1. REVIEW OF THE EXISTING LITERATURE REVIEW

This chapter aims at reviewing the existing previous literature that has already focused on uncovering the link between a firm’s dividend policy and its share prices. Since this topic has long been debated for a long time, it has produced a large body of literature has been produced. In this sense, therefore, the goal of this section is obviously not to carry out a complete exhaustive inventory of the existing documentation, but rather to select use a sample of the most relevant and best-known publications so as to provide the reader an insight on what has been unearthed on the influence that dividend announcements have on share prices.

Practically speaking, three opposing categories of viewpoints may be highlighted. Overall, there are three key perspectives on the matter. Firstly, some authors defend the thesis according to which researchers argue that dividends are irrelevant to shareholders, who believe that dividends do not affect share prices at all. In this sense, according to this line of thinking, investors are supposed to be indifferent between any supposed distinctions between high and low dividend payouts. Section 2.1 tackles this point of view. A second school of thought states that dividends and share prices are positively related—in other words, the announcement of a high dividend increases share prices. Section 2.2 gives the reader an insight into this reflection. Finally, a third group of researchers argues the exact opposite: the announcement of a high dividend decreases share prices since there exists an inverse relationship between the two variables. In this case, firms with low dividend payouts are rewarded with a higher price of their shares. Section 2.3 focuses on this argument.

Three complementary perspectives add even more complexity to this yet intricate debate. For example, indeed, some authors— for instance, think that dividends convey information about the company’s financial health and its ability to generate future earnings. In this sense, these researchers argue that it is not the dividend itself that impacts share prices, but rather the information conveyed by the dividend distribution. This point of view is often referred to as the information content of dividends, or else the signalling role of dividends, and is presented in section 2.4. Further, some authors believe that the impact of dividend announcements depends on the category of investors’ preferences and characteristics, since every investor has different preferences regarding dividends. This theory, known as the clientele
The effects of dividends, is **broached** in section 2.5. Finally, the catering theory of dividends, *according to which* **considers** the impact of dividend announcements is *as not unfixed over time*, and *as a function of investors’ demand for dividends*, is **presented discussed under in** section 2.6.

The above perspectives and theories, along with the corresponding empirical research, are then **summarized in section 2.7**. A welcomed summary then takes place in section 2.7, which objective is to give the reader an immediate overview of the theories and empirical researches that have been mentioned within the chapter.
1.1. Dividend irrelevance

1.1.1. The dividend irrelevance hypothesis—Miller and Modigliani (1961)

One of the best-known and most controversial theories with regards to the impact that dividends have on share prices, still considered today as to be the basis for some corporate finance decisions, is Miller and Modigliani’s (1961) dividend irrelevance hypothesis, supporting this theory claims that investors are equally satisfied when receiving a cash dividend from a company or as when by experiencing a rise in their wealth due to the appreciation of the company’s shares that they own.

Miller and Modigliani (1961) used three key assumptions in order to reach this conclusion:

1) The capital market is perfectly competitive: investors are price takers, perfect information applies to all participants, and the market is frictionless, meaning that there are no costs, fees, or taxes.
2) Every investor is rational and prefers more wealth to less wealth as possible in every instance.
3) There is no uncertainty, and every investor is acquainted with the future investments and profits of any given firm.

Given these simplifying assumptions, Miller and Modigliani (1961) proved calculated that the total shareholder return $R_{jt}$ on security $j$ during period $t$, using $R_{jt}$, was given by Equation (1):

$$R_{jt} = \frac{d_{jt}}{P_{jt}} + \frac{(P_{jt+1} - P_{jt})}{P_{jt}}$$  \hspace{1cm} (1)

Where $d_{jt}$ stands for the dividend obtained on security $j$ during period $t$, $P_{jt+1}$ is the price of security $j$ at the beginning of period $t + 1$ (or else at the end of $t$) and $P_{jt}$ is the price of security $j$ at the beginning of period $t$ (or else at the end of $t - 1$).

Basic algebraic handlings show that Equation (2) is equivalent to Equation (1):

$$P_{jt} = \frac{d_{jt} + P_{jt+1}}{1 + R_{jt}}$$  \hspace{1cm} (2)

Interestingly, Equation (2) enables computing one to compute the calculation of the price of an individual piece of share. In order to extend it to the valuation of a firm as a whole, some new variables were introduced.
- $N_{j,t}$ represents the number of shares outstanding of firm $j$ at the beginning of period $t$.
- $M_{j,t+1}$ represents the number of new shares of firm $j$ sold during period $t$.
- $V_{j,t} = N_{j,t} \times P_{j,t}$ represents firm $j$’s value at the beginning of period $t$.
- $D_{j,t} = N_{j,t} \times d_{j,t}$ represents the total amount of dividend paid by firm $j$ during period $t$.

Then, multiplying Equation (2) by the number of shares outstanding, $N_{j,t}$, and rearranging the resulting expression, yields Equation (3), valid for the computation of which helps to compute firm $j$’s value:

$$V_{j,t} = \frac{D_{j,t} + V_{j,t+1} - M_{j,t+1} \times P_{j,t+1}}{1 + R_{j,t}} \quad (3)$$

Miller and Modigliani (1961) continued with the definition of defined two new variables:

- $I_{j,t}$ stands for the investments undertaken made by firm $j$ during period $t$.
- $X_{j,t}$ represents the net profit of firm $j$ during period $t$.

Miller and Modigliani (1961) highlighted that the expression $I_{j,t} - [X_{j,t} - D_{j,t}]$ was the "amount of outside capital required" (p. 414), exclusively covered by the issue of $M_{j,t+1}$ new shares at a price $P_{j,t+1}$. Equation (4) translates interprets this last comment observation in using mathematical terms:

$$M_{j,t+1} \times P_{j,t+1} = I_{j,t} - [X_{j,t} - D_{j,t}] \quad (4)$$

Eventually, by substituting Substituting Equation (4) into Equation (3) provides Equation (5) was obtained:

$$V_{j,t} = \frac{V_{j,t+1} - I_{j,t} + X_{j,t}}{1 + R_{j,t}} \quad (5)$$

This last equation forms the keystone of Miller and Modigliani’s theory. Indeed, it goes without saying that $D_{j,t}$ does not appear anymore is absent from the final equation. In addition Moreover, not all terms present in this equation do not depend on $P_{j,t}$. From this, it logically follows that “the current value of the firm must be independent of the current dividend decision” (Miller & Modigliani, 1961, p. 414).

Along the same lines, in a similar vein Similarly, Miller and Modigliani (1961) demonstrated that the firm’s current value must also be independent of the future dividend decisions since future dividends may only affect $V_{j,t}$ through $V_{j,t+1}$. Nevertheless, by repeating the above
reasoning—hereinabove, $V_{jt+1}$ is unaffected by firm $j$’s dividend policy in $t + 1$. Hence, $V_{jt}$ must be independent of firm $j$’s dividend policy in $t + 1$.

Miller and Modigliani (1961) concluded that the value of a firm is determined solely on the basis of its investment program, and the consequent earnings, and not “by how the fruits of the earnings are ‘packaged’ for distribution” (p. 414). Rather, they maintain that the value of a firm is determined solely on the basis of its investment program, and the consequent earnings, and not “by how the fruits of the earnings are ‘packaged’ for distribution” (p. 414). Miller and Modigliani they thus argue that dividend announcements should not impact share prices, and that investors should be indifferent between high and low dividend payouts.

1.1.2. Empirical evidence

Black and Scholes (1974) empirically tested empirically the influence that dividends have on share prices by investigating the relationship existing between dividend yields and returns for a series of North American stocks. It is worth pointing out that Notably, the goal of the research was not to study dividend irrelevance as such, but rather to test the undermentioned Brennan’s (1970) tax effect thesis¹, according to which posits that higher dividends lead to a lower decrease in a firm’s value and vice versa. Nevertheless, the results of Black and Scholes’ investigation are presented in this section because they strongly validate dividend irrelevance.

Black and Scholes (1974) used a sample of every security listed on the New York Stock Exchange (NYSE) between 1926 and 1966, and employed the following methodology. Firstly, they constructed twenty-five securities portfolios of securities were constructed based on their characteristics. Namely, securities were firstly divided into five groups according to their dividend yields, and before. Then, each group has been split up into five subgroups according to the each security’s respective beta. As a result, twenty-five portfolios of securities were constructed. Afterwards, Black and Scholes they then examined the impact of the portfolio’s dividend yield on its price, through the use of a regression model given by Equation (6):

$$E(R_i) = R_f + \beta_i[E(R_M) - R_f] + \alpha \left( \frac{\delta_i - \delta_M}{\delta_M} \right) + \epsilon_i \text{ (6)}$$

¹ See point 2.3 for more details about Brennan’s (1970) model.
Where \( E(R_i) \) is the expected return on portfolio \( i \), \( R_f \) is the risk-free rate, \( \beta_i \) is the beta of portfolio \( i \), \( E(R_M) \) is the market expected return, \( \alpha_i \) is the dividend factor on portfolio \( i \), depicting the impact that dividend yield has on stock price, \( \delta_i \) is the dividend yield on portfolio \( i \), defined as the sum of dividends paid during the previous year divided by the end-of-the-year price, \( \delta_M \) is the market dividend yield, and \( \varepsilon_i \) is the regression error term.

The results of this regression, and of the associated statistical significance test, showed that \( \alpha_i \) was not significantly different from zero for the period going from 1926 to 1966 period, neither nor for any tested subperiod. Based on this observation, Black and Scholes (1974) concluded that: “a dollar of dividends has the same value as a dollar of capital gains in the market” (p. 38).