a pure equity stream in the class, plus a premium related to financial risk equal to the debt-to-equity ratio times the spread between ρ_k and r. Or equivalently, the market price of any share of stock is given by capitalizing its expected return at the continuously variable rate $i_j = \rho_k + (\rho_k - r)D_j/S_j$*" (MM, 1958, p.271); or: the cost of equity increases with its debt-to-equity ratio.

The general ideas of these two propositions are the following:

Firstly, in a perfect world, the capital structure of a company is irrelevant, which means that the Weighted Average Cost of Capital (WACC) should remain constant when the company changes its capital structure. This implies that, for example, when the company borrows to repurchase some of its shares, it will also not gain any tax benefit and thus no changes to the WACC. If increasing the percentage of debt has no effect on the company's share price, we can say that the capital structure is irrelevant to that price. However, this is without accounting for taxes.

Secondly, whenever the proportion of debt in a given company's capital structure increases, the expected yield required by the shareholders increases as well. This comes from the fact that the higher the debt, the riskier the equity is, so shareholders require a risk premium on the stock. As capital structure is irrelevant, these changes do not affect the WACC.

But if some of the assumptions are removed, MM acknowledges that with taxes introduced, having debt is actually more valuable thanks to the interest tax shield. The so-called "tax shield" is the fact that interest on debt is tax deductible, it is thus cheaper for the company to issue debt. The logical conclusion is that a higher proportion of debt lowers the WACC of a company.

There is thus a Tradeoff Theory of Leverage. The company needs to find the optimal balance between debt and equity by weighing the advantages and the costs of debt, namely the tax benefits of debts but also the costs of distress such as bankruptcy costs (MM, 1958). But this goes way beyond the original assumptions that were previously set by the authors and while they did take some of these parameters in later papers (Modigliani and Miller, 1963), the capital structure won't be discussed in extended details.

b) MM 1961 : dividend policy neutrality

Following their work on capital structure and its impact on the cost of equity, the next publication by Modigliani and Miller (1961) is about dividend policy. They first ask the following questions: "*Do companies with generous distribution policies consistently sell at a premium over those with niggardly payouts? Is the reverse ever true? If so, under what conditions? Is there an optimum payout ratio or range of ratios that maximizes the current worth of the shares?*" (MM, 1961, p.411). These questions had already been the subject of many empirical studies but no consensus had been reached. MM thus aimed to fill the gap in the theoretical literature about valuation in order to help the multiple investigators framing their tests with a higher precision (MM, 1961, p.411).

Their work is still within their convenient framework of perfect markets, rational behavior and perfect certainty (the latter being relaxed in a further demonstration by the authors). They want to mathematically prove that dividend policy is irrelevant; they start their demonstration with the fundamental principle of valuation, that is, for a given share:

$$\rho_t = \frac{d_t + P_{t+1} - P_t}{P_t} \qquad (1)$$

With ρ_t the rate of return of the share, d_t the dividends per share paid during period t and P_t & P_{t+1} the prices of the share at the start of the period t and $t+1$, respectively.

This very intuitive equation tells us that the rate of return for a period is equal to the dividends received during that period d_t plus the capital gain on the price of the share since the last period ($P_{t+1} - P_t$) divided by the price of the share at the beginning of the period P_t (at which, we assume, the share was bought). We can re-write this equation to isolate the price:

$$P_t = \frac{d + P_{t+1}}{1 + \rho_t}$$

The logic behind that equation is that, otherwise, there would exist a process in which shareholders of low-return shares would be better off by selling these shares and buying high-return shares. In practice, such process would increase the price of high-return shares and decrease the low-return ones, thus, no arbitrage is possible (MM, 1961, p.412).

In order to expose the problem they want to solve more clearly, MM rewrite the equation by looking at the value of an enterprise as a whole, not just an individual share (MM, 1961, p.413) :

$$V_t = \frac{D_t + n_t \times P_{t+1}}{1 + \rho_t}$$

With $\mathrm{n_t}$ the number of shares at the start of t so that $\mathrm{n_t} \times d_t = D_t$ the total dividends distributed during t and with $\mathrm{P_{t+1}}$ the ex dividend closing price. (MM, 1961).

$$V_t = \frac{D_t + V_{t+1} - m_{t+1} \times P_{t+1}}{1 + \rho_t}$$

With m_{t+1} the number of new shares sold during t at the price P_{t+1} (MM, 1961).

If a company wants to know how many shares it needs to issue to finance its need for outside capital, the following can be used (MM, 1961, p.414) :

$$m_{t+1} \times P_{t+1} = I_t - (X_t - D_t) \qquad (2)$$

With I_t the level of investment by the firm or the increase in its holding of physical assets,
X_t is the firm's total profit for the period.

When substituting the last equation (2) in the V_t expression, we get :

$$V_t = \frac{D_t + V_{t+1} - I_t + X_t - D_t}{1 + \rho_t} = \frac{V_{t+1} - I_t + X_t}{1 + \rho_t}$$

Thus, as dividends cancel out, MM prove that the value of the firm is independent of the amount of dividends that it pays out; or equivalently, that the dividend policy chosen by a firm does not affect neither the price of its shares nor the return to its shareholders (MM, 1961, p.414). According to this mathematical demonstration, the value of the firm depends on the value of the firm in the next period V_{t+1}, the level of investment I_t and the profit X_t.

Another interesting interpretation can be extracted from the equation (2): dividends can be written as : $D_t = X_t - I_t + m_{t+1} \times P_{t+1}$. This equation gives us that the distribution is the money that is left over after the investments, and if the expectations of dividends are higher than that amount, they are financed by the issue of new shares. This also means that the dividend policy is neutral if any extra payout is being financed by new shares, in this "full equity" scenario (this demonstration has been, so far, in a scenario of a company financed entirely by equity). But as we saw in the previous section, according to the authors, capital structure is also irrelevant, thus, it could also be financed by new debt issuing. As a side note, other advantages of modifying the capital structure of a firm have been discussed in a theory of "Market timing" by Baker and Wurgler (2002); when companies think their shares are overestimated, they issue new shares and on the contrary, when they consider their shares underestimated, they repurchase some. We will develop this theory in the chapter dedicated to information asymmetry.

MM then proceed to methodically demonstrate that their result of dividend irrelevance can be proven not for one, but for multiple valuation formulas, starting from the classical principle of valuation, equation (1). This procedure is to try to eliminate any *"fruitless concern and controversy over what investors "really" capitalize when they buy shares"* (MM, 1961, p.414).

However, while they were not about the mathematical aspect of the paper, these controversies and concerns have quickly appeared in the financial community. The main criticism was about assumptions, judged too restrictive and unrealistic. MM never claimed to have produced a practical paper but more of a theoretical help for the empirical

investigators. Furthermore, this theory helps to identify factors that generate with certainty value for the company, namely the profits and the investments. Stepping away from the assumptions that create this perfect world would thus be a good lead to identify factors that actually make dividend policy relevant, and might influence it.

All in all, while MM (1958, 1961) might not be applicable in the real world and all its imperfections, there can be some crucial takeaways from their theories : firstly, that if the expectations of dividends are higher than the simple difference between earnings and investments, the extra financing is done by issuing new shares (or debt). Secondly, their restrictive assumptions open the way for the real world analysis and give a good lead to researchers that would like to find the factors influencing the dividend policy. This will be the focus point of multiple chapters to follow.

4. Reviewing the critics of Modigliani and Miller

The paper, published in 1961 has quickly provoked critics among the financial world; the idea of dividends being irrelevant was at the time revolutionary and generated a lot criticism. In this section, we will first talk about a recent paper that criticizes the basis of the hypotheses themselves in MM (1961). We will after shortly review the assumptions stated by MM in their two famous papers about irrelevancy (1958 & 1961) as a basis for the literature research.

a) The irrelevance of the dividend irrelevance

Before looking into the multiple assumptions laid by MM, DeAngelo & DeAngelo (2006) went one step further in their critics of MM and challenged the relevance of the theory itself. In their paper, titled "The irrelevance of the MM dividend irrelevance theorem", the authors have two general ideas: first of all, the joint effect of all their assumptions implies that the earnings, specifically the free cash flow, are 100% distributed for every payout period (DeAngelo & DeAngelo, 2006). This is not generally the **case** in practice, as companies retain earnings at the end of a period, in most **cases**. This 100% FCF payout limits any other combinations of distributions or opportunities set artificially and constraints to only have the total FCF payout as an optimum, in the MM (1961) model. Secondly, if managers are able to retain earnings, then the payout policy is as relevant as is the investment policy; they are both dependent of one another. Regarding investment policy, it is possible for managers to invest in projects that have a negative Net Present Value (NPV). Such investments would be destructive of value and thus be very relevant for shareholders. The second idea covers thus the concept that the investment policy and the distribution policy are linked to one another and they play their role with that dependency in mind.

1. The irrelevance against retention decisions

The principle of irrelevance would mean that every possible payout policy is optimal, which also means that any payout policy maximizes the wealth of the shareholders (DD, 2006). So, when MM opened their famous irrelevancy paper by asking the reader *"Do companies with generous distribution policies consistently sell at a premium over those with niggardly*

payouts?" (MM, 1961), they should have considered the option of what they call "niggardly payouts".

To first prove that the underlying hypothesis of a total payout is within MM's model (1961), DeAngelo & DeAngelo (or DD)(2006), start by using the equation (2) from the model presented in the section regarding MM, and by stating that $S_t\ (>0)$ is the cash raised from stock sales for period t, that D_t is the gross redistribution, equals to the sum of dividends and the repurchases and with the net distribution = $D_t - S_t$ we have :

$$S_t = m_{t+1} \times P_{t+1} = I_t - (X_t - D_t)$$

Let $X_t - I_t = FCF_t$ be the free cash flow (the net of investment cash flow). We can rewrite the equation to isolate D_t (the gross redistribution):

$$D_t = X_t - I_t + S_t = FCF_t + S_t$$

Since it was assumed that X_t and I_t were constant for all t, it is obvious that their difference, FCF_t is also parametric for all t (DD, 2006). Thus, as S_t is non-negative, the redistribution D_t must be at least as big as the free cash flows FCF_t. Thus, the underlying assumption of a total payout within MM's model (1961) is proven by DD (2006).

In practice, MM have essentially ruled out the option of "niggardly payouts" as their assumptions require firms a payout of 100% of their Free Cash Flow (FCF) for every period. Thus their irrelevance proposition relies on a total payout and not on the value maximization by the managers of the firm, the latter being needed for the shareholders neutrality (DeAngelo & al., 2008).

Another ironic point is that though MM wanted to make sure that we do not mix up investment and payout policy, their assumptions and the obligation to pay out 100% FCF every period created an interdependency between the two (DD, 2006). The justification given by DD is that MM effectively force the payout decision to be a derivative of the investment decision (DD, 2006). Once the investment decision is made, the firm automatically distributes (by MM model) all the Free Cash Flows, every period. In the absence of retention, the stockholders can't find a better option than that. However, when retention is allowed, the firm can chose a payout such as $D_t < FCF_t$, and there are

possibilities of payouts inferior to the full present value of the FCF; thus investors are not neutral about it anymore and irrelevancy fails (DD, 2006).

2. Managers can invest in value-destructing projects

The idea proven above is that there is no discussion about dividend policy if they are automatically chosen in the model of MM after the investment policy has been set. However, if we allow other solutions than a total payout, the dividend policy will matter. Shareholders would indeed not be neutral when confronted to a destruction of value, because of suboptimal investment decisions or payout decisions.

A possible objection to that statement would be that if managers chose a payout policy that doesn't distribute the full present value to the shareholders, the loss of value would be attributable to the investment policy, not the payout policy (DD, 2006, p.306). DD rejects this by claiming that the argument is a semantic trick. Such conclusion would mean that the payout policy would be defined as changes in the investment policy. The problem would become a tautology, as if everything enters in the definition of "investment policy", then yes, only investment policy matters.

This idea seems a lot weaker than the previous one, and there is overall a lot of confusion in definitions of what investment and payout are. The important concept to remember from DD (2006 and 2008) is that as soon as we allow for other options than restrictive, full payout, the possibility of not receiving the highest amount (not just for every period, but a total, long-term oriented amount), is removing the neutrality from the shareholders. They don't believe that the payout policy is irrelevant anymore when first, retention is allowed, and second, possible sub-optimal decisions are allowed.

3. Possible reconciliation of MM and DD, and conclusions about DD.

Handley (2008) is looking for ways to reconcile the authors as the title of his paper suggests: *"Dividend policy: Reconciling DD with MM"*. The main selling point of his reconciliation is about stock repurchases, even though he also mentions agency costs. His claim is that DD didn't include the possibility of stock repurchases as a separate option in their model, while

MM did, as a "negative stock sales" ($S_t < 0$). Handley thus suggests an addition of R_t as stock repurchases, the equation becomes:

$$X_t + S_t = I_t + D_t + R_t$$

And then, by isolating dividends D_t and writing the definition of the Free Cash Flows, we have (Handley, 2008):

$$FCF_t + S_t - R_t = D_t$$

This would be how Handley solves the obligation of DD to payout as dividends an amount at least as big as FCF_t. This negative quantity could relax this obligation of 100% payout, according to Handley (2008). However, this explanation doesn't seem convincing; DD explicitly used the gross distribution, i.e. not only dividends but any other distribution methods, including share repurchases. Furthermore, share repurchases would not justify or compensate for retaining earnings (FCF in this case).

A second lead to reconciliation would be about the net present value (NPV) of the investments. DD follow Brennan (1971) and Rubinstein (1976) to avoid any extra confounding effects and *"assume, in the case of substantial free cash flow and low levels of payout, that retained cash is invested in zero-NPV projects"* (Handley, 2008, p.530). That is the point that DD later depart significantly from in their paper, when they suggest that managers could invest in projects with negative NPV. However, this creates a variation in agency costs (a topic on which we will expand in later chapters in this Master's thesis). Typically, agency problems that are associated with the investment policy - either the underinvestment problem of Myers (1977) or the FCF/overinvestment problem by Jensen (1986) - do not change because the overall level of investment is constant (Handley, 2008). Both MM and Brennan-Rubinstein have some fixed level of investment; and in their theories, regardless of the payout rate, the FCF is eventually entirely distributed. This is not the case for DD: they also have some fixed level of investment, but in their model, it is possible that managers distribute less than the total present value of the FCF (Handley, 2008).

DD, along with Skinner (2008) thus modify their model to fit the above: the fixed point is now not on the payout but the NPV created by the investment policy. The temporality of the payments is the biggest modification that can be added to MM model; while MM only allows

for total FCF payout each period, the idea of investment in projects at zero-NPV helps DeAngelo et al. (2008) to spread out the multiple payments across the periods. What really matters is that, in the end, the entire value generated through investments decisions must be distributed to the shareholders via the payouts.

b) Reviewing MM assumptions

Modigliani and Miller have very strong assumptions regarding the markets, to establish their models for the neutrality of capital structure and dividend policy:

- There is a rational behavior by the investors and there exists perfect capital markets (and perfectly efficient).
- Investors have free, complete information available for them.
- No time lag, transaction costs or flotation costs.
- Securities can be infinitely divisible (split into smaller parts)
- No tax differentials between capital gains and dividends.
- The investment decisions are taken firmly without being affected by the dividend policy and the future profits are known with certainty; implying no bankruptcy costs.

These assumptions reflect MM's ideal economy but are not realistic. The authors were themselves aware of that fact and stated it multiple times throughout their paper in 1961 : "*We shall begin […] by examining the effects of differences in dividend policy on the current price of shares in an ideal economy characterized by perfect capital markets, rational behavior, and perfect certainty.*" (MM, 1961, p.411). They also dedicated their last chapter to market imperfections: "*To complete the analysis of dividend policy, the logical next step would presumably be to abandon the assumption of perfect capital markets. This is, however, a good deal easier to say than to do*" (MM, 1961, p.431).

Modigliani and Miller obviously knew that multiple factors were influencing the dividend policy, but that was not what they were focusing on for their contribution to the financial literature. The multiple problems they list in their conclusive section is the problems that are encountered here : everything about dividend policy and the factors influencing the rationale behind it is so subtle and hardly quantifiable that many authors have very opposite

views on the topic. Black (1976) concluded his paper with what he called "the dividend puzzle" as follow: *"What should the individual investor do about dividends in his portfolio? We don't know. What should the corporation do about dividend policy? We don't know."* (Black, 1976, p.11). This is a challenge, by Black, for researchers to answer all these questions; to make all these apparently contradictory pieces of puzzle fit in altogether. We are interested in all the factors we have been able to identify in the literature and try to summarize them, assessing the importance of each and finally, understanding how they all interact with one another.

But a major difficulty lies in the fact that any departure from this artificial perfection creates very different implications and as they can combine into even more possibilities, pursuing the consequences of each of these is not a realistic task. We will thus try to break down each of these assumptions in a categorical way, by looking at purely market-related imperfections but also human-related imperfections. It is already clear that no school of thought regarding dividend policy is entirely right or wrong, there is no 'one-size-fits-all' explanation or model.

5. The frictions and why dividend policy might be relevant

To begin with this next section, we will present the concept of "frictions" introduced by Lease et al. (2000). They have studied what they call frictions, multiple factors diverging from the perfect markets theorized by MM, that might make the dividend decision relevant. They chose to identify them as "the little three" frictions: transaction costs, flotation costs, and irrational investor behavior, and the “big three” frictions: taxes, agency costs, and asymmetric information (Baker, 2001). These and other factors will be our base to review the assumptions of Modigliani & Miller and the consequences of their absences in the real world. The next section will be dedicated to the little three, while the big three will be further expanded in individual parts.

a) Transaction costs

The MM theorem on dividend policy claims the irrelevance for a shareholder because if he wants cash during a given time frame, he can sell some of his shares. In other circumstances, he can borrow money in order to buy more shares, thus, the decisions of the company for which he owns shares wouldn't matter. This is in the fantasy world created by MM assumptions without any disruptive costs.

However, these transactions can be costly. Thus, the shareholder would prefer the company to distribute dividend to generate his need for cash, in order to avoid these transaction costs (Black, 1976, p.9). In reality, we know that this argument isn't very solid : taxes are also a factor (see section d and the following chapter) and a company can arrange for a share repurchase system using a trustee that would sell back shares according to the needs of cash (Black, 1976). It would even be possible to sell or buy fractional shares, thus making it a continuous system (as opposed to discrete). Such system would probably be less costly than a dividend system, thus, the transaction costs are not a major concern.

They might have been the deciding factor in some hypothetical world where transaction costs exist but taxes or share repurchases don't, but as we know, this is not typically the case in a real environment.

b) Flotation costs

The flotation costs are costs incurred by a company when it issues new securities (bonds or stocks). It includes legal fees, underwriting fees and registration fees and other various expenses. A company must consider multiple factors when calculating the equity it needs for a new issue; dividend payments, flotation costs, the retaining rate are amongst those factors. It is also worth mentioning that flotation costs depend on the security size, type and risk. Typically, smaller companies will face higher flotation costs.

The following equation can be used to calculate the cost of new equity using the dividend growth rate:

$$k_c = \frac{D_1}{P_0\,(1-F)} + g$$

with D_1 the dividend in the next period, P_0 the price of one share, F the flotation costs and g the dividend growth rate (Brigham and Ehrhardt, 2008) .

We can see that, as expected, the bigger the flotation costs, the higher the cost of new equity. Flotation costs are favoring a lower dividend payout, because both taxes and flotation costs are suggesting a residual payout theory: the firms should then only pay out dividends after all the investments in positive NPV projects have been made (Keown et al., 2005).

c) Irrational investor behavior

While it was considered as a "little three" just fifteen years ago, we believe that behavioral finance is an expanding domain that needs to be talked about. We will thus briefly approach the topic here, but we will discuss extensively about psychology in later chapters. It is already interesting to introduce some points about the irrational investor behavior in this section.

The most important topic about the investor behavior is, for our study, the irrational preference for dividends. Graham and Dodd (1951) were already aware of that, as mentioned in the "Classical Theories" section. Coming from the old adage "A bird in the hand is worth two in the bush", the bird-in-the-hand theory of Lintner (1962) and Gordon (1959) justifies that dividends are certain and capital gains are not. Capital gains represent the "two

in the bush" as they can be very large and make the stockholder rich, but can also be non-existent or even negative if the stock plummet.

Another argument for the preference of dividends rather than capital gains has been introduced by Kahneman and Tversky (1982). Their model could be called "the regret aversion model": according to them, that selling a share causes the investor more regret and anxiety than spending the money they received from dividends.

But of course, this preference for safer and less regret-inducing option is costly. To cite a world-famous quote by Warren Buffet: “Be fearful when others are greedy and greedy when others are fearful”. What he explicitly said multiple times was that what is comfortable is rarely profitable; thus, for equity holders, dividends are the safer, more comfortable option but also probably less profitable than capital gains.

d) Taxes

The following three factors play very important parts in the explanation of how a dividend policy is chosen by a company. This section will thus cover a short summary of the leads to be looked into in further chapters.

Under this section about taxes, two major effects will be discussed: first, the difference of taxation on dividends and on capital gains; and second, the "clientele effect". MM themselves recognized the existence of this effect in the concluding chapter of their 1961 paper and had taxes as the biggest reason for such effect. The focus point regarding the clientele effect will be about the taxation profiles of the investors that lead them to this natural preference. Black (1976, p.11) also somewhat touched on the subject of identifying the clientele with the following: *"Corporations can't tell what dividend policy to choose, because they don't know how many irrational investors there are".*

e) Agency costs

Michael C. Jensen and William H. Meckling formalized the agency theory in their 1976 paper "Theory of the firm: Managerial behavior, Agency costs and Ownership structure". The idea is that the different stakeholders in a company, mainly the managers, shareholders, creditors, have all different interests in this endeavor. And as corporate managers play the

role of agents of the shareholders, the conflicting views they might hold can cause agency costs. Easterbrook (1984) later indentified two possible types of agency costs: the cost of managers monitoring and the cost of managers risk aversion. We will analyze further how these costs have influence on the dividend policy, and how there have been attempts to minimize them through multiple variables. We will also use the section covering agency costs to expand further on the controlling power of dividends and how the proportional size of some shareholders can have influence on the dividend policy.

f) Asymmetric information

One of the biggest explanation of why dividends are so important is the information they carry to the market. Simply put, managers have more information about the company than shareholders. They will use dividends to signal, to communicate with the market; dividends are thus a way, carried out by the managers, to reduce this asymmetry of information. Authors argue whether the announcement of a change in dividends has an impact on the value of a firm; but most agree that an unexpected change has a strong impact. This asymmetry is costly because managers, detaining full information, are committed to continue to increase the dividends. Dividends just become the means to minimize the risk of an enormous dive in the stock price after a dividend lower than expected.

6. Taxes

Taxes are commonly omitted in theoretical model, both in general economics or in finance. That is because they are a major friction to the idea of perfect markets. In their dividend irrelevancy proposition, MM tried to work around the "no tax" restriction but still used the following assumption regarding taxes: *"[...]no tax differentials either between distributed and undistributed profits or between dividends and capital gains."* (MM, 1961, p.412). Thus, the first interesting point to discuss will be the real life situation where there is a difference in taxation between dividends and capital gains. Secondly, we will talk about another impact of taxes on investors: their differences in tax profiles affect the profiles of the companies they decide to invest into. This effect is called the "clientele effect", as companies have a specific clientele of shareholders, displaying similar traits, one of which being a similar tax profile.

a) Tax differential between dividends and capital gains.

"[...] the tax differential in favor of capital gains is undoubtedly the major systematic imperfection in the market" (MM, 1961, p.432).

The tax differential between dividends and capital gains has been studied by multiple authors, especially in reaction to the MM proposition of dividend irrelevancy. Farrar & Selwyn (1967) conclude their paper by stating that, first of all, it is clear that corporate financing policies have an effect on investment value; but also that debt policies have different effects on different investors (a phenomenon we will talk about in the next section about clientele effect), and that *"an optimal (zero) dividend policy continues to exist"* (Farrar & Selwyn, 1967, p.21). Brennan (1970) reviewed the work of Farrar & Selwyn and came down to a similar conclusion: so long as there is effectively taxes (greater than zero), paying dividends would be damaging to the investors' interests.

In that regard, MM propositions, whether they might be about capital structure or dividend policy still stand in an approximately zero effective market tax rate, but are otherwise altered if taxes are significantly different than zero, as shareholders are not indifferent anymore under the existence of taxes.

The leading conclusion is thus: if the tax rate is greater for dividends than it is for capital gains, the optimal distribution is one with zero dividends. Paying out dividends would be destroying value for the firm and thus also for the shareholders if we look at the bigger picture. Most, if not every, studies about the topic come to the conclusion that capital gains (and thus, share repurchases) are a better alternative when considering the tax effect on dividends payments.

So, why are dividends still a common practice? It seems that the tax argument would not go the dividends' way to pick the better distribution method in most cases. Authors have argued that astute investors can work their way around the tax constraint with financial constructions, but this doesn't hold very strong.

There is more to it than the tax argument. The analogy of Black and the "dividend puzzle" comes into play here: it seems irrational that dividends are so commonly and regularly used by listed companies; there are some explanations, some that we already mentioned in this paper, but there is more to it than strictly tax efficiency. Brav et al. (2005) also claim that dividends taxation is not the first consideration of managers when choosing between dividends and share repurchases. We also looked in this section as if every shareholder had the same characteristics, whether at a personal level (for example, the age) or at a financial level (tax profile, income...). We will review this assumption in the next section about the Clientele effect.

b) The clientele effect

"Strong as this tax push toward capital gains may be for high-income individuals, however, it should be remembered that a substantial (and growing) fraction of total shares outstanding is currently held by investors for whom there is either no tax differential (charitable and educational institutions, foundations, pension trusts, and low-income retired individuals) or where the tax advantage is, if anything, in favor of dividends (casualty insurance companies and taxable corporations generally). Hence, again, the "clientele effect" will be at work." (MM, 1961, p.432).

This quote, extracted from MM 1961 about dividend irrelevancy is a great introduction to the following factor analyzed: the clientele effect. The fiscal cost of dividends doesn't apply

the same way to every investor, because they have different characteristics, and their tax profiles vary from one another. The idea of this clientele effect is that a company will choose a dividend policy that will match the needs of a particular investors group, this group consisting of investors with a similar or identical taxation profile. Investors that are heavily taxed on their dividends would certainly prefer a low dividend payout policy (and thus look for high capital gains), and vice versa.

Would that mean that a company could somewhat choose their investors in light of its dividend policy? It would seem possible that setting a very extreme dividend policy (either total payout or no payout) would attract specific profiles. Empirical evidence suggests that the clientele effect does indeed exist, i.e. that there is a relationship between the tax rate differences of investors (between dividends and capital gains) and the dividend policies of the firm (Pettit, 1977). Further evidence by Elton et al. (1984) who defended their previous paper against the re-examination by Kalay (1982), adds that there is powerful evidence to the existence of this clientele effect.

However, there is "*no reason to expect that firms will not set their policy in light of tax and transaction cost-induced preferences of individuals that make up the market*" (Pettit, 1977, p.435). We have no real proof that a company will take into account this effect, but we know that managers like a conservative approach to dividends. The work of Lintner (1956) and his idea of a dividend smoothing model still holds, even in more recent studies (Brav et al., 2005, for example). An important factor in that apparent stability in payouts is the extreme response of the market, as already mentioned by Graham and Dodd (1951). This response has been justified by authors as either irrational or caused by asymmetric information; two phenomena that we still need to develop in further sections.

To look at the causes of existence of this effect, we have to wonder why it wouldn't exist in a perfect market. In such a market, if an investor doesn't like the dividend policy that the management has picked, he can simply arrange to his personal income preference by buying or selling other securities in order to match his expectations of payout and the actual payout he received (Keown et al., 2005). If the dividend is deemed insufficient, he can sell some of the company shares of stock. Conversely, if the dividend is larger than needed, he can buy additional shares of stock with the excess cash. However, the market as we know it is

nowhere close to the theoretical perfect markets imagined by MM (1958, 1961). Buying or selling stock is itself a costly operation, with the existence of brokerage fees. If the cash used to buy these extra shares comes from dividend payments, it is extra costly with the taxes applied to the dividend payments. Such action must also be thought through, and the process of buying or selling a share requires good information, which can be expensive. Some investors, for example specific investment funds, are sometimes contractually prohibited to do such operations with their dividends (Keown et al., 2005).

With all of this taken into account, we can see why investors might not be willing to create themselves the payouts that fit the best their personal needs. We can thus reasonably expect them to look for firms that match best their preferences for either dividends or capital gains. They are thus naturally selecting themselves, sorting themselves and are buying the stocks that offer the payouts they are looking for. As already mentioned, this means that investors with high taxes on dividends will thus look for low dividends and high capital gains and investors or institutions that need the regular income will look for companies with high dividends payments (Keown et al., 2005). A certain clientele will look for a certain company, an effect called the clientele effect.

7. Agency costs and the controlling power.

"[...] being the managers rather of other people's money than of their own, it cannot well be expected, that they should watch over it with the same anxious vigilance with which the partners in a private copartnery frequently watch over their own. Like the stewards of a rich man, they are apt to consider attention to small matters as not for their master's honour, and very easily give themselves a dispensation from having it" (Smith, 1776).

While we mentioned the topic shortly while discussing reconciliation between DD and MM, the general distinction between the interests of the managers and those of shareholders hasn't been made clear so far in this Master's thesis. However, in reality, the goals of the managers and of the shareholders might not be as simple as the maximization of the firm's value. Jensen and Meckling (1976) formalized this intuition in their agency theory. The objective of the agency theory is to link the property rights, the role of the agent and create a theoretical ownership structure (Jensen and Meckling, 1976, p.305). The idea is that shareholders can't control with certainty the behavior of the managers, their agents, with contractual obligations. Even though the owners (the shareholders) have the ultimate power (the power to elect the executives), many operational decisions are still out of the control that shareholders actually possess.

To illustrate their principles, Jensen and Meckling (1976) use the example of a manager who owns the entirety of a company compared to his behavior when he sells a portion to outsiders (thus, when he lets outsiders own some of the equity). The manager is anticipating his potential losses as it is imaginable that his term of office could end soon; thus, he is trying to maximize the value he can extract from the company for himself. The outsiders, the equity markets, are anticipating this effect. The price they are willing to pay for their shares will reflect these effects: the monitoring costs and the divergence of interest between the manager and theirs (Jensen and Meckling, 1976, p.313).

Thus, Jensen and Meckling (1976) mainly identify two issues: first, both parties of the relationship are trying to maximize their own utility; and second, they anticipate the

potential conflicts in the agency relationship and their actions are dictated by those anticipations.

The authors formally define the agency costs as the sum of 3 costs: the monitoring expenditures by the principal, the bonding expenditures by the agent and the residual loss (Jensen and Meckling, 1976, p.308). The monitoring costs are used to limit some abnormal activities of the agent; the principal will sometimes ask for a guarantee from the agent that his actions won't be harmful for the principal and this guarantee might come at a cost, whether monetary or not, for the agent: the bonding costs; and finally, the result of the divergences can't be perfectly solved by the two previous costs, which creates the residual loss (Jensen and Meckling, 1976, p.308).

In the following sections, we present solutions that financial decisions (about capital structure and payout policies) can provide to minimize these costs. While many authors (Rozeff (1982); Stulz (1990); La Porta et al. (2000) and many more) worked on the topic, we will focus on presenting the solutions brought by Easterbrook (1984) and Jensen (1986). Their findings mainly focus on regular dividends, but Lie (2000) confirms the results for special dividends and share repurchases.

a) Easterbrook (1984)

Easterbrook (1984) uses the previous findings (Jensen and Meckling (1976); Fama (1980), Holmstrom (1982)) to identify two sources of agency costs:

The first is the cost of monitoring the managers. No shareholder is willing to endorse a monitor-shareholder role, as it would be costly for him but would not gain anything extra other than the proportion of his shares. There is not one person that can capture even a little bit of wealth by assuming that role, because shares are widely held (Easterbrook, 1984). Shareholders would prefer if one person, like the bondholders' indenture trustee, was occupying that role of monitor on behalf of the shareholders (Easterbrook, 1984).

A second source is the risk aversion on the part of managers (Shavell, 1979). While investors have (or at least, should have) diversified portfolios of stocks and are thus only concerned by the systematic market risk, managers have a major part of their personal wealth "invested"

in their firms. They are concerned about an extra risk: their firms need to perform or they might lose their jobs and any other wealth they invested in the firms (Easterbrook, 1984). Thus, managers are concerned by total risk, which translates into a higher risk aversion on their part. This creates agency costs because managers prefer to invest in safer projects that also have lower expected return than riskier alternatives, while shareholders prefer the opposite (Easterbrook, 1984, p.653).

Easterbrook (1984) identifies how dividends can reduce these agency costs in two different ways:

First, managers can try to reach their level of (low) risk by changing not only the type of projects in which they invest, but also the debt-to-equity ratio (Easterbrook, 1984). In the situation that managers issue new debt and then finance the investment projects out of the company's retained earnings, financing such projects (if not anticipated by bondholders when buying the debt) is transferring wealth from the equity shareholders to the debt bondholders (Easterbrook, 1984, p.653). This is because bondholders have already anticipated a certain level of risk when buying the bonds, so lowering the debt-to-equity ratio, which is lowering the risk of bankruptcy, is granting a lower risk to bondholders than what they expected. That is another reason why shareholders want to increase the dividends as much as possible, in order to not get taken advantage of by bondholders, by increasing the risk as much as legally possible (Easterbrook, 1984). There are thus multiple conflicts of interest at stake (between at least shareholders and bondholders), somewhat contractually regulated (role of contracts emphasized by Jensen and Meckling (1976) & Alchian and Demsetz (1972)).

Second, as the distribution of dividends is decreasing the internal financing capacity, the company will have to look more often to the financial markets for funds. Dividends serve here as a link for the company to the markets: the firm's affairs are reviewed by an external entity (typically an investor banker, but any monitoring actor representing the shareholders suffices), which alleviates both the monitoring problem and the risk aversion problem. This is consistent with the high growth stocks that usually pay little-to-no dividends: the companies of such kind of stocks are very regularly in the capital market, so they are already regulated; the dividends here are not necessary to decrease agency costs (Easterbrook, 1984). A firm

using only internal financing for their new projects would escape this regulation, creating larger agency problems.

Rozeff (1982) found similar conclusions two years earlier. Additionally, he adds the fact that looking for external financing is costly; namely in transaction costs. We already talked about these costs in a previous sections, the only important thing here is that as the need for external financing increases, transaction costs increase as well. The optimal dividend payout is according to him, the one that minimizes the sum of agency costs and transaction costs of external financing.

b) Jensen (1986)

Ten years after his original contribution with Meckling, Jensen (1986) publishes a new possible explanation about agency costs. His focus point is now about the way managers handle substantial Free Cash Flows (FCF):

"Conflicts of interest between shareholders and managers over payout policies are especially severe when the organization generates substantial free cash flow. The problem is how to motivate managers to disgorge the cash rather than investing it at below the cost of capital or wasting it on organization inefficiencies" (Jensen, 1986, p.323).

In the section dedicated to residual dividend policy, we presented a model in which a company is expected to invest in projects with positive NPV before distributing the excess of FCF. However, the managers are tempted to try to invest a non value-maximizing amount regardless, because they have an incentive to make the company grow as much as possible (Jensen, 1986, p.323). The higher the growth, the bigger the resources under managers' control; thus, the bigger their power. Growth is also a common criterion to increase the managers' compensation (Murphy, 1985). This problem is called the overinvestment of free cash flow (Richardson, 2006).

The problem here is that no solutions to regulate that personal incentive had been found beforehand. Managers could essentially destroy value by investing in negative NPV projects (something DeAngelo and DeAngelo (2006) touched on), in order to increase their power and/or personal compensation. We can thus say that Jensen (1986) rejects the assumption of MM (1961), the investment policy and the payout policy are not independent: in the

context of payout decisions being the leftovers of the investment decisions, with managers being so heavily biased towards investments, there is a clear dependency. Brav et al. (2005) empirically studied the answers of 384 financial managers and also came to the conclusion of said link.

Jensen (1986) finds a solution to reduce the agency costs of FCF: debt creation. Managers could promise to increase the dividend payout permanently, but it is weak as the dividends could still decrease later. Such payout decrease would be heavily punished by the markets (Graham and Dodd, 1951). Debt creation, however, could be binding for managers. If the company issues debt in exchange for stock, they give the shareholders a strong negotiation tool: the shareholders now have the right to take the company to bankruptcy if they don't respect their engagement regarding the debt they issued (Jensen, 1986, p. 324). To buy back a relevant (enough) amount of stocks, the company should issue large amounts of debt; the regular, mandatory payments of such debt and the possible payments failures are certainly incenting the managers to sustain a more efficient operation of the company (Jensen, 1986).

The overinvestment problem developed by Jensen (1986) has been tested using Tobin's Q (the ratio of the market value of a firm to the replacement cost of its assets) by Lang and Litzenberger (1989), who came to similar conclusions. Namely, overinvestment can be counteracted by an increase in dividends. Such increase of dividends will reduce the potential overinvestment and as a consequence, increase the market value of the firm (Lang and Litzenberger, 1989, p.190). Another conclusion that has been found is that the larger the FCF are, the larger the overinvestment problem can be.

c) Controlling power of dividends

This chapter has been heavily focused on the game of power between managers and shareholders, one being supposedly the agent of the other. This section will try to present how one of the two stakeholders can turn the scales in his favor.

The biggest question we would like to answer is: How are large shareholders influencing on the firm's dividend decisions; and to an extent, on the firm's market value?

First, we can observe some positive effects on the market value of a firm in a situation where large shareholders hold a considerable amount of votes in companies. The results of

Zeckhauser and Pound (1990) present that large shareholders act as monitors for the equity part only of a company when the information is relatively open. However, they also find that there is no significant differences in the dividend payout ratios, which seem like a contradiction to the findings above. The justification is that large shareholders already act as a signal to the market of high earnings potential, so the signaling power of dividends is not necessary in this situation (Zeckhauser and Pound, 1990). This explanation seems a bit confused, Allen and Michaely (2003) are advocating for the opposite. Nevertheless, Zeckhauser and Pound (1990) provide a good empirical evidence that the existence of large shareholders is beneficial for the market value of the company.

However, many authors criticize the actions of large shareholders when they act only in their own interests. The observation that the existence of large shareholders does not cause higher dividend payout seems to be accepted by the majority in the literature, but many explanations are depicting a darker reality. La Porta et al. (2000) and Johnson et al. (2000) describe a phenomenon called "tunneling" as an illegal transfer of resources to insiders (large, controlling stockholders) through multiple ways including *"asset sales, transfer pricing, excess compensation, favorable loan guarantees for the controlling party, etc."* (DeAngelo et al., 2008). Thus, large shareholders would vote for a quasi-zero dividend policy but still reap the fruits in fraudulent ways. Bertrand et al. (2002) find evidence of this tunneling phenomenon in the Indian market through transfers of cash flows between firms controlled by the same party.

This is detrimental to the minority stockholders' wealth. La Porta et al. (2000) find multiple solutions to at least mitigate that problem. The first one is to develop legal systems that provide tools to minority stockholders, in order to pressure for dividends payouts. Albouy and Schatt (2010), Renneboog and Szilayi (2006) in an empirical study in The Netherlands, Michaely and Roberts (2006) in the UK, all support a strong legal environment to defend the minority stockholders' wealth.

However, another theory is also defending low governance: this scenario, sometimes called the "Sleeping Dogs Theory", explains the high level of dividends as a way to buy the shareholders' happiness. They are at least set just high enough to avoid any reaction from the family stockholders, functioning as a way to pacify them. Jiraporn and Ning (2006),

Nielsen (2006), Officer (2007) and Pan (2007) checked this phenomenon empirically. Other authors, notably Zwiebel (1996) and Myers (2000) also develop models in which a minimum dividend should be paid in order to avoid any stockholders' dissatisfaction.

The general conclusion is that when they act in a non-collusive way, the large shareholders are a value-creating addition to the portfolio of shareholders in the eyes of the market. They are otherwise oppressing the minority stockholders and their actions need to be closely regulated.

8. Information asymmetry

Throughout the previous chapters, we often mentioned the role that information asymmetry or the signaling effect could have on dividend policy decisions, especially when studying the agency relationship. In this chapter we will further analyze the potential effects that information asymmetry can have through multiple attempts made by authors to explain it.

Arkelof (1970) showed the negative effects that information asymmetry can have on a market. In his paper "The Market for Lemons: Quality Uncertainty and the Market Mechanism", he discussed how the quality of goods in a market decrease because of information asymmetry. The idea is that, because buyers can't always tell the difference between high quality used cars (*peaches*) and low quality used cars (*lemons*), they are only willing to pay the average price of the two. Vendors however, cannot offer a high quality car (peach) at such price; thus, they will only offer the "lemons". As the average quality of the goods drops, so does the buyers' willingness to pay (Arkelof, 1970). This kind of situation is caused by adverse selection, where the sellers have an information advantage. In order to restore "peaches" in the used cars market, laws that force the buyers to divulge more information about the cars have been put in place.

Myers and Majluf (1984) talk about a similar effect in their "pecking order theory", in which they state that because managers have more information than investors, the latter will think that the managers are taking advantage of this information asymmetry and that they are trying to overvalue their firm. This will result in an undervaluation of the firm by the investors, which will make the financing through equity more expensive for the firms.

In their dividend irrelevance paper, MM (1961) originally make the assumption for their model that information is accessible to anyone and is costless; a situation that everyone knew, themselves included, was not realistic. A great quote to introduce this topic in a financial market environment would be by Miller (1986) himself:

“But if dividends are a “mere financial detail,” as we put it, why are announcements of dividend increases typically followed by stock price increases, sometimes spectacularly so? And why are dividend cuts or eliminations often followed by price falls, sometimes even more spectacular? These questions held a special poignancy for us after a disconcerting incident during our search for a convenient data base for testing the then newly developed M and M propositions. I happened to be lecturing on our dividend irrelevance proposition to the

research department of a large Wall Street brokerage firm in December 1958 at the very moment when the American Telephone and Telegraph Corp. announced a stock split and an increase in the $9.00 annual dividend it had maintained for the previous 30 years. When trading (and my lecture on dividend irrelevance) was resumed a half hour later, AT&T had jumped in price by over 10%!" (Miller, 1986, p.38)

Authors have tried different approaches regarding this topic: Merton (1987) tried to include information costs in the traditional CAPM; Bhattacharaya (1979) suggests a model in which dividends are used as a signal of future profitability; Spence (1973) finds criteria for a reliable signal through a study in the labor market. We will review some of the attempts made in the literature to explain how information asymmetry plays a role in the dividends payouts.

a) Capital Asset Pricing Model ... with Imperfect Information

Merton (1987) uses the traditional CAPM and tries to add the information costs linked to a stock to form the CAPMI. His model supposes two components to the information cost: one about the collecting and data processing; and the other about the cost of producing and offering such information. When investing on the stock market, the amount of information that the buyer is aware of plays a crucial role in the elaboration of a portfolio. As said above, such information is costly, and those costs are an important strategic component in the determination of an optimal portfolio. If we had a perfect information scenario, the model would just be the standard CAPM of Sharpe (1964). Merton (1987) model can be written as:

$$R_s - r_f = \beta_s \left(R_m - r_f \right) + \lambda_s - \beta_s \lambda_m$$

with R_s the equilibrium return of asset s; R_m the equilibrium return of a market portfolio; r_f the risk free rate; β_s the beta of asset s; λ_s the equilibrium shadow cost of asset s; λ_m the average information cost of the assets of the market.

b) Signaling power of dividends

The signaling theory of dividends first recognizes that there are information asymmetries between the managers of a firm (insiders) and the investors (outsiders). It assumes that one way to reduce this information asymmetry is the payout of dividends. The idea is that paying out generous dividends is almost always interpreted as a positive signal from the managers (even though some authors argue of what the exact signal might be). Studies including

Pettit (1972), Aharony and Swary (1980), and Asquith and Mullins (1983) support the link between dividends raises/declines and stock prices raises/declines.

Even MM (1961) recognize towards the end of their dividend irrelevance paper that an "informational content" of dividends exist; they argue however that it is not incompatible with irrelevance. Their justification is that the signal sent by managers to the markets is one of future positive growth prospects, and that is why the stock price increases; not because of the dividend increase per se. This fits well with what Lintner (1956) had previously observed: as managers are very reluctant to decrease dividends (because it is punished by the market) and that their goal is to distribute a "target payout ratio", and the dividends progressively smoothen up until they reach the target. An increase of dividends would mean that managers are confident that they can sustain higher dividends (and by Lintner's logic, higher earnings).

The important subtlety to point out is that this change in stock price reflects the difference between the *expectations* of dividends announcement of the market and the actual dividends announcement. Such differences are caused by the information asymmetry previously presented. If a company announces a huge raise in dividends payout but it was exactly anticipated by the market, the announcement will not have any new additional effect on the stock price; the market would probably have adjusted naturally to the price.

Spence (1973) looks at the role of signaling in the labor market. The problem is for employers to identify high productivity workers in a group of different productivity workers. He finds that while low productivity workers will be fine because they get to free ride, good workers will look for ways to signal their higher productivity. Spence (1973) suggests that they will invest in education to differentiate themselves, to signal themselves. From his paper we can extract that a signal is almost always costly (monetary but also regarding time, effort, psychology, etc.), but the cost of signaling is lower for a "good" employee than for a "bad" one. The equilibrium should be that it is only effective signaling if only the "good" ones should rationally pay the price in order to send it; false signals should be too costly to be possible.

Ross (1977) finds that the financial structure also signals information to the market, and that increasing leverage increases the market's perception of value (Ross, 1977, p.23). His

findings send researchers on multiple paths to extend his model. Two years later, Bhattacharaya (1979) publishes a model in which dividends can be used to predict the firm's value thanks to the signals they send to the markets. According to him, if a company pays dividends, even with dividends taxed at a higher rate than capital gains, it means they carry important information about the expected future cash flows. Kalay (1980) follows Ross' way of thinking and adds the idea, already mentioned by Lintner (1956) and others that future reductions of dividends would be heavily punished by the markets.

However, empirically, the information transmission of dividends payout is seen at best as trivial information. Watts (1973) and Gonedes (1978) struggle to find any reliable signals of future prospects. DeAngelo et al. (2008) even title one of their section about signaling *" The Wrong Firms are Paying Dividends, and the Right Firms are Not"* (DeAngelo et al., 2008, p.185), implying that most dividends were paid by already well established firms, whose communication directly to investors is much easier than small new firms that should communicate a lot but pay few or no dividends.

c) Exploiting information asymmetry: market timing in share repurchases

While the previous sections in this chapter focused solely on what could dividends do, we still have to talk about an interesting informational effect happening when a company repurchases some of its shares of stock. While Pettit (1972), Aharony and Swary (1980), and Asquith and Mullins (1983) were focused on the announcement of dividends and its informational effects, Ikenberry, Lakonishok and Vermaelen (1995) and many others focused on the market reaction regarding share repurchases.

It has been pointed out many times in the previous sections that the managers of a company (insiders) possess a lot more information about their company than the financial markets. A company can use this advantage to buy some of its shares of stock at a strategic time, but as an investor, not as a form of payout to its shareholders. Baker and Wurgler (2002) call this phenomenon the "equity market timing" : when a company believes that its shares are overestimated, it issues new shares at what they believe is "high prices"; on the contrary, if they believe the shares are underestimated, they repurchase their shares at "low prices" (Baker and Wurgler, 2002, p.29). Such kind of repurchase program is then obviously

beneficial to the stockholders that kept their stocks, as opposed to the ones that sold it to the company.

Ikenberry et al. (1995) summarize the source of these possible gains for the firm in the title of their 1995 paper, i.e.: "market underreaction to open market share repurchases". As opposed to the signaling theory where the information asymmetry is instantaneously communicated, in such a repurchase situation, the company can extract value from the slow and cautious reaction from the market. Graham and Harvey (2001) find in an anonymous survey of CFOs that the majority recognize that the over-or-under valuation of their stock was an *important or very important consideration* when deciding whether they should issue new equity.

9. Psychology and irrational behavior

“Do you know the only thing that gives me pleasure? It’s to see my dividends coming in.” John D. Rockefeller, Remark to a neighbor, quoted by John Lewis in *Cosmopolitan* (1908).

Overconfidence, familiarity, regret, mood, loyalty, trust, anxiety... So many profoundly human factors play a role in financial decisions. While we mentioned some possibility of irrational behavior in earlier sections, we try in this chapter to find a human explanation to some behavioral biases. In the topic of payout policy, two major biases have been identified: the investors' preference for dividends and the overconfidence of managers (DeAngelo et al., 2008).

MM, while talking about the differences between their irrelevance proposition and the standard view in the conclusion of their 1961 paper, realized that the market imperfections could not be invoked as a cause of such differences. While their expected result would be that companies with lower payout should sell at a premium, MM (1961) concedes that they actually sell at a discount. The only way that could be possible is, according to them:

"[...] then the analysis presented in this paper suggests there would be only one way to account for it; namely, as the result of systematic irrationality on the part of the investing public." (MM, 1961, p.432).

Perhaps perfect markets were not their biggest and most unrealistic assumption, as authors are still arguing today whether any of these assumptions play a major role in the payout policy; perhaps rational behavior was. If anything, most (if not every) factors we have studied so far would suggest that share repurchases is a better alternative to dividends; therefore why do the latter still exist? We already asked this question when discussing taxes, and it seems that one of the answers could be "because people irrationally like it". We explore in this section the multiple effects that may cause such preferences.

a) The disposition effect and its four ingredients

A famous advice in stock market trading is to *cut your losses and let your profits run*. Although this advice or its equivalent can be observed in a substantial amount of personal finance or investment books, many investors seem to disregard it (Kaustia, 2010). They actually tend to do the opposite: sell after a small stock price increase and keep stocks that

are losing value; this is called the disposition effect. Shefrin and Statman (1985) are the first to provide a theoretical analysis of this disposition effect. They believe that this effect is the result of four ingredients.

The first ingredient is prospect theory. It has been first talked about by Tversky and Kahneman (1974) and then formalized (Kahneman and Tversky, 1979) and developed (Tversky and Kahneman, 1992). The theory characterizes the preferences of an investor between alternatives involving a risk component. In the financial market, an investor would be more willing to take risks after suffering losses; and on the contrary, less willing to take risks (be more risk adverse) after experiencing gains (Kaustia, 2010). Thus, holding to stock that is losing value could be explained as the investor becoming less risk adverse.

The second ingredient is mental accounting, developed by Thaler (1980, 1985) and Tversky and Kahneman (1981). This describes the different psychological accounts in which an investor classifies his sources of income and spending. For example, certain expected dividends will be organized in one "mental account", salary in another, etc. Shefrin and Statman (1985) argue that an investor can have one account per stock he owns and are concerned that he may lose the sense of the bigger picture i.e. of his overall portfolio (Kaustia, 2010).

The third ingredient is regret aversion, a major argument in favor of dividends. Kahneman and Tversky (1982) develop on the possibility of regret and anxiety in the particular case of an investor having to sell a share rather than receiving dividends payments. If the price of said share went on to increase after the sale of his share, the investor would probably regret that sale, knowing that he missed on the extra value the share took. This puts dividends ahead of share repurchases in that particular scenario. There is also the fact that selling a share at a loss is admitting a mistake, something painful that falls into the idea of self-justification (Kaustia, 2010).

The fourth ingredient is self-control. Some investors might adopt as a rule to only consume out of dividends, as a way to limit themselves. They want to protect themselves from self-destructive sales in favor of immediate consumption, while risking too little consumption later (DeAngelo et al., 2008).

b) The catering theory

Baker and Wurgler's (2004) catering theory finds another behavioral influence on the investors' demand for dividends, one that could be compared to a "fashion", a temporary desire for dividends (DeAngelo et al., 2008). The idea is that in some periods, investors put a stock price premium on firms that are dividend payers. This so-called "dividend premium" is a noticeable stock price difference between firms that are dividends payers and those that are not.

When the firms notice they are subject to a dividend premium/discount, they will adjust their dividend decisions in accordance to what the investors currently value. That is, if they notice that investors put a relatively higher price on their stock, they will supply them with more dividends in that particular period, and less in other periods (Baker and Wurgler, 2004; DeAngelo et al., 2008). Firms respond to the investors' current sentiment for dividend payers by catering to them with what they demand.

c) Managerial hubris

DeAngelo et al. (2008) mention how managers' behavioral biases can have a major influence on payout practices. Ben-David et al. (2007) find links between managerial overconfidence and the corporate policies, namely that firms with overconfident CFOs *"have higher debt leverage, rely more on long-term debt, and pay fewer dividends. Also, they repurchase more shares after a decline in share prices, but issue fewer shares following price run-up"* (Ben-David et al., 2007, p.27). This is caused by the high confidence they place in themselves to invest better than the market, even though they might actually invest in dubious projects but be blinded by their overconfidence. This is consistent with Malmendier and Tate (2005), whose study links overconfident CEOs and the investment policy. They also find that investments are *"particularly sensitive to cash flow when resources are relatively constrained"* (DeAngelo et al., 2008, p.201). In addition, Roll (1986) also finds that managers will be less careful when they believe they have abundant resources.

10. Empirical results: dividends or share repurchases?

In this section we would like to analyze what the people who are actually deciders in shareholders payout decisions judge is relevant for them when deciding what payout method to chose and how much. In order to have a closer-to-reality look, we will discuss the results from two empirical studies: one conducted by Brav et al. (2005) and one by Servaes et al.(2006).

Brav et al. (2005) summarize their study by comparing dividends and share repurchases according to 24 criteria in a massive table. Servaes et al.(2006) look at specific questions regarding the objectives of dividend payments or share repurchases and cases where one is better than the other. We use here their findings to explain how the CFOs value the two payout methods for which roles.

a) Historical presence

One of the strongest arguments in favor of dividends comes from the fact that dividends have been there for a very long time. As seen multiple times in previous sections, it is extremely important to try to maintain the current level of dividends, if not increase it. Going as far back as Graham & Dodd (1951) or Lintner (1956), we have seen how heavily the market punishes a dividend decrease. Firms also comment on how they would *"keep dividend commitment minimized"* (Brav et al., 2005, p.522) if they could start over, while they would rely in majority on share repurchases to distribute capital back to their investors. The historical presence of dividends plays in their favor.

b) Flexibility

Dividends are very inflexible, they follow a logic of slow smoothing to a specific target (for example, Lintner's target payout ratio (1956); other commonly used targets are either the level of dividends or the growth in dividends) and there is little reward for an increase, while huge penalties for a decrease (Brav et al., 2005, p.521). On the contrary, share repurchases are very flexible: there are little to no consequences when the amount of share repurchases is reduced from one period to another, though completing the announced repurchases plans seems important for the firm (Brav et al., 2005, p.521).

c) Relation to earnings, investments and external funds

According to the managers, dividends will only increase in case of a perspective of a permanent increase in earnings. Brav et al.'s study (2005) finds that external funds would be used before cutting dividends and that dividends would be maintained before picking investment decisions. In Servaes et al.(2006)'s study, for 41% of the cases, the managers would cut dividends, but in the other 59% of cases, they would take measures in order to maintain the dividend level such as cutting investment or borrowing.

Share repurchases plans, however, are picked after investment decisions. A temporary or permanent increase in earnings can be followed by a larger amount of repurchases (Brav et al., 2005, p.521). Management would rather reduce share repurchases than raise external funds to pay their repurchases.

d) Taxes and type of investors

As mentioned in the taxes chapter, share repurchases are clearly more advantageous if we look solely at the fiscal argument. CFOs agree with that fact, but judge that taxes are not of first-order importance.

Individual investors ("retail investors") clearly prefer dividends, even if they are disadvantageous tax-wise compared to share repurchases. Institutional investors generally like both dividends and repurchases.

e) Information conveying

Both dividends and share repurchases convey information and are not very distinct in the regard of signaling, according to managers (Brav et al., 2005, p.521).

f) Influence on other corporate factors

Managers recognize many other benefits or drawbacks than the major ones we considered. Share repurchases are regarded "very important" in order to increase EPS, they are also useful to offset the stock option dilution or if the cash on balance sheet is high enough (Brav et al., 2005, p.522). The study of Servaes et al. (2006) also presents the accounting implications of picking a method over the other as an important concern from a management's point of view. Additionally, a firm should of course not plan to repurchase

shares if their float is judged not as large as necessary. Managers believe that the money they would save if not using any method of distribution would go to debt down payment first, and in the case of share repurchases, in mergers and acquisitions operations (Brav et al., 2005, p.498).

g) Initiators of a method

By initiators, we mean "What would make a nonpayer start using this method of distribution?". For both methods, the demand from institutional investors for a payout can be an initiator, as well as the fact that the decrease in profitability of the investment possibilities (Brav et al., 2005, p.522). For dividends in particular, we can expect a company to start considering it when the earnings become stable (and positive, of course). As for share repurchases, the other possible "initiators" are listed in the section just above, namely: increasing EPS, offsetting stock option dilution and distributing the extra cash from the balance sheet (Brav et al., 2005, p.522).

h) Preferred distribution methods

According to Servaes et al.'s study (2006), regular cash dividends, employed by 93% of the responding firms in the last five years, are clearly the favored distribution method. Share repurchases, although second, lag far behind at only 39%, followed by special dividends at 25%, and finally, at small proportions, splits and stock dividends.

11. Conclusion

Franco Modigliani and Merton Miller greatly shook the financial world in 1958 and 1961 with their irrelevance papers. Both their papers and the critics that rose from it contributed greatly to the financial literature. The attempts to prove whether dividend policy was relevant or not and the diversity of the explanations were the catalysts for the research.

Black (1976) named the concept "The Dividend Puzzle", with pieces that cannot seem to fit together. His questions, asked to the entire financial world, are a dare to solve his puzzle.

In this Master's thesis, we tried to answer the question "What factors influence the dividend policy decisions?" in a theoretical approach. Researchers across the globe came up with various answers, some more eccentric than others. While we have not explicitly talked about some factors such as legal aspects, the criteria picked in this Master's thesis reflect many considerations on these topics.

We used the market frictions of Lease et al. (2000) to introduce our search for answers regarding factors influencing dividend policy. The focus was put on the last four frictions we studied, namely: taxes, agency costs, information asymmetry and irrational behavior.

First, the analysis regarding the taxation difference between share repurchases and dividends provides a clear advantage in favor of repurchases. Taxes also cause the phenomenon called "the tax clientele effect", in which investors will look for the payouts that match the best their taxation profile.

Secondly, the agency theory claims that payouts can be a way to reduce the divergences of interest between managers and shareholders and discipline the managers in their investment policy decisions. We also took a glimpse at how controlling shareholders could have an influence on the payouts of the firm.

Another factor studied is the information asymmetry, and how could dividends (and share repurchases) carry information to the markets in order to reduce it, in a "signaling" theory.

And finally, we looked into the irrational behavior and the potential behavioral biases that could be the causes of it, from the shareholders' point of view as well as from the managers'.

From the empirical point of view, and from the many conflicts that exist between the authors and their different theories, it seems that the strongest argument in favor of dividends is its historical presence and the habits that go with receiving dividends that the markets developed. When discussing Black's dividend puzzle (1976), we agree with Frankfurter (1999); the answer to the puzzle should be pretty simple: dividends still exist because everyone has now been conditioned for centuries to like it. The market expects dividends, and it expects these at a certain level, with a target in mind (for example, Lintner's target payout ratio (1956)).

Share repurchases seem overall a much better alternative, and would probably be the dominating way of distribution if we could start over again; and while the method of distribution is rising, dividends are still playing a major role in the payout policies. Frankfurter (1999) concludes his paper the same way as MM (1961) did, and as we will: It would appear that the only way to change the shareholders' attitudes is through education and experience, and we hope that this Master's thesis will help in that regard.

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