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How does dividend policy relate to the financial structure, profitability and risk exposure of European listed companies

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Chapter 1: Introduction

The cornerstone principle of corporate finance states that the primary objective of management is to maximise shareholder wealth, a goal that is directly reflected in the market price of shares. In this context, dividend policy, understood as the set of decisions that determine the amount and frequency of cash distributions to shareholders, is one of the most persistent and debated issues in financial literature. The importance of the issue is corroborated not only by the enormous volume of capital involved globally, but also by the constant attention that companies, financial analysts and investors devote to such decisions. Despite decades of theoretical and empirical contributions, the ultimate motivation for companies to pay dividends remains largely unresolved, commonly referred to as the 'dividend puzzle', a conceptual mosaic whose pieces never seem to fit together in a perfectly coherent way [8][33][34].

The academic debate began with Miller and Modigliani's famous 1961 theorem, according to which, in perfect, frictionless capital markets, dividend policy is irrelevant for the purposes of company valuation, as value depends exclusively on asset productivity and investment decisions. However, abandoning this idealised scenario for the analysis of the real world has highlighted how market imperfections, such as differential taxation, information asymmetries and agency costs, make the distribution choice a potentially relevant factor for company value. In particular, signalling theory suggests that managers, acting as insiders with superior information about the company's future prospects, use dividends as a means of communicating with the market. Since dividend increases are generally interpreted as signals of permanent and sustainable earnings growth, the market tends to react positively to such announcements, while reductions are often perceived as indicators of persistent difficulties, triggering negative reactions in stock prices [8][33].

Another theoretical pillar in this area is the work of Lintner, who observed as early as the 1950s that managers tend to pursue 'dividend smoothing' policies, stabilising payments over time and showing a marked reluctance to make cuts unless there are significant structural shocks. This stability is traditionally valued by investors, many of whom prefer the certainty of an immediate coupon flow to the uncertain prospect of future capital gains, according to the logic of the so-called 'bird-in-the-hand' approach [9]. At the same time, dividend policy plays a central role in mitigating the agency costs arising from the separation of ownership and control. Through thedistribution of excess cash flows, the discretionary liquidity under the

control of managers is reduced, limiting the risk of inefficient investments and forcing the company to submit more frequently to capital market monitoring in order to access new sources of financing [33][34]. Recent scientific contributions have highlighted how the accumulation of undistributed profits, often referred to as earned equity, can lead to suboptimal capital structures in the long term if not accompanied by adequate distribution flows. In particular, balance sheets characterised by high liquidity and low levels of debt can amplify agency problems, increasing the risk that resources will be used in projects with negative net present value. The research question underlying this thesis therefore focuses on identifying the fundamental determinants of dividend policy in the context of European listed companies, asking whether factors such as company size, profitability, growth opportunities and financial structure characteristics influence payout choices in a manner consistent with the main theories developed in the financial literature [9][33][34].

Although a significant portion of empirical studies have historically focused on the US market, the European context presents elements of particular scientific interest. Europe is characterised by marked heterogeneity in legal and tax systems, corporate governance models ranging from Anglo-Saxon to continental approaches, and a significant presence of concentrated or family-controlled ownership structures. These institutional characteristics can substantially influence the distribution behaviour of companies, making the results obtained in contexts characterised by more widespread ownership structures not immediately transferable. In this sense, the analysis of dividend policy in Europe enriches the empirical debate, offering evidence on a market that is integrated but still deeply differentiated in its economic and social foundations [33][34].

The examination of the European landscape is also particularly relevant in light of the changes observed in recent decades, which show a growing propensity of companies towards alternative shareholder remuneration instruments, such as share buybacks, and a progressive concentration of coupon payments among larger and more mature companies. These trends suggest an evolution in payout policies in response to both structural constraints and changes in investor preferences and financial market conditions. Analysing dividend policy in this context therefore means dealing with an ecosystem in which investor protection, institutional traditions and market dynamics play a decisive role in defining how managers manage shareholder expectations and share value [9][34].

To answer the research questions, the work is structured according to a coherent logical-methodological approach. Chapter 2 presents a critical review of the literature on dividend

policy, examining the evolution of the main interpretative theories and empirical evidence. Chapter 3 illustrates the methodology adopted and the characteristics of the sample of European companies analysed, defining the variables used in the empirical models. Chapter 4 is devoted to the analysis of the results, with particular attention to the statistical relationships between company characteristics and payout choices. Finally, Chapter 5 summarises the conclusions of the study, discussing the implications for management and outlining possible future developments in research.

In summary, dividend policy can be interpreted as a complex language of communication between the company and the market: similar to an author who carefully selects words to convey a meaning that goes beyond the explicit text, managers choose the level of dividends to signal the real financial strength of the company, going beyond a simple reading of the financial statements [8][33].

Chapter 2: Literature Review

2.1 Dividend Policy Theories

The debate on dividend policy and its impact on enterprise value is one of the most complex and hotly contested areas of corporate finance. This debate has its roots in Miller and Modigliani's **Dividend Irrelevance Theory**, a model that radically challenged existing conventions and established the benchmark from which all subsequent theories emerged. Their work, published in 1961, ushered in an era of research that sought to understand whether and under what conditions the distribution of profits to shareholders could actually affect investor wealth [1].

2.1.1 Irrelevance Theory (Miller-Modigliani)

The Irrelevance Theory, proposed by Merton H. Miller and Franco Modigliani, is based on the principle that, in a context of perfect capital markets, the value of a company is intrinsically linked to its ability to generate cash flows from investments, and not to the way in which these flows are distributed [1, 24]. The theory rests on a series of ideal assumptions which, although they do not reflect reality, are crucial to the validity of the model. These include: the absence of taxes on dividends and capital gains, the absence of transaction and flotation costs (costs of issuing new shares), perfect symmetric information between management and investors, and the absence of agency costs [1].

Miller and Modigliani's central argument is that any dividend policy can be considered a 'zero-sum game' for shareholders. If a company decides to increase dividends, the cash distributed reduces the amount of capital available for its investment projects. To maintain its optimal investment plan, the company will have to finance the capital shortfall by issuing new shares. The effect of this new issue is a dilution of the ownership stake of existing shareholders. As a result, the value added by receiving the dividend is exactly offset by the loss of value due to dilution, leaving the shareholder's total wealth unchanged [1, 39].

In support of this thesis, the model introduces the concept of **a 'homemade dividend**'. This principle states that rational investors can replicate any company's dividend policy through market transactions. If a company does not pay dividends, a shareholder who wants current income can simply sell some of their shares to obtain cash. Similarly, if a company pays a

dividend that an investor does not want, they can immediately reinvest the dividend received to purchase additional shares of the same company. In this sense, the company's dividend policy becomes irrelevant, as investors can create their own individual distribution policy without the company's intervention. Therefore, a company's value is determined solely by its ability to generate cash flows and the associated risk, not by its profit distribution policy [1].

Despite its logical elegance, Miller and Modigliani's Irrelevance Theory clashes with a much more complex market reality, which has led to significant criticism and further evolution of research [24, 39]. The main criticism lies precisely in the idealistic assumptions on which the model is based. In the real world, taxes on dividends are often higher than those on capital gains, creating a preference among investors for distributions in the form of capital gains, which can be deferred. Furthermore, the transaction costs of buying and selling shares make the 'self-generated dividend' not a perfect substitute for the corporate dividend, especially for investors with small portfolios [24].

Another important limitation of the model concerns information asymmetry. Although Miller and Modigliani assumed that all investors have access to the same information as management, in reality this condition is not met. Dividend policy can therefore become a **signal** of the financial strength and future prospects of the company. A dividend increase, for example, can be interpreted by the market as a positive signal from management, which feels confident about future cash flows, given that a future dividend reduction would be viewed negatively by investors [9]. This mechanism, which will be analysed in detail in the following sections, makes dividend policy far from irrelevant.

Finally, the analysis by DeAngelo and DeAngelo (2006) questioned the very premise of 'irrelevance' in Miller and Modigliani's model, arguing that their implicit assumptions force the company to distribute 100% of its free cash flow, effectively making a 'no dividend' policy economically impossible [24]. Consequently, irrelevance occurs only in a 'vacuous' sense, as the firm's choice is already predetermined. When the model's assumptions are relaxed to allow the firm to retain earnings, dividend policy once again has a direct impact on value, on a par with investment policy [24]. This debate led to the emergence of the so-called 'dividend puzzle', coined by Fischer Black in 1976, which questions why companies continue to pay dividends in an unfavourable tax environment, a question that subsequent theories have sought to resolve.

While Miller and Modigliani's theory established a crucial starting point in the debate on

dividend policy, its idealistic assumptions prompted research to explore alternative models that took market imperfections into account. **The 'bird-in-the-hand' theory,** proposed by Myron J. Gordon and supported in part by John Lintner's empirical observations, represents one of the most significant responses to the irrelevance view. This theory argues that investors prefer a certain and immediate dividend (the 'bird in the hand') rather than an uncertain and future capital gain (the 'two in the bush') [3].

2.1.2 "Bird-in-the-Hand" Theory

The "Bird-in-the-Hand" Theory is based on the assumption that, due to uncertainty and risk, investors place a higher value on dividends distributed today than on future capital gains resulting from the reinvestment of profits [3]. The main thesis of this theory, developed by Gordon, is that the value of a share is not independent of the division of profits between dividends and reinvestments [3]. Investors perceive dividends as less risky than future capital gains, and as a result, cash flows that are closer in time (dividends) are discounted at a lower discount rate than future cash flows (capital gains) [3]. This means that an increase in the payout ratio (the portion of profits distributed as dividends) would reduce the discount rate applied by investors, thereby increasing the value of the share.

In support of this view, Gordon's model proposes that a company's cost of capital is an increasing function of its dividend growth rate [3]. This implies a direct relationship between distribution policy and company value: the more the company commits to paying high dividends, the lower the risk perceived by investors and, consequently, the higher the value of the company. Gordon used a dividend valuation model, or 'dividend discount model,' to demonstrate that the price of a share is the present value of expected future dividends, and that the cost of capital is not independent of the expected growth rate [3]. In this context, dividend policy has a direct impact on the value of the company, refuting Miller and Modigliani's premise of irrelevance. His conclusions are not merely theoretical, but are based on the idea that the variables at play are observable and the parameters can be estimated from sample data [3].

The soundness of this theory is also strongly supported by empirical observations of corporate behaviour. The results of John Lintner's (1956) study on dividend policy decision- making in American companies showed that managers tend to set a 'target payout ratio' and gradually adjust dividends in line with changes in current earnings, but with great caution [2]. His findings showed that dividends are an active decision variable, while savings (the

undistributed portion of profits) are often a by-product of dividend decisions already made based on established practices [2].

Gordon's conclusions are further reinforced by empirical research conducted by John Lintner in 1956, whose study of the behaviour of American companies highlighted the factors that influence dividend distribution decisions [2]. Lintner observed that managers act with extreme caution in adjusting dividends, preferring to maintain a stable distribution policy that avoids surprises for shareholders. His research showed that companies tend to set a 'target payout ratio' and gradually adjust dividends based on changes in current earnings, but without reacting to temporary fluctuations [2]. This 'slowness' in adjustment is direct evidence that managers perceive dividends as a variable with strong informational content and a direct impact on investor expectations, contrary to what Miller and Modigliani suggested [2].

The core of the divergence between Gordon's theory and that of Miller-Modigliani lies in the perception of risk and the importance of the timing of cash flows. While Miller and Modigliani assume that investors are indifferent between one euro of dividends and one euro of capital gains (at equal risk and in a world without taxes), Gordon argues that dividends, as certain and available cash flows, reduce the future uncertainty associated with the price of the security and capital gains [3]. As a result, risk-averse investors attach a premium to current dividends, which translates into a lower cost of capital for companies that distribute a larger portion of their profits.

In conclusion, the "Bird-in-the-Hand" Theory represents a direct and persuasive counterpart to the Irrelevance Theory. Although not without criticism, especially in relation to the assumption that dividends are inherently less risky than future capital gains, it offers a more realistic explanation of the behaviour of companies and investors in imperfect markets. Its main contribution has been to question the neutrality of dividend policy and to emphasise the importance of managerial behaviour and investor preferences in determining firm value, laying the groundwork for subsequent theories that rely on information asymmetry and agency costs to explain the relevance of dividends.

2.1.3 Signaling Theory

Signalling Theory emerges as one of the main alternatives to Miller and Modigliani's Irrelevance Theory, seeking to explain the relevance of dividend policy in a context of **information asymmetry** [4, 5]. Unlike the assumptions of a perfect market, this theory recognises that a company's management has superior and private information about the future prospects and real financial health of the company, information that external investors do not have [5]. In this scenario, dividends are no longer seen as a simple distribution of cash, but become a crucial mechanism for transmitting this private information to the market [5].

According to the theory, decisions regarding dividends, such as increases or cuts, serve as **credible signals** of the company's financial strength. A dividend increase, in particular, is interpreted by investors as a positive signal, indicating management's confidence in the company's ability to generate stable and consistent profits in the future [22]. This signal is considered credible because it is **costly to falsify** [4]. To maintain a high dividend, a company must have a strong liquidity position and future earnings prospects that can support such a distribution. Companies with weak or uncertain cash flows would not be able to sustain a high payout without risking having to cut it in the future, which would send an extremely negative signal to the market and, as a result, suffer a significant punishment on their share price [4]. The theoretical models developed by Sudipto Bhattacharya (1979) and later by Miller and Rock (1985) formalise this concept. Specifically, Bhattacharya showed that, in the presence of differential taxation (where dividends are taxed at a higher rate than capital gains), dividends can function as a signal of expected cash flows [4].

The model developed by Miller and Rock (1985) extends this concept, integrating dividend decisions with financing and investment choices, and demonstrates how, in a world of information asymmetry, dividend announcements can allow the market to infer information about unobserved current earnings [5]. Their research has shown that, in a context of rational expectations, dividend policy provides sufficient clues for the market to estimate future earnings and the value of the company [5]. This approach has the merit of empirically explaining why dividend announcements, both positive and negative, generate an immediate reaction in share prices [5, 22].

The credibility of Miller and Rock's signal is intrinsically linked to the cost that the company would have to bear to maintain it [5]. A company that announces a dividend increase but

does not have the capacity to sustain such a distribution over time would suffer reputational damage and a significant devaluation of its stock in the future. This 'punishment' mechanism means that only companies with real confidence in their future prospects venture into dividend increases. This distinguishes dividend policy from other forms of communication that may be more easily manipulated or cost-free, making it a reliable signal for the market.

Signalling theory has been widely validated by empirical research. Numerous studies have confirmed the positive and immediate reaction of share prices following the announcement of a dividend increase, and a negative reaction in the event of a cut [4, 5, 22]. However, more recent studies, such as that by Benartzi, Michaely and Thaler (2012), have questioned the exact content of this signal [22]. Their research investigated whether dividend changes actually signal **future** earnings or rather reflect past and present results. The findings of Benartzi et al. show that, although companies that increase dividends have recorded significant earnings growth in the previous and current year, they do not show unexpected earnings growth in subsequent years [22]. Furthermore, the size of the dividend increase does not appear to predict future earnings growth. This suggests that while dividends are a signal of financial strength and the company's ability to sustain payments, they may not be a robust predictor of future growth.

These findings do not invalidate the signalling theory, but refine our understanding of it. Dividend stability, as already highlighted by Lintner's work, remains a crucial factor [2]. Benartzi et al. (2012) found that companies that increase dividends are less likely to experience a decline in future earnings than companies that keep dividends unchanged [22]. This implies that the signal provided is more an indication of the 'permanence' of current and past earnings than an anticipation of explosive future growth. The stability and consistency of dividend policy convey a message of low uncertainty and corporate solidity, factors that are clearly valued by investors. In conclusion, Signal Theory allows us to move beyond the idealism of Miller and Modigliani's theory, offering a more complete and realistic picture of why dividends are relevant and how the market interprets payout decisions in a context of asymmetric information. In addition to theories that focus on irrelevance or information, another important school of thought explains the relevance of dividend policy through the lens of **agency conflicts**. **Agency theory,** developed primarily by Michael C. Jensen, argues that dividend distribution can serve as an effective tool for mitigating conflicts of interest that arise between management and shareholders, who are considered the principal [6].

2.1.4 Agency Theory

The basis of Agency Theory lies in the recognition of a conflict of interest, known as the 'agency problem', which arises when management, acting as 'agents', pursues objectives that are not perfectly aligned with the interests of shareholders ('principals'). This problem is particularly evident in the context of **free cash flow (FCF),** defined by Jensen (1986) as the cash flow that exceeds that needed to finance all projects with a positive Net Present Value (NPV) [6]. In an ideal world, a rational manager would reinvest FCF only in profitable projects or, in the absence of such opportunities, distribute it to shareholders.

However, Jensen (1986) pointed out that managers have intrinsic incentives to retain and reinvest FCF, even in low- or no-return projects [6]. This behaviour is driven by motivations such as expanding managerial power, increasing remuneration, and seeking greater prestige, all of which are often linked to the size of the company rather than its profitability or the creation of value for shareholders. This tendency towards inefficient reinvestment of FCF represents a significant agency cost. In essence, managers prefer to 'build empires' rather than maximise shareholder wealth. In this context, dividend policy emerges as a direct solution to this problem. Distributing FCF in the form of dividends reduces the amount of cash available to management, forcing it to turn to capital markets to finance new projects [6].

This mechanism has a twofold beneficial effect. First, the act of paying dividends forces management to abandon suboptimal investment projects. Secondly, recourse to external financing, whether through the issuance of debt or new shares, introduces an additional level of scrutiny by investors and analysts, who will examine the validity of proposed projects more rigorously. This process of external 'control' acts as a deterrent against inefficient investments and strengthens financial discipline within the company [6]. Thus, dividend policy is no longer a passive or neutral choice, but a strategic weapon for aligning the interests of managers and shareholders [7]. Dividend payments can be seen as a positive externality for the market, limiting the discretionary power of management [25].

Agency theory provides a powerful interpretative framework for understanding dividend policy, especially in relation to conflicts of interest between managers and shareholders [6]. The approach of Jensen and Meckling (1976) and Rozeff (1982) has shown that dividend distribution can be seen as a way to reduce agency costs related to free cash flow [6, 7]. Dividend payments, in fact, force the company to issue new capital to finance future

investments, a process that in itself reduces managers' discretionary power and subjects them to stricter external control by capital markets [6]. This financial constraint, imposed by dividend policy, acts as a disciplinary mechanism that incentivises managers to select only investment projects with the highest net present value (NPV), thus avoiding inefficient resource allocation [6].

Empirical studies have supported this view. Rozeff (1982) found that the payout ratio is negatively correlated with expected growth and positively correlated with the percentage of capital held by external shareholders, suggesting that dividends act as a 'monitoring cost' [7]. This relationship indicates that high dispersion of company ownership and a high proportion of external shareholders are associated with more generous dividend policies, as dividends represent a way to reduce agency costs and increase investor confidence. Similarly, Al-Najjar and Hussainey (2009) examined the association between the presence of independent external directors on the board of directors and dividend payouts, finding that a higher number of external directors is related to lower payouts. This result suggests that corporate governance and dividends may act as substitute mechanisms for controlling agency costs [25]. In conclusion, Agency Theory offers a complementary and realistic perspective to the theories discussed above, such as irrelevance and signalling. Not only does it explain why companies choose to pay dividends even in the presence of unfavourable taxes, but it also highlights the crucial role of dividends as a governance tool. Dividends act as a disciplinary mechanism for management, reducing the possibility of inefficient investments ('overinvestment') and aligning the interests of managers with those of shareholders [6]. The findings of La Porta et al. (2000) further reinforce this idea, showing that in countries with less investor protection, companies tend to pay higher dividends as a mechanism to return money to shareholders, which might otherwise be 'extracted' by managers [10]. Therefore, dividend policy is not only a financial choice, but an integral part of a company's corporate governance structure.

Summary of the Main Theories on Dividend Policy

Theory	**Key Concept**	**Implications for Dividend Policy**	**Sources**

Irrelevance Theory	In perfect markets, the value of a company is independent of its dividend policy.	Dividends do not affect the value of the company.	[1], [24]
Bird-in-the-Hand Theory	Investors prefer certain dividends today (the "bird in the hand") to uncertain future gains.	Companies that pay dividends have a lower cost of capital.	[3], [24]
Signalling Theory	Dividends serve as a signal to the market about the financial health and future prospects of the company.	An increase in dividends indicates solid performance and management confidence.	[5], [14]
Agency Theory	Dividends can reduce agency costs between managers and shareholders.	Dividends reduce the free cash flow available to management, preventing 'empire building'.	[6]

2.2 Capital Structure and Payout Decisions

The link between dividend policy decisions and capital structure decisions is another area of fundamental importance in corporate finance. This relationship is not only theoretical, but has significant practical implications for the financial management of a company. Theories analysing this link focus on how financing choices, such as the use of debt and equity, influence and are influenced by profit distribution decisions. One of the most influential models in this area is the **'Pecking Order' theory,** which offers a hierarchical perspective on the choice of financing sources.

2.2.1 Pecking Order Theory

The pecking order theory (or hierarchy of financing sources), proposed by Stewart Myers and Nicholas Majluf in 1984, is one of the most influential theories explaining corporate financing choices in a world characterised by **information asymmetry** [11]. Unlike other theories based on a trade-off between the costs and benefits of debt and equity, the Myers and Majluf model argues that companies follow a strict hierarchy in their choice of capital sources. This preference-based hierarchy is as follows: first, retained earnings (self- financing), then debt, and finally, as a last resort, the issuance of new shares [11].

The reason behind this order of preference is closely linked to information asymmetry, i.e. the fact that management knows the company's real financial situation and investment opportunities better than external investors [11]. Rational investors know that management has this privileged information and act accordingly. The issue of new shares is seen by the market as a negative signal. Investors assume that a company only resorts to external equity capital when its shares are overvalued, so that it can sell a stake in the company at a price higher than its real value. This perception can lead to a devaluation of the stock when an issue is announced, even if the company has a profitable investment opportunity [11].

This implicit 'penalty' imposed by the market makes issuing new shares an expensive and undesirable solution. Therefore, to avoid the negative signal and the resulting loss of value, companies prefer to finance their investments internally, using retained earnings. Only when internal resources are insufficient does the company turn to external sources of financing, preferring debt, which is considered a less 'signalling' option than equity. This is because

bonds are generally less sensitive to asymmetric information [11]. In this context, dividend policy plays a crucial role. A company with ample investment opportunities and insufficient internal liquidity will be forced to reduce dividends in order to retain more profits, thus avoiding recourse to costly external financing, such as issuing shares. Conversely, a company with few investment opportunities and a surplus of liquidity will distribute higher dividends. Consequently, the payout ratio is not an independent decision variable, but rather a residual of investment decisions and financing policies, becoming an adjustment mechanism to balance capital requirements [11].

Myers and Majluf's theory, while being a powerful explanation of financing decisions, also has profound implications for dividend policy [11]. In this model, the profit distribution policy is not an independent decision, but rather a result of investment and financing choices. Companies that anticipate capital requirements for future projects will prefer to retain earnings, reducing or eliminating dividends, in order to avoid the costs and negative signals associated with issuing new shares [11]. Conversely, companies that generate a cash surplus relative to their investment opportunities will tend to distribute higher dividends. Therefore, dividend payments can be seen as **a 'residual'** (residual dividend policy) [11], i.e. what remains after the company has financed all profitable projects with its retained earnings.

This perspective directly contrasts with both Miller and Modigliani's irrelevance theory and the 'bird-in-the-hand' theory. Unlike the former, the 'Pecking Order' theory explicitly recognises the relevance of dividend decisions, but not for the value that dividends themselves create, but rather for the informative signal that the choice to retain or distribute profits sends to the market [11]. Unlike the 'Bird-in-the-Hand' theory, which suggests that a certain dividend is preferred by investors, Myers and Majluf's model implies that companies should reduce dividends to avoid costly external financing, even at the risk of disappointing investors. The trade-off is not between dividends and capital gains, but between the use of internal (low-cost) sources of financing and the issuance of external (high-cost) equity [11].

Empirical evidence has provided mixed support for the pecking order theory. While it has been observed that companies tend to prefer self-financing, the hierarchy is not always followed to the letter. However, the essence of the model - that financing choices are driven by information asymmetry and that companies prefer internal sources of financing to avoid a devaluation of their stock - remains a cornerstone of financial literature. The theory,

therefore, does not merely describe a simple hierarchy of preferences, but explains the **mechanism** that leads companies to resort first to internal capital and then to debt, highlighting the passive but crucial role that dividend policy plays in this process. The debate on the impact of capital structure on dividend policy and vice versa is a central theme in corporate finance. While the pecking order theory suggests a hierarchy of financing sources driven by information asymmetry, the **trade-off theory** presents a more balanced view, in which companies choose their capital structure (and consequently their dividend policy) by strategically balancing the costs and benefits of debt [13, 12].

2.2.2 Trade-off Theory

According to Trade-off Theory, companies aim to achieve an optimal capital structure, a point at which the value of the company is maximised and the cost of capital is minimised [12]. This balance is based on a trade-off between the benefits of using debt and its costs [12]. The main benefit is the tax shield resulting from the deductibility of interest expense, which reduces the effective cost of debt relative to equity [12]. However, the use of debt exposes the company to a number of costs, including financial distress costs and **agency costs** [12]. Insolvency costs include not only the legal and administrative expenses of a potential bankruptcy, but also indirect costs such as the loss of customers, suppliers, and decreased market confidence [13]. Agency costs, as analysed above, arise from the conflict between shareholders and creditors, where shareholders may have an incentive to undertake riskier projects at the expense of debt holders [6].

In this theoretical framework, dividend policy is closely intertwined with capital structure. The decision to distribute dividends reduces the company's internal liquidity, which could force it to issue new debt or equity to finance its activities [9]. A company that pays high dividends may have a low level of leverage, as the payment reduces the cash flow available for debt reduction and increases dependence on external financing [13]. However, this same choice can be seen as a positive signal of financial strength and the company's ability to generate consistent profits [22].

Empirical evidence has provided diverse support for the Trade-off Theory. Recent studies such as that by Frank and Goyal (2003) have identified several factors that significantly influence the capital structure of companies, including profitability, asset tangibility, growth opportunities, company size and market-to-book ratio [13]. Interestingly, their research also

found that companies that pay dividends tend to have lower leverage [13]. This result suggests that dividend payments could be seen as an alternative to issuing debt to reallocate excess liquidity, or that the most solid and least indebted companies are also those that can afford to distribute dividends consistently [13].

The Trade-off Theory and the Pecking Order Theory are not mutually exclusive, but offer two complementary perspectives for explaining financing decisions. While the former focuses on finding a static balance between costs and benefits, the latter emphasises a dynamic and behavioural hierarchy of financing preferences in the presence of information asymmetry. Both theories, however, recognise the close interconnection between investment, financing and profit distribution decisions, demonstrating that dividend policy is not an isolated variable but an integral part of a company's overall financial strategy.

2.2.3 The Relationship with Leverage

The relationship between leverage and dividend policy is one of the most studied aspects of corporate finance, with the literature presenting conflicting evidence depending on the context and theoretical model applied [16]. Most studies, however, agree that leverage is a key determinant of dividend decisions [30]. A company with a high level of debt has greater exposure to insolvency costs and, as a result, may be less inclined to distribute dividends in order to preserve liquidity and meet its financial commitments [15, 30]. This is particularly true in emerging markets, as evidenced by studies conducted on companies in Nigeria, where high leverage is negatively associated with the ability to distribute dividends [31].

Trade-off and **agency** theories provide the main explanations for this relationship. According to agency theory, high leverage can mitigate agency costs arising from **free cash flow** [6]. A company with excess liquidity and few profitable investment opportunities may be tempted to waste resources on low-return (or worthless) projects [6]. Debt issuance and subsequent mandatory interest payments reduce free cash flow, forcing the company to invest in a more disciplined manner and carefully consider each new opportunity [6]. At the same time, dividend payments can serve as an alternative, signalling to investors that the company does not intend to waste its excess cash, thus offering a potential explanation for why less indebted companies may prefer a more generous dividend policy [22, 13].

However, the relationship is not always so straightforward. Some research, such as the study

by Naceur, Goaied and Belanes (2006) on the Tunisian market, found no significant relationship between financial leverage and dividend policy, suggesting that other factors, such as liquidity and earnings stability, may have a greater influence, especially in specific contexts [16]. Other studies, on the other hand, while confirming a negative relationship between leverage and dividends, point out that this effect may be moderated by variables such as profitability [30]. More profitable companies, for example, can manage a higher level of debt while maintaining a stable dividend policy, as their profits are sufficient to cover both debt obligations and payments to shareholders [30].

In summary, the relationship between leverage and dividend policy is complex and multifaceted. Although economic logic and most empirical evidence suggest a negative correlation, where higher debt leads to a lower propensity to distribute dividends in order to preserve financial strength, this relationship can vary greatly depending on the market environment, the stability of the company's earnings and its ability to generate sufficient cash flows to satisfy both creditors and shareholders [15, 16, 31, 30].

The complexity of the relationship between financial leverage and dividend policy is also evident in the role that other variables play as moderating factors. Company **profitability**, for example, is a crucial element [30]. Companies with higher profitability can sustain a higher level of debt, as their profits are sufficient to cover both financial charges and dividend payments [30]. This can lead to a situation where highly profitable companies are able to maintain a stable or even growing dividend policy despite high financial leverage [30]. In contrast, a less profitable company with a high level of debt may be forced to cut or eliminate dividends in order to preserve liquidity and meet its obligations to creditors [30].

Geographical context and specific market characteristics are equally important. For example, a study conducted in Jordan found that companies with higher financial leverage tend to pay lower dividends, suggesting that in this market, the priority is to conserve resources for growth and debt management [15]. Similarly, in a Nigerian context, a negative relationship between debt and dividends was found, although the profitability of the company may mitigate this effect [31]. These regional differences underscore the importance of analysing the issue not only from a purely theoretical point of view, but also considering the regulatory, fiscal and financial specificities of each country [16, 30].

Finally, the relationship between leverage and dividends is further evidence that a company's

financial decisions are not made in isolation. Financing choices (capital structure) and profit distribution choices are closely interlinked and influence each other. Financial leverage not only determines the availability of funds for dividends, but can also be used by management as a tool to regulate free cash flow or to signal the company's strength to the market [6, 13]. Consequently, dividend policy can be seen as the result of a complex balancing act between the need to finance growth, manage agency and insolvency costs, and maintain investor confidence.

The relationship between dividend policy and a company's growth and investment opportunities is a fundamental aspect that reflects the principle of the 'residual' theory of dividends. According to this perspective, dividend policy is considered a consequence of the company's investment and financing decisions, rather than a primary choice. Companies operating in markets with significant growth prospects and with investment projects available that have an expected return higher than the cost of capital tend to favour internal financing. In this context, profits are retained and reinvested in the business to finance these opportunities, thereby reducing the amount of funds available for dividend distribution. Therefore, a negative correlation is expected: an increase in growth and investment opportunities leads to a lower propensity to pay dividends, as profit retention is the most efficient strategy for maximising shareholder value.

This logic has been supported by empirical evidence showing that differences in dividend policies between companies can largely be attributed to their investment needs and profitability. A recent study by Salim & Widoatmojo (2023) [20] on non-financial companies in Indonesia found that, although the relationship is not statistically significant, growth and investment opportunities have a negative effect on dividend policy. This result, albeit with the specificities related to the context of an emerging market, confirms the intuition that companies with strong growth prospects prefer to retain earnings, in line with the residual approach, to avoid resorting to costly external financing, in particular the issuance of new equity, which would dilute the shareholdings of existing shareholders. This dynamic highlights the importance of analysing dividend policy not in isolation, but in close correlation with the investment strategy and life cycle of the company.

Another perspective that reinforces the inverse relationship between growth opportunities and dividend distribution is Myers and Majluf's **pecking order theory** [17]. Although this theory focuses primarily on financing choices, it has direct implications for dividend policy.

According to the pecking order, companies prefer internal financing to external financing, following a hierarchy that favours retained earnings, then debt and, only as a last resort, the issuance of new shares. In this context, companies with a large number of profitable investment projects (growth opportunities) will have a strong demand for capital. To avoid the costs of information asymmetry and the issuance costs associated with external financing, these companies will choose to retain a larger share of their profits, reducing dividend distribution [17].

Conversely, mature companies with fewer growth opportunities and abundant cash flows (free cash flow) are more inclined to distribute dividends. This is not only because they have less need to finance new projects, but also to mitigate agency costs. Dividend distribution can act as a mechanism to reduce the free cash flow available to managers, preventing them from undertaking sub-optimal investment projects ('empire building') that do not maximise shareholder value [6]. This analysis shows that dividend policy is not an isolated decision, but the result of a balance between cash flow availability, investment needs and the need to manage conflicts of interest between managers and shareholders. Higgins' work (1972) helped formalise the corporate 'savings-distribution' decision-making process, showing how dividend decisions are intrinsically linked to investment decisions and available opportunities [28]. This interconnection emphasises that profit distribution policy is a reflection of the company's long-term strategy and its prospects for future development.

2.3 Financial performance and distribution to shareholders

A company's financial performance, and in particular its profitability, is one of the most studied and consistent factors in determining dividend policy. There is a strong and intuitive positive relationship between a company's ability to generate profits and its propensity to distribute part of those profits to shareholders. This relationship is supported by several theories and extensive empirical evidence, which suggest that more profitable companies are more likely to pay dividends, keep them stable and, in some cases, increase them.

A company with high profitability, measured by indicators such as Return on Assets (ROA) or Return on Equity (ROE), has greater internal cash flows available that can be used both for reinvestment in growth opportunities and for shareholder remuneration [37]. In this context, increasing dividends is not only economically sustainable but can also serve as a positive signal. According to signalling theory, the announcement of an increase or stability in

dividends can be interpreted by the market as an indicator of excellent future prospects and the solid financial health of the company, reducing the information asymmetry between management and investors [14]. Conversely, a reduction or cancellation of dividends may signal future difficulties or declining profitability.

The extensive literature on the subject has often confirmed this correlation. Fama and French (2001) documented a significant decline in the number of companies paying dividends in the United States, attributing it in part to the fact that the population of listed companies has shifted towards smaller, less profitable companies with greater growth opportunities [14].
This suggests that, all other things being equal, profitability remains a crucial determinant of the decision to distribute profits. Companies that manage to generate consistent cash flows and maintain high profitability over time tend to reward their shareholders more regularly and predictably than those that operate in a more uncertain manner.

Profitability is not the only aspect of financial performance that influences dividend policy. The stability of earnings over time plays an equally crucial role [27]. Companies tend to establish a sustainable dividend policy and only change it when they expect the change to be permanent. This behaviour, known as 'dividend smoothing', has been widely documented and reflects managers' reluctance to cut dividends unless absolutely necessary, so as not to send negative signals to the market [27]. Arnott and Asness (2003) found a historical inverse relationship between the payout ratio (dividends/earnings) and future aggregate earnings growth, suggesting that a high payout ratio indicates stable income that does not need to be reinvested, while a low payout ratio may signal a company that is reinvesting to grow aggressively, but not necessarily successfully [27].

Furthermore, the size of the company and its history of dividend payments are closely related to perceived financial performance. Larger, more mature companies that have reached a stage of stability and do not need substantial capital to finance growth are generally those that offer regular and reliable dividends [26, 35]. This phenomenon is often associated with higher profitability and lower profit volatility, characteristics that reassure investors and reduce uncertainty about the future of payments. Jablonski and Kuczowic (2018) analysed dividend policies in Europe and the United States, highlighting that European companies tend to maintain a stable and predictable dividend policy, partly due to differences in legal frameworks and corporate governance compared to the United States [35]. This behaviour reflects the importance of prudent financial management, where strong cash flows and past

performance are the main drivers of distribution decisions.

The relationship between financial performance and dividend policy is not limited to a simple positive correlation with profitability, but extends to more complex dynamics that include cash flow management, cost of capital and impact on company valuation. A company with high profitability can not only afford to pay dividends, but can also use such distribution as a powerful signal to the market, indicating that its cash flows are stable and that managers are confident about the future outlook. This signal is particularly relevant in contexts of information asymmetry, where shareholders do not have access to the same information as management [14]. In such cases, dividend distribution can mitigate mistrust and send a signal of 'quality' that can attract new investors and stabilise the shareholder base.

However, the impact of financial performance on dividends is not unidirectional. Excessive profit distribution, even by a highly profitable company, can become problematic if it undermines its ability to finance future investment projects [14, 27]. For companies operating in capital-intensive or rapidly evolving technological sectors, retaining profits may be the most rational choice, even if profitable, in order to avoid resorting to costly external financing. As Arnott and Asness (2003) point out, a high payout ratio does not in itself guarantee future profit growth, and in some cases may even indicate a lack of profitable investment opportunities, a sign that management is simply returning excess liquidity rather than using it productively [27].

Finally, geographical context and corporate governance are factors that modulate this relationship. Studies such as those by Kowalewski et al. (2008) in Poland and Jablonski and Kuczowic (2018) in Europe show that, while maintaining a strong link with profitability, dividend policy is also influenced by institutional factors, investor protection and cultural norms. European companies, in particular, tend to prefer a stable and predictable dividend policy, which acts as a guarantee mechanism for investors in a context where transparency and shareholder protection can vary [26, 35]. This behaviour is a further element of complexity that enriches the theoretical framework, demonstrating that the dividend decision is the result of a dynamic interaction between financial performance, growth strategies, and the regulatory and market environment.

The complexity of the link between financial performance and dividends is further enriched by the analysis of specific variables that reflect the economic health of the company. In

addition to profitability, measured by ROA or ROE, liquidity and cash flow also play a crucial role. A company may be profitable on paper, but if its profits do not translate into cash available for payments, its ability to distribute dividends is limited [37]. For this reason, the stability of operating cash flows is often a determining factor in sustaining a consistent dividend policy over time.

Furthermore, the relationship between performance and dividends can also be interpreted from the perspective of dividend residual theory and agency cost theory. A company with excellent financial performance, generating large cash flows, may find itself in a situation where it has to decide whether to reinvest profits in growth projects or distribute them to shareholders. If investment opportunities are scarce, a generous dividend policy can serve to reduce free cash flow and mitigate agency costs by preventing managers from squandering funds on unprofitable projects [6]. In this sense, the distribution of dividends is not only a reward for shareholders, but also a mechanism for controlling management.

Finally, the market environment in which the company operates and its competitive position are factors that influence the decision to distribute profits. Market-leading companies with stable cash flows and strong profitability tend to pay dividends more reliably, consolidating their reputation as 'blue chips' [26]. This creates a virtuous circle in which strong financial performance supports a stable dividend policy, which in turn strengthens investor confidence and helps to maintain the value of the company. In summary, financial performance not only enables the distribution of dividends, but also defines their sustainability, consistency and strategic role within the broader management of the company.

A further dimension of the relationship between financial performance and dividends lies in their impact on the cost of capital and, consequently, on the valuation of the company. In a context of imperfect capital markets, dividend policy is not irrelevant [1]. A company that pays regular and stable dividends may be perceived by the market as less risky, as the distribution of profits acts as a kind of signal of quality and reliability. This perception can lead to a lower cost of equity capital, as investors require a lower risk premium to hold shares in a company that demonstrates soundness and stability in its payments.
Conversely, companies that do not pay dividends, especially if they are mature and have abundant cash flows, may be viewed with suspicion, which could result in a higher cost of capital.

Furthermore, the relationship is two-way: robust financial performance reduces the cost of capital, making it easier to distribute dividends. A company with high profitability and efficient cash flow management will be able to finance both investments and dividend distribution without compromising its stability. This ability to balance the two needs – growth and shareholder remuneration – is a hallmark of sound financial management. The decision to pay dividends, therefore, is not only a consequence of performance, but also a factor that can positively influence it, improving investor perception and reducing the cost of capital. This virtuous cycle between performance, dividend policy and cost of capital is a central element in the debate on shareholder value creation.

Chapter 3: Methodology and Data

3.1 Sample and selection criteria

The empirical analysis begins with the definition of the sample and the selection of the data source. To ensure the comparability and reliability of the information, the Orbis – Bureau van Dijk (Moody's Analytics) database was used, which is one of the most comprehensive international repositories of financial data on both listed and unlisted companies. The use of Orbis allows for the 25haracterized of accounting information, thanks to the uniform application of IFRS, and the selection of observations that are consistent in terms of time period, sector of activity and geographical area. The choice of this database is in line with the literature which, in the European context, 25haracteri the need for large, longitudinal and 25haracterize datasets to analyse dividend policy, especially in the presence of regulatory and sectoral heterogeneity [19].

The importance of carefully selecting the empirical basis has also been highlighted by pioneering studies on the European context, which show that distribution policies are not uniform across the different countries of the Union. For example, Von Eije and Megginson document significant differences in the use of dividends and share buybacks, linked to national and sectoral specificities [21]. This evidence reinforces the methodological choice to adopt rigorous filtering criteria in Orbis, so as to ensure that the sample is representative and consistent with the research objectives. The initial size of the starting base – over 100,000 companies – was reduced to a final sample of 3,498 listed companies through a multi-level selection process that took into account both accounting aspects (adoption of IFRS, availability of consolidated financial statements) and structural characteristics (sector, listing on regulated markets).

The choice of the observation period (2016–2024) also allows for the inclusion of economic phases 25haracterized by high uncertainty and structural changes in corporate behaviour, such as those already analysed in the literature for previous financial shocks (the 2007–2009 crisis and the 2010–2012 European debt crisis). Tekin points out that payout analysis becomes particularly significant in times of crisis, when companies adjust their profit distribution to signal solidity or, conversely, to preserve internal resources [19].

The definition of the sample is a crucial step in ensuring the validity of the results. In our case, the selection process followed a multi-stage logic to ensure that the companies included

were comparable in terms of accounting and structural characteristics. First, only active companies were considered, so as to eliminate companies in liquidation or without operational continuity from the sample. Subsequently, the selection included only companies with consolidated financial statements (code C1), a condition that ensures a comprehensive and non-partial view of company performance. The availability of consolidated data is particularly important as it mitigates distortions that could arise from fragmented reporting, as also highlighted in comparative studies on payouts in Europe [21].

A second criterion concerned the accounting standards adopted: only financial statements prepared in accordance with IFRS (International Financial Reporting Standards) were included. This choice, in addition to being methodologically consistent, responds to the need to eliminate differences arising from the application of heterogeneous national standards. In this sense, the selection made is in line with the suggestions of Tekin, who adopts datasets to assess the effect of financial crises on distribution policies in Europe [19].

In terms of time frame, the sample covers the latest financial statements available for the period 2016–2024. This time window allows us to observe distribution policies over a multi- year period that includes phases of growth, but also periods of economic turbulence and systemic shocks. The literature has shown that crises are prime moments for analysing payouts, as they highlight behavioural differences between companies in terms of size, leverage and growth opportunities [19].

Finally, the geographical coverage was limited to companies with registered offices in European Union (EU-27) countries and the United Kingdom, in line with the objective of assessing dividend policy in the European context. This choice also reflects the approach taken by Von Eije and Megginson, who highlighted the importance of a transnational perspective in order to understand the variety of distribution behaviours among countries with different corporate governance and shareholder protection systems [21].

Another key aspect in defining the sample concerns the application of targeted exclusion criteria. The literature has 26haracteri how sector composition can significantly influence distribution policies, making a selective approach essential. In particular, the financial sectors (banks, insurance and financial services) and utilities (electricity, gas, water) were excluded. The reason for this lies in the peculiarity of their balance sheet structures and the strong influence exerted by regulation. As Von Eije and Megginson demonstrate, the inclusion of these sectors would risk introducing distortions, since the capital and prudential

rules imposed on banks and insurance companies, as well as the tariff and concession mechanisms in utilities, make their dividend policy difficult to compare with that of industrial and commercial companies [21].

In addition to regulatory relevance, the information dimension must also be considered. Empirical studies have observed that financial sectors tend to adopt payout practices that are particularly sensitive to capital constraints and prudential requirements, making it difficult to isolate the effect of variables such as profitability or leverage. Similarly, utilities are 27haracterized by a relatively stable and regulated revenue stream, which influences distribution choices differently than for companies exposed to market competition [19]. Consequently, the exclusion of these sectors ensures that the analysis focuses on companies that are comparable in terms of accounting logic and strategic decisions.

A second exclusion criterion concerned companies with missing data in key variables: net profit, dividends distributed, net equity and total assets. This methodological choice responds to the need for statistical robustness and dataset quality. The presence of incomplete observations could have compromised both the calculation of the dependent variable (the *Dividend Payout Ratio*) and that of the main explanatory variables, introducing bias in the estimates. Tekin points out that the reliability of empirical results depends largely on the completeness and consistency of the underlying data [19]. The elimination of these companies therefore made it possible to refine the sample, reducing the risk of measurement errors and ensuring greater stability of the estimated coefficients. In summary, the combined application of these criteria – exclusion of regulated sectors and removal of incomplete observations – led to the construction of a final sample of 3,498 listed European companies, representative of the main economies and industrial and commercial sectors of the EU-27 and the United Kingdom. This methodological process ensures that the results of the empirical analysis are attributable to actual economic and financial dynamics, avoiding confusion with regulatory effects or information gaps in the available data.

The definition of the sample is not merely a technical step, but a crucial moment of methodological consistency with the reference literature. The decision to restrict the analysis to active companies listed on the main regulated European markets and with IFRS consolidated financial statements ensures the homogeneity and comparability of the data, following the same logic that guides the most authoritative empirical research on the subject of dividends. The exclusion of the financial and utilities sectors, as well as the removal of

incomplete observations, helps to reduce unexplained variance and limit the risk of results being distorted by regulatory specificities or information limitations.

This approach is part of a tradition of empirical studies which, in the European context, have placed great emphasis on the quality of the dataset construction. Von Eije and Megginson point out that the institutional and regulatory diversity of Europe makes it essential to adopt consistent samples and stringent selection criteria, otherwise the comparative significance of the results will be lost [21]. Similarly, more recent analyses have shown that the robustness of conclusions on payouts depends on the ability to isolate industrial and commercial companies, eliminating those subject to prudential rules or specific tariff schemes [19].

In this sense, the final sample of 3,498 companies provides a solid empirical basis for analysing the determinants of dividend policy. Its breadth allows us to capture the geographical and sectoral heterogeneity of Europe, while its selectivity ensures that the results are attributable to relevant economic and financial variables and not to exogenous regulatory factors. This methodological balance provides the necessary basis for the statistical analyses and econometric estimates in the following paragraphs, ensuring logical continuity between the construction of the dataset and the theoretical hypotheses discussed in the review.

3.2 Variable definitions

The dependent variable adopted in this study is the Dividend Payout Ratio (DPR), defined as the ratio between dividends distributed and the company's net profit. This indicator is the most widely used measure of a company's propensity to distribute profits to shareholders rather than retain them for reinvestment or capital strengthening purposes. The literature emphasises its central role, as it allows us to gauge the degree of maturity of the company, the stability of its cash flow generation and its risk capital remuneration policy. Furthermore, the DPR reflects management's choice between internal growth- oriented strategies and distribution-oriented strategies, acting as a key variable in corporate finance decisions [17].

The use of the payout ratio as a dependent variable is consistent with the tradition of European empirical studies, which have recognised its signalling value to the market. In particular, the payout ratio is often interpreted as an indicator of management's confidence in the company's ability to maintain stable profits in the medium to long term. Jabłoński and

Kuczowic highlight how, in developed European markets, companies tend to prefer stable and predictable distribution, precisely to reinforce the perception of reliability in the eyes of investors [35]. This approach is in line with signalling theory, according to which dividends represent a credible message about the health of a company.

On the other hand, the use of the DPR as a quantitative measure also has methodological implications. Kowalewski et al. point out that, in emerging economies such as Poland, the definition of the payout ratio is essential for comparing companies of different sizes and ownership structures, as it allows us to assess how profit distribution varies in relation to the availability of internal resources and pressure from shareholders [26]. This confirms the relevance of including the DPR as a dependent variable in our model, allowing us to investigate whether and to what extent profitability, financial leverage, size and liquidity can explain the propensity of European companies to distribute dividends.

In summary, the Dividend Payout Ratio is not only a technical measure of the share of profits distributed, but also a key interpretative indicator for analysing distribution choices in the European context. Its adoption allows us to link empirical results with the main theoretical strands discussed in the literature, from signalling theories to the implications of agency costs, thus providing implications of agency costs, thus providing the basis for the subsequent assessment of the determinants of dividend policy.

The independent variables adopted to explain the behaviour of the Dividend Payout Ratio reflect the key dimensions of corporate performance and financial structure. First, profitability is measured by ROE (Return on Equity) and ROA (Return on Assets). ROE, defined as the ratio of net profit to shareholders' equity, captures the efficiency with which the company remunerates its own capital, which is particularly relevant in market contexts where the stability of distribution is interpreted by investors as a sign of solidity and the ability to generate repeatable profits. ROA—the ratio between net profit and total assets— measures the profitability of total assets, providing a perspective that is less sensitive to leverage and useful for cross-comparisons between companies with different capital structures. In the literature, the combined use of ROE and ROA makes it possible to distinguish between the 'pure' profitability of assets and that 'amplified' by debt, clarifying whether the payout ratio is driven by sustainable operating profits or by the leverage effect. Empirical evidence using these indicators—even in non-European contexts— shows that profitability is positively associated with market outcomes and distribution policies, albeit with heterogeneity linked

to institutions and cycles; these studies legitimise the inclusion of ROA/ROE as key determinants of payout in models applied to European listed companies [17], [35].

Leverage is defined as Total Debt / Total Assets and captures the degree of indebtedness that constrains flexibility in profit distribution. From an economic and financial point of view, high leverage can compress payouts due to covenants and creditors' priority on cash flows, while moderate levels of debt can coexist with stable dividend policies if cash generation is predictable. Evidence from Europe shows that regularity of payments, an element particularly appreciated by investors in developed markets, depends not only on profitability but also on the sustainability of the financial structure, as the cost of debt servicing can compete with the resources allocated to shareholder remuneration [35]. Furthermore, studies on post-transition European economies suggest that institutional and governance characteristics jointly affect dividends and capital structure, confirming that indebtedness is not a simple mechanical control but a determinant that interacts with ownership structures and the quality of information [26]. In this context, the expected sign of the leverage coefficient is negative on the payout, as higher debt tends to reduce the distributable share of profits, all other conditions being equal [26], [35].

Finally, the joint inclusion of ROE, ROA and leverage responds to an econometric identification requirement: to isolate the operating profitability component (ROA) from that influenced by the financial structure (ROE) and to explicitly measure the budget constraint imposed by debt (leverage). Comparative literature on European and US markets shows that investors attribute a premium to the regularity and predictability of dividends, which in turn depends on the company's ability to generate recurring profits and sustain them with a debt profile compatible with operating cash flows [35]. In our model, therefore, we expect: (i) a positive coefficient for ROE and ROA, since higher profitability facilitates and encourages distribution; (ii) a negative coefficient for Leverage, consistent with the idea that financial charges and contractual restrictions constrain payout freedom. Empirical evidence using these indicators as determinants of market behaviour and distribution choices albeit in different contexts—confirms the relevance of the set of variables chosen and its transferability to the European case under analysis [17], [26], [35].

A crucial aspect for the robustness of the empirical model concerns the inclusion of control variables, which allow the structural heterogeneity of companies to be absorbed and the effect of the main independent variables on the Dividend Payout Ratio to be isolated with

greater precision. In the literature, the choice of these variables responds to established corporate finance criteria and is particularly relevant in European studies, which are characterised by significant diversity in terms of size, access to capital and financial stability [26], [35].

The first control variable considered is firm size, measured as the natural logarithm of total assets. This indicator reflects the level of available resources and the ability to access external financing at low cost. Kowalewski et al. show that, in emerging and transition markets, firm size is one of the main predictors of dividend policy: large firms, thanks to greater cash flow stability and easier access to capital markets, tend to distribute dividends more regularly and predictably [26]. Even in the developed European context, size is a discriminating factor, as investors attribute greater credibility to distributions by companies with a solid capital base and structured governance.

The second control variable is growth opportunities, measured by the market-to-book ratio, i.e. the market value of equity relative to its book value. This measure captures the market's perception of the company's future prospects and serves as a summary indicator of investment potential. The literature has amply demonstrated that companies with high growth opportunities tend to retain earnings to finance their projects internally, showing a lower propensity to distribute dividends. Jabłoński and Kuczowic confirm that, in developed European markets, the choice to reduce payouts in the presence of growth opportunities is particularly marked in innovative companies and those operating in technological sectors [35]. This behaviour is consistent with corporate finance theories, which give priority to reinvesting profits when the expected returns on investments exceed the opportunity cost of distribution.

The third control variable adopted is liquidity, calculated as the ratio of current assets to current liabilities (current ratio). This indicator makes it possible to assess the company's ability to meet its short-term financial commitments and, looking ahead, the availability of resources for distribution policies. Empirical studies conducted on the European market have shown that companies with greater liquidity reserves tend to distribute higher dividends, as the availability of working capital reduces the likelihood of stringent financial constraints [35]. However, excessive liquidity can also be interpreted as a sign of a lack of growth opportunities, further strengthening the propensity to distribute.

The joint inclusion of these three variables – size, growth opportunities and liquidity –

therefore allows us to control for structural characteristics that systematically affect dividend policy. They reflect dynamics already observed in the European literature, helping to explain the heterogeneity of behaviour among companies and strengthening the external validity of the model's results.

In addition to the main and control variables, the empirical model includes a set of auxiliary variables that do not directly explain the dividend payout ratio but play a crucial role in describing the sample and absorbing heterogeneous effects related to the sectoral and geographical context. The inclusion of these variables is consistent with best practices in European empirical studies on dividend policy, where institutional and industrial diversity is a potential source of bias in estimates [26], [35].

A first indicator considered is the number of employees, used as an additional proxy for the size of the company. Although size is already measured by the logarithm of total assets, the number of employees allows us to capture organisational and sectoral aspects that do not emerge from the financial statements. For example, companies in labour- intensive sectors may have different cost structures than those in capital-intensive sectors, with potential effects on distribution policy. This indicator therefore enriches the descriptive analysis and allows for better contextualisation of the differences observed in the payout ratio between sectors.

Alongside the dimensional indicators, the model uses sectoral dummy variables, constructed on the basis of the NACE Rev. 2 classification. This choice makes it possible to isolate the impact of specific characteristics of each industrial or commercial sector, reducing the risk that the empirical results are driven by sectoral peculiarities rather than by the economic and financial determinants under study. The literature emphasises that, in European contexts characterised by less integrated capital markets than in the United States, sectoral differences can play a significant role in determining the propensity to distribute dividends [35].

Finally, the model considers geographical dummy variables referring to the country of the company's registered office. This aspect is particularly important, as the institutional and regulatory context varies considerably within Europe, influencing corporate governance and payout choices. The comparison conducted by Kowalewski et al. in post- transition economies shows how ownership structure and the degree of financial market development have a substantial impact on distribution policies [26]. Similarly, in Western European markets, Jabłoński and Kuczowic highlight that regulatory stability and shareholder protection contribute to higher and more predictable payouts [35]. The inclusion of

geographical dummies therefore allows us to control for these institutional effects, ensuring that the estimated coefficients of the economic and financial variables reflect general relationships and not the peculiarities of individual countries.

In summary, the auxiliary variables (number of employees, sector dummies and geographical dummies) play a methodological complementary role, allowing for a more accurate description of the sample and mitigating the risk of omitted variable bias. They strengthen the robustness of the model and ensure that the relationships observed between the payout ratio and its main determinants can be interpreted in general terms, in the varied and complex context of European listed companies. The table summarizes the variables considered in the model, specifying their formula, definition, expected sign and reference source.

Definition of model variables: formula, expected sign and reference sources.

Variable	Formula	Definition	Expected sign	Source
Dividend Payout Ratio (DPR)	**Total Dividends / Net Profit**	**Proportion of profits distributed to shareholders**	**Dependent Variable**	**[17], [35]**
Return on Equity (ROE)	**Net Profit / Shareholders' Equity**	**Return on equity**	**+**	**[17], [35]**
Return on Assets (ROA)	**Net profit / Total assets**	**Overall return on assets**	**+**	**[17], [35]**
Leverage	**Total Debt / Total Assets**	**Degree of indebtedness of the company**	**–**	**[26], [35]**
Firm Size	**log(Total Assets)**	**Proxy for company size**	**+**	**[26]**

Growth Opportunities	**Market Value of Equity / Book Value of Equity**	**Measure of growth potential as perceived by the market**	**–**	**[35]**
Liquidity	**Current Assets / Current Liabilities**	**Ability to meet short-term commitments**	**+**	**[35]**
Number of employees	**Absolute value the size scale**		**Descriptive**	**[26]**
Sectoral dummies (NACE Rev. 2)	**Dummy variable =1 if the company belongs to the sector**	**Control for sectoral heterogeneity**	**Descriptive**	**[26]**
Geographical dummies (country of registered office)	**Dummy variable = 1 if company located in the country**	**Control for institutional and regulatory differences**	**Descriptive**	**[26], [35]**

3.3 Empirical model

The empirical approach adopts a panel model to estimate the association between propensity to distribute and economic and financial determinants at company level. The use of the panel allows us to exploit the longitudinal variation (2016–2024) and to control for unobserved heterogeneity at company and context level, reducing bias from characteristics that remain unchanged over time. In line with European literature on payout policies, the design includes: (i) a descriptive phase (basic statistics and correlations) to inspect distributions, outliers and multicollinearity; (ii) a multivariate regression phase with fixed effects (FE) or random effects (RE), selected using Hausman tests, and cluster-robust errors at the company level to manage heteroscedasticity and intra-panel dependencies; (iii) robustness checks including alternative specifications and treatments of zero dividends. This architecture follows the best practices adopted in recent European studies, which emphasise the need to harmonise definitions, control for sectoral and temporal effects, and appropriately manage the many zeros in payout variables [19]. On a theoretical level, the joint inclusion of profitability (ROE/ROA), leverage, size, growth opportunities and liquidity stems from the idea that dividend policy is the result of a trade-off between shareholder remuneration and financial flexibility. The literature shows that companies value flexibility (the ability to finance investments and absorb shocks), which can conflict with rigid distribution commitments; hence the expectation that higher profitability will support payouts, while higher leverage or high growth opportunities will compress them in order to preserve room for manoeuvre [36]. This rationale guides both the choice of variables and the interpretation of the expected signs of the coefficients, and justifies the adoption of granular controls (sector and country dummies) to isolate general economic and financial effects from institutional specificities. One operational aspect concerns the measurement of the dependent variable. The study uses the Dividend Payout Ratio (DPR) (total dividends/net profit) as the main outcome. Since the denominator may be zero or negative in certain years, observations with net profit ≤ 0 do not allow for a consistent definition of the ratio and are excluded from the main regression. To mitigate the influence of outliers, continuous variables are winsorised at the 1st and 99th percentiles, in line with the procedures adopted in European studies on payout [19]. For robustness purposes, an alternative specification with Dividends/Total Assets as the dependent variable (a metric not affected by the negative denominator problem) is also provided to verify the qualitative stability of the results with respect to the payout measure

[19]. This double measurement allows us to combine adherence to the classical notion of payout ratio with the caution required when accounting profitability presents extreme or transitory values.

Finally, consistent with the 2016–2024 period and the construction of the sample, the model includes fixed year effects to absorb common shocks (policy, sector cycles, European macro factors) and fixed sector and/or country effects to control for persistent structural differences. The use of FEs allows the unobserved invariant component to be neutralised; however, for variables with little variability over time or in the presence of numerous zeros in the dependent variable, it is informative to compare the results with RE estimates and, where appropriate, with a random effects Tobit specification (indicated in the presence of censoring in dividends), a well-established practice in European studies on payouts [19]. This plurality of specifications is not redundant, but responds to the need to assess the inferential robustness of economic and financial determinants within a framework – the European one – in which constraints of flexibility, capital structure and market signals are systematically intertwined [36].

The proposed regression model takes the following general form:

$$DividendPayout_{it} = \\ = \beta_0 + \beta_1 ROE_{it} + \beta_2 Leverage_{it} + \beta_3 Size_{it} + \beta_4 Growth_{it} + \beta_5 Liquidity_{it} + \\ + \delta' Sector_i + \gamma' Country_i + \lambda_t + \varepsilon_{it}$$

where i denotes the firm, t the year, δ and γ represent fixed effects vectors for sector and country, λ_t the time effects, and ε_{it} tes the idiosyncratic error term. This structure allows us to capture both individual variability and common trends across Europe in the period 2016– 2024. The model is first estimated using pooled OLS regression, which provides a simple basis for comparison but does not take into account differences that remain unchanged over time at the company level. To overcome this limitation, fixed effects (FE) models are then adopted, which allow for control for each unobserved but time-invariant characteristic of individual companies, such as corporate culture, ownership structure or historical payout propensity. Random effects (RE), on the other hand, assume that such heterogeneities are unrelated to the explanatory variables and also allow the impact of variables that vary little over time to be estimated. The choice between FE and RE is made using the Hausman test, which checks whether the RE estimate is consistent or whether the FE specification is preferable.

A further step concerns the robustness of the estimates. The literature has shown that, in panel models applied to dividend policy, heteroscedasticity and intra-group correlation can compromise the validity of standard errors [19]. For this reason, errors are corrected using clusters at the company level in order to capture the serial dependence of observations within the same group. In the presence of significant cross-sectional correlation – for example, between companies belonging to the same sector or country – additional corrections such as those of Driscoll-Kraay can be adopted, which guarantee robust standard errors even with cross-sectional dependencies.

A delicate methodological issue concerns the presence of observations with zero payouts. Not all companies distribute dividends every year; in some cases this is due to reinvestment strategies, in others to liquidity constraints or negative profitability. Blau and Fuller show how the presence of numerous zeros in payout data makes it necessary to consider the use of censored models (Tobit), especially when the objective is to estimate the probability of distribution rather than the average amount [36]. However, in our framework, the main choice remains linear panel regression, supplemented by alternative estimates to verify the consistency of the results. This approach is consistent with the most recent practices in European studies, which favour the comparability of coefficients with those in the established literature, while recognising the usefulness of Tobit or Logit models as additional robustness tests [19].

Finally, the construction of the dataset requires some caution in the treatment of variables. Measures of profitability and leverage, as well as size, growth and liquidity, are winsorised at the extreme percentiles to mitigate the influence of outliers. The use of the logarithm for size reduces the distortion resulting from the highly skewed distribution of assets. The adoption of the market-to-book ratio for growth opportunities reflects the preference in the literature for market value-based indicators, which are more sensitive to investor expectations and therefore more consistent with payout decisions [35].

The definition of the empirical model is accompanied by an explanation of the research hypotheses and the expected signs for each variable, in line with the theories illustrated in the literature review and previous empirical studies. This step allows us to link the quantitative analysis to the theoretical foundations and to clarify which results are consistent with the existing evidence and which, on the other hand, may constitute original contributions.

With regard to profitability, both ROE and ROA are expected to have a positive effect on the Dividend Payout Ratio. A greater ability to generate profits, both in terms of return on equity and overall return on assets, should in fact increase the availability of resources to be distributed to shareholders. The literature shows that in European markets, profitability is one of the most solid determinants of payout: more profitable companies signal confidence and stability through higher dividends, as demonstrated by Blau and Fuller, who highlight the signalling function of dividends in a context of information asymmetry [36]. Similarly, Tekin and Polat document that in times of crisis, profitable companies tend to maintain relatively more generous distribution policies, precisely to communicate resilience to the market [19].
Leverage, on the other hand, is associated with an expected negative effect on the payout ratio. Higher debt implies liquidity constraints and creditor priorities, limiting the share of profits that can be allocated to shareholders. In addition, the presence of contractual covenants and the obligation to pay periodic interest can reduce distribution flexibility. Empirical evidence from Europe confirms that companies with higher levels of leverage are less likely to distribute regular dividends, unlike those with a more solid capital structure [36].
Firm size, measured as the logarithm of total assets, is expected to have a positive effect. Larger companies tend to benefit from a more stable earnings base, easier access to financial markets and greater pressure from institutional investors, all of which favour more consistent distribution policies. The literature has shown that, in developed markets, size is a significant predictor of dividend regularity [19].
Growth opportunities, captured by the market-to-book ratio, are expected to have a negative effect on the payout ratio. Companies with high growth prospects tend to retain earnings to finance investment projects internally, thus reducing the share of profits allocated to shareholders. Blau and Fuller show that in European Union markets, innovative companies reduce dividend distributions in favour of reinvestment [36]. This behaviour is perfectly consistent with the pecking order theory, according to which companies prefer internal sources of financing to debt or the issuance of new capital.
Liquidity, measured by the current ratio, on the other hand, shows an expected positive sign. A greater ability to meet short-term commitments reduces the likelihood of stringent financial constraints and frees up resources for dividend distribution. Empirical evidence documented

by Jabłoński and Kuczowic confirms that companies with larger liquidity buffers are able to maintain higher and more regular payouts, thereby strengthening investor confidence [35]. Based on these considerations, the empirical model is structured around the following research hypotheses:

- H1: Return on Equity (ROE) has a positive and significant impact on the DPR.
- H2: Return on Assets (ROA) has a positive and significant impact on the DPR.
- H3: Leverage has a negative and significant impact on the DPR.
- H4: Firm Size has a positive and significant impact on the DPR.
- H5: Growth Opportunities have a negative and significant impact on the DPR.
- H6: Liquidity has a positive and significant impact on the DPR.

These hypotheses, derived from a combination of signalling theories, agency costs and pecking order theory, provide the conceptual framework necessary for interpreting the econometric results. Empirical validation or refutation of these expectations will enrich the debate on dividend policy in the European context, helping to clarify which drivers are the most robust and generalisable in the period analysed. The Table below summarises the research hypotheses formulated, indicating the expected sign and theoretical rationale for each variable.

Research hypotheses on the determinants of the Dividend Payout Ratio and expected signs.

Hypothesis	**Variable**	**Expected sign**	**Theoretical rationale**
H1	ROE	+	n on equity encourages distribution
H2	ROA	+	ficiency favours higher payouts
H3	Leverage	–	High debt reduces distribution flexibility

H4	Firm Size	+	ompanies demonstrate stability and access to external capital.
H5	Growth Opportunities	–	wth opportunities encourage reinvestment of profits
H6	Liquidity	+	uidity reserves increase the ability to distribute dividends

An essential element in constructing the empirical model concerns the robustness of the estimates. In the context of dividend policy, variability in accounting practices, institutional differences and the presence of numerous zero or discontinuous payouts can introduce distortions. For this reason, the econometric specification is not limited to standard panel regression but includes a series of verification strategies and alternative models, aimed at ensuring that the results do not depend on specific assumptions but reflect structural relationships.

Firstly, winsorisation of variables at the 1st and 99th percentiles are used to mitigate the influence of outliers without eliminating relevant observations. This procedure, widely adopted in empirical studies on European payouts, is particularly useful for indicators such as ROE and ROA, which are subject to extreme values in the presence of negative or reduced profits [19]. At the same time, the model incorporates sector and country dummies to absorb institutional and structural differences. This reduces the risk that the estimated coefficients reflect the peculiarities of a regulated sector or national legal system rather than common trends.

In terms of alternative specifications, three main extensions are considered. The first consists of using an alternative measure of payout, defined as Dividends/Total Assets, which avoids the problems associated with negative or zero net profits. This variant allows us to verify whether the results are robust to changes in the definition of the dependent variable. The second concerns the application of a random effects Tobit model, which is particularly suitable in the presence of censored data or numerous zero payouts, as suggested by Blau and Fuller [36]. The third extension is the use of a Logit/Probit model to estimate the probability that a company will distribute dividends each year, thus distinguishing between the decision to distribute and the amount distributed. This methodological distinction responds to what has been observed in the literature, where the determinants of the probability of distribution often differ from those of the size of the dividend.

A further robustness check concerns the management of multicollinearity between independent variables. The calculation of VIF (Variance Inflation Factor) indices allows the identification of any strong linear relationships between explanatory variables; in the presence of anomalous values, corrections such as the exclusion of redundant variables or the construction of composite indicators can be applied. At the same time, the adoption of robust standard errors clustered at the company level and, if necessary, corrected for cross-sectional

dependencies using the Driscoll-Kraay method, ensures that the results are not distorted by autocorrelation or cross-sectional correlation problems [19].

Finally, the methodological approach reflects a balance between statistical rigour and theoretical adherence. Signalling and agency cost theories indicate that payout choices depend not only on accounting figures, but also on institutional variables and governance constraints. For this reason, the main estimates are accompanied by sector and country controls, while the Tobit and Logit extensions aim to capture the discrete dimension of the distribution decision. As noted by Tekin and Polat, the use of multiple specifications increases the reliability of the results and reduces the risk of conclusions being biased by a single model [19].

In summary, the empirical strategy integrates a linear panel regression as a benchmark with alternative specifications and robustness tests, following best practices established in European and international literature. This strengthens the external validity of the results and ensures that the observed relationships between profitability, financial structure and payout reflect generalisable dynamics rather than methodological artefacts or peculiarities of the dataset.

Chapter 4: Empirical Analysis

4.1 Descriptive statistics

Descriptive analysis is the first step in assessing the structure of the dataset and understanding the behaviour of the variables included in the empirical model. It allows us to identify central trends, dispersion, distributional asymmetries and intertemporal variations, providing a preliminary framework useful for the joint interpretation of the correlation results and multivariate regressions presented in the following sections. In line with the most recent empirical literature on European markets and in accordance with the methodological choices outlined in Chapter 3, descriptive statistics were calculated by applying winsorisation to the 1st and 99th percentiles in order to limit the influence of extreme values without altering the overall economic distribution of the data.

The analysis focuses on key variables related to dividend policy and corporate financial structure: Dividend Payout Ratio, ROE, ROA, Leverage, Size, Market-to-Book Ratio and Current Ratio. This set of variables allows us to examine the main theoretical and empirical determinants of payout, as highlighted in the literature on capital structure, profitability and financial constraints. For each variable, the mean, median, standard deviation and extremes observed in the period 2016–2024 are analysed, integrating tabular data with graphical representations of trends over time and volatility.

The Dividend Payout Ratio (DPR) is one of the variables most directly related to the research objective, as it represents the share of profits distributed to shareholders. Its interpretation is closely linked to the main theories discussed in the literature review: signalling models suggest that a high payout reflects confidence in the future prospects of the company; agency theory frames it as a tool for reducing free cash flow and potential managerial conflicts; life cycle models associate lower levels with companies in the growth phase or characterised by high self-financing requirements.

Table 1. Dividend Payout Ratio – Descriptive statistics (2016-2024)

(winsorised at the 1st and 99th percentiles)

Year	Mean	Median	Std. Dev.	Min	Max
2016	3.76	1.24	3.60	0	7.58
2017	2.07	0.93	1.91	0	4.15
2018	3.34	0.86	3.42	0	7.30
2019	3.57	0.88	3.73	0	7.99
2020	3.28	1.21	3.17	0	6.64
2021	1.76	0.46	2.03	0	4.51
2022	3.81	0.63	4.46	0	9.57
2023	2.87	0.83	2.99	0	6.48
2024	3.68	0.82	4.03	0	8.69

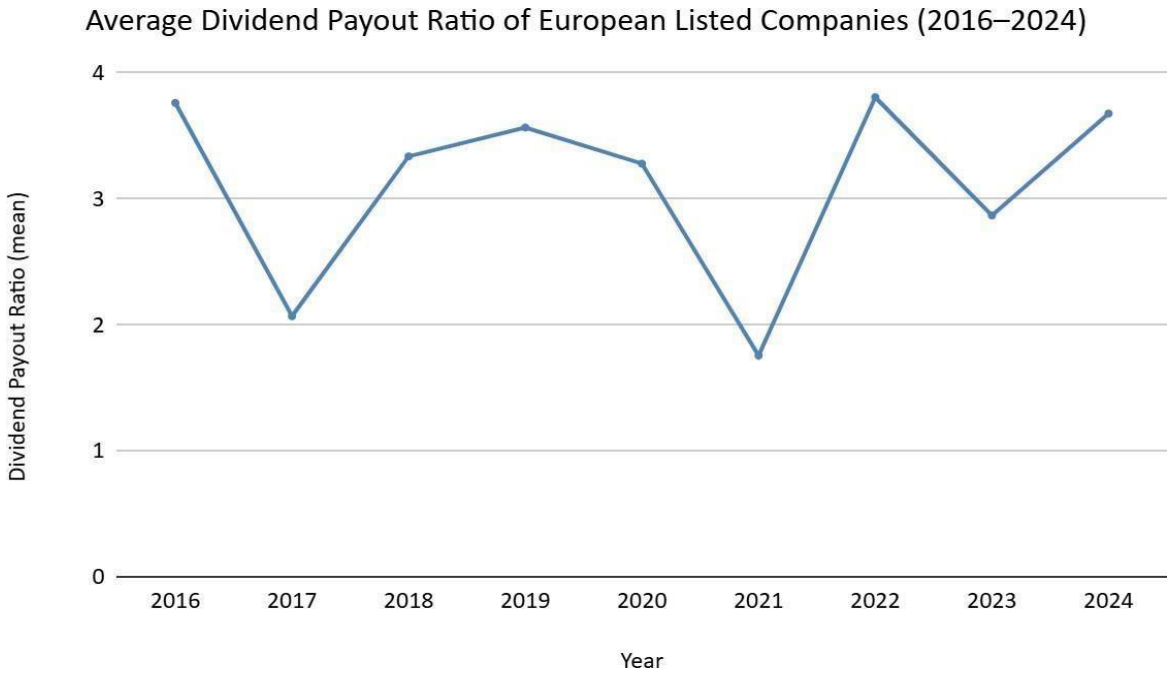

Figure 1. Average Dividend Payout Ratio of European Listed Companies (2016–2024)

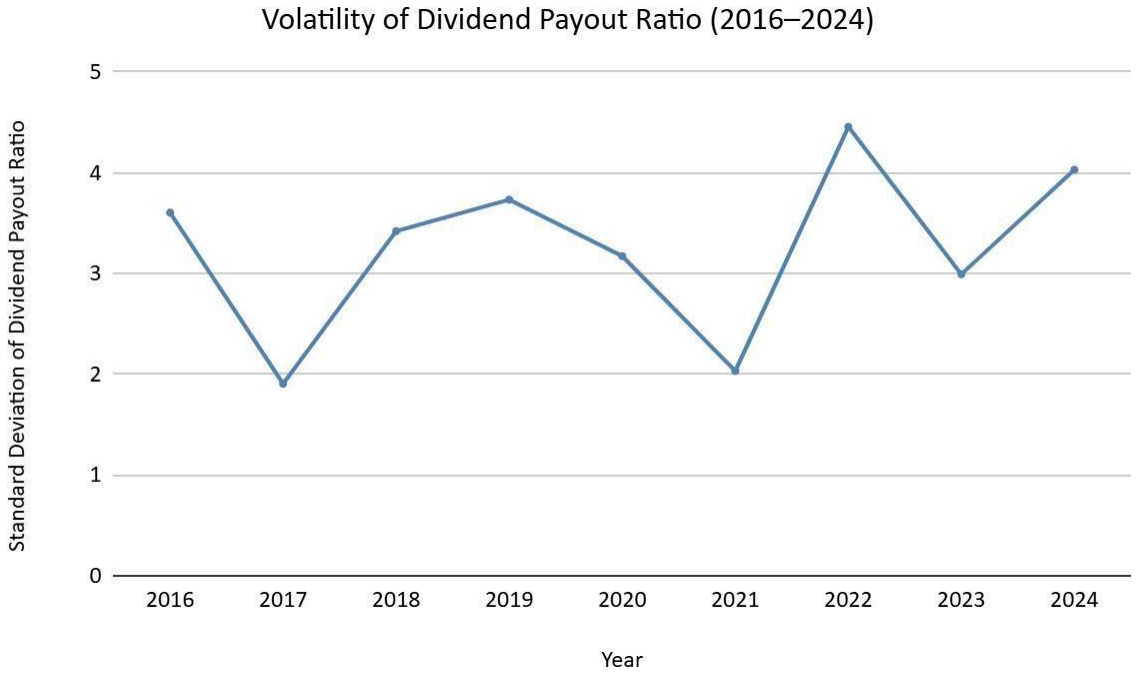

Figure 2. Volatility of Dividend Payout Ratio (2016–2024)

In the dataset under consideration, winsorisation mitigates the effect of distorted values generated by negative profits or extraordinary distribution policies, improving the overall readability of the indicator. Table 1 shows that the payout has average values ranging from 1.76 (2021) to 3.81 (2022), with a median that is systematically lower than the average. This difference indicates a moderately right-skewed distribution, typical of payout variables where a limited number of companies distribute particularly high shares of profits. The standard deviation ranges from approximately 1.9 to 4.5, indicating significant volatility in distribution policies, reflecting the sectoral and geographical heterogeneity of the companies included in the sample.

The trend over time highlights some significant dynamics. In the two-year period 2016– 2019, average levels of between 3.3 and 3.7 were observed, consistent with relatively regular distribution behaviour in mature European economies. In 2020, in line with the contraction in profits and the financial prudence adopted by many companies during the pandemic, the average DPR fell slightly to 3.28, before reaching a low in 2021 (1.76), a year characterised by a still uncertain recovery and a strong focus on preserving liquidity. From 2022 onwards, the payout rate will start to rise again, reaching a peak of 3.81, before stabilising at intermediate values in subsequent years. The figure for average values visually confirms this U-shaped trend, with a marked contraction during the pandemic and a gradual recovery in the following two years.

The volatility analysis (Figure 2) shows a profile consistent with this trend: the standard deviation is lower in 2017 and 2021, years in which companies adopted more conservative and uniform payout policies, while it peaks significantly in 2022 and 2024, signalling a return to differentiated distribution policies across different sectors and European countries. The combination of heterogeneous business models, different cyclical exposure and varying access to liquidity in the various national markets helps to explain the observed variability.

Overall, the behaviour of the dividend payout ratio during the period under review highlights three key findings. First, the variable shows an overall stable structure over the long term, consistent with evidence that listed European companies tend to maintain regular and not overly volatile distribution policies. Secondly, there is a clear sensitivity of the payout to macroeconomic cycles, with significant reductions in times of uncertainty and gradual recoveries thereafter. Finally, the constant presence of a median below the average confirms

that dividend distribution remains concentrated in one part of the sample, reflecting structural differences in the profitability and strategic choices of companies.

Return on equity (ROE) is one of the main profitability indicators used to assess companies' ability to generate profits in relation to their equity capital. Its analysis is particularly relevant in the context of dividend policy, as empirical literature has consistently highlighted a positive correlation between profitability and the propensity to distribute profits, especially in developed markets and contexts characterised by consolidated governance. The trend in ROE over the period 2016–2024 allows us to assess how the economic performance of European companies has responded to macroeconomic cycles and periods of uncertainty, providing a useful interpretative framework for discussing econometric results.

Table 2. Return on Equity (ROE) – Descriptive statistics (2016–2024)

(winsorised at the 1st and 99th percentiles)

Year	Mean	Median	Std. Dev.	Min	Max
2016	0.44	0.12	0.98	-3.86	1.94
2017	0.32	0.11	0.89	-4.01	1.75
2018	0.39	0.10	1.25	-4.68	2.91
2019	0.34	0.09	1.26	-4.55	3.26
2020	0.19	0.06	1.09	-4.30	3.02
2021	0.09	0.09	0.79	-4.32	2.15
2022	0.08	0.07	0.93	-4.89	3.18
2023	0.04	0.06	1.02	-5.65	3.44
2024	0.20	0.07	1.24	-4.71	4.32

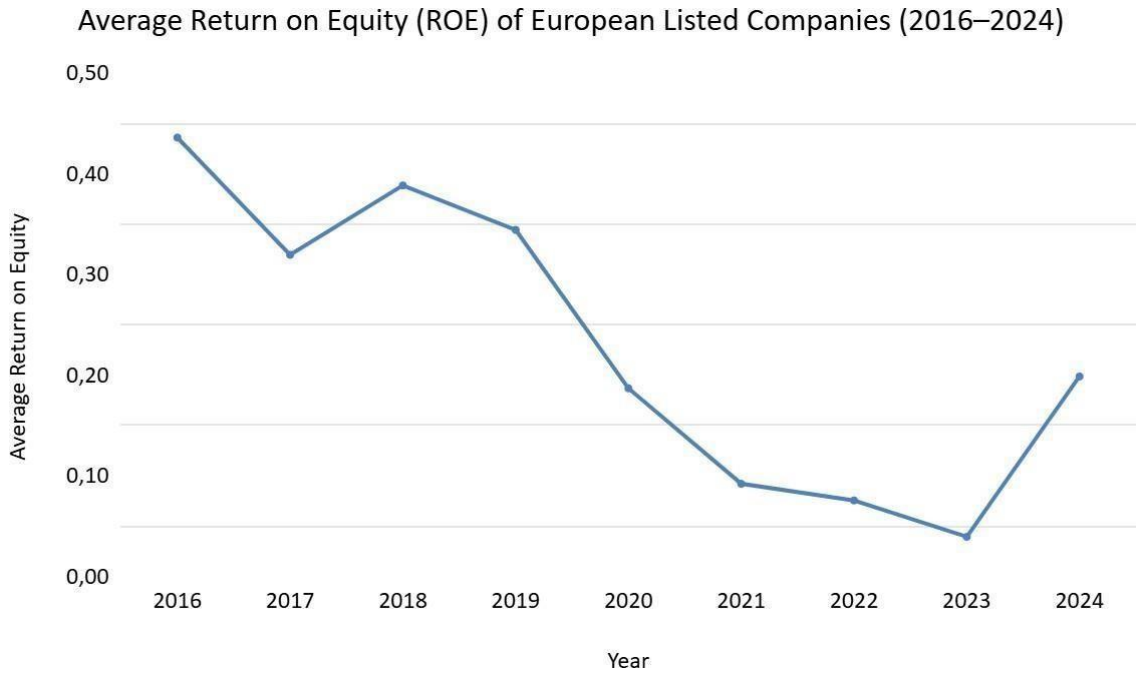

Figure 3. Average Return on Equity (ROE) of European Listed Companies (2016–2024)

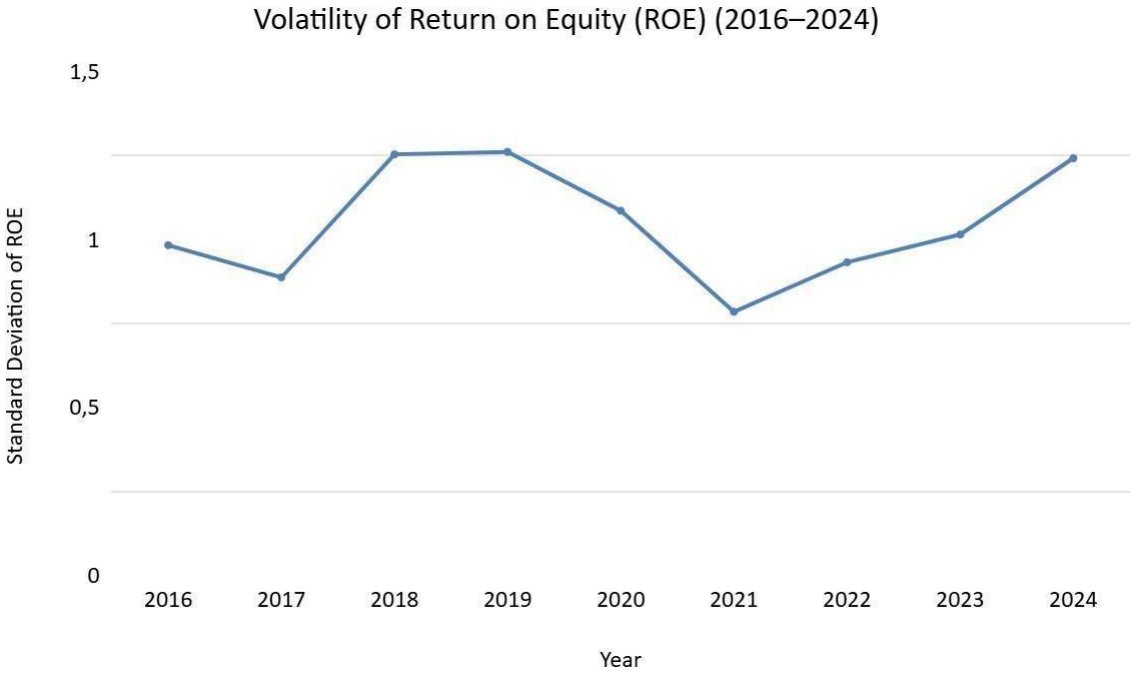

Figure 4. Average Return on Equity (ROE) of European Listed Companies (2016–2024)

Table 2 shows decreasing average values between 2016 (0.44) and 2023 (0.04), with a partial recovery in 2024 (0.20). This trend clearly reflects the cumulative impact of the macroeconomic shocks that characterised the period: the pre-pandemic phase was marked by relative stability and widespread profitability, while the three-year period 2020–2022 saw a gradual decline in profits, attributable to production restrictions, increased operating costs and uncertainty related to investment policies. The historic low in 2023 confirms the persistence of the effects of the inflationary crisis and the contraction in profit margins in various European sectors.

The median, which is consistently below the average and remains virtually stable between 0.06 and 0.12, indicates a strongly right-skewed distribution. This implies that most of the companies in the sample generate modest levels of profitability, while a small proportion achieve much higher results, influencing the overall average. This heterogeneity is consistent with the sectoral structure of the European market, which includes both highly cyclical companies, which are more vulnerable to shocks, and companies characterised by greater stability of returns.

The minimum extreme values, which are negative in all years (down to –5.65 in 2023), highlight the presence of companies that have recorded significant operating losses, despite winsorisation. Conversely, the maximums reach values between 1.75 and over 4.32, reflecting the presence of companies with particularly high performance. This range, confirmed by standard deviations between 0.79 and 1.26, indicates a high dispersion of profitability results, typical of large and geographically diversified samples.

The graphical analysis fully confirms the dynamics observed in the tabular data. Figure 3, which shows the annual average ROE, highlights a progressive deterioration from 2016 to 2023, with a rebound in 2024. This profile reflects a phase of moderate growth prior to the pandemic, a sharp contraction in 2020 and a slow recovery in the following years, albeit insufficient to fully offset the cumulative profitability losses in the critical three-year period 2020–2022. The volatility trend (Figure 4) is consistent with this dynamic: the standard deviation increases significantly in the period 2018–2019, decreases in 2021, and then rises again in the most recent two-year period, signalling a growing divergence in performance among European companies.

Overall, the behaviour of ROE in the period analysed highlights three main elements. First, the average profitability of European companies has undergone a persistent contraction, with a slow recovery reflecting a phase of post-pandemic structural readjustment. Second, the constant presence of a median well below the average suggests that the highest profitability signals are limited to a minority of the sample, while most companies operate with much lower returns. Finally, the high volatility observed in recent years highlights a growing degree of heterogeneity in performance, which will have significant implications for the interpretation of the relationship between profitability and dividend policy in the following sections.

Return on Assets (ROA) provides a complementary measure of profitability, expressing the ability of companies to generate profits in relation to total assets employed. Compared to ROE, this indicator is less influenced by financial leverage and allows for an assessment of the overall operational efficiency of the sample. The statistics in Table 3 show that the average profitability of European companies' assets has been declining over the entire time horizon: after positive values in 2016–2018 (between 0.019 and 0.048), the average ROA gradually declines, becoming negative from 2019 and reaching a low in 2023 (–0.076), before recovering slightly in 2024 (–0.058).

Table 3. Return on Assets (ROA) – Descriptive statistics (2016–2024)

(winsorised at the 1st and 99th percentiles)

Year	Mean	Median	Std. Dev.	Min	Max
2016	0.05	0.05	0.30	-2.10	0.32
2017	0.05	0.05	0.25	-1.30	0.34
2018	0.02	0.04	0.28	-1.62	0.35
2019	-0.01	0.03	0.31	-1.82	0.35
2020	-0.02	0.02	0.26	-1.48	0.36
2021	0.00	0.03	0.26	-1.61	0.38

2022	-0.05	0.03	0.36	-2.55	0.32
2023	-0.08	0.02	0.45	-3.28	0.36
2024	-0.06	0.02	0.40	-2.85	0.30

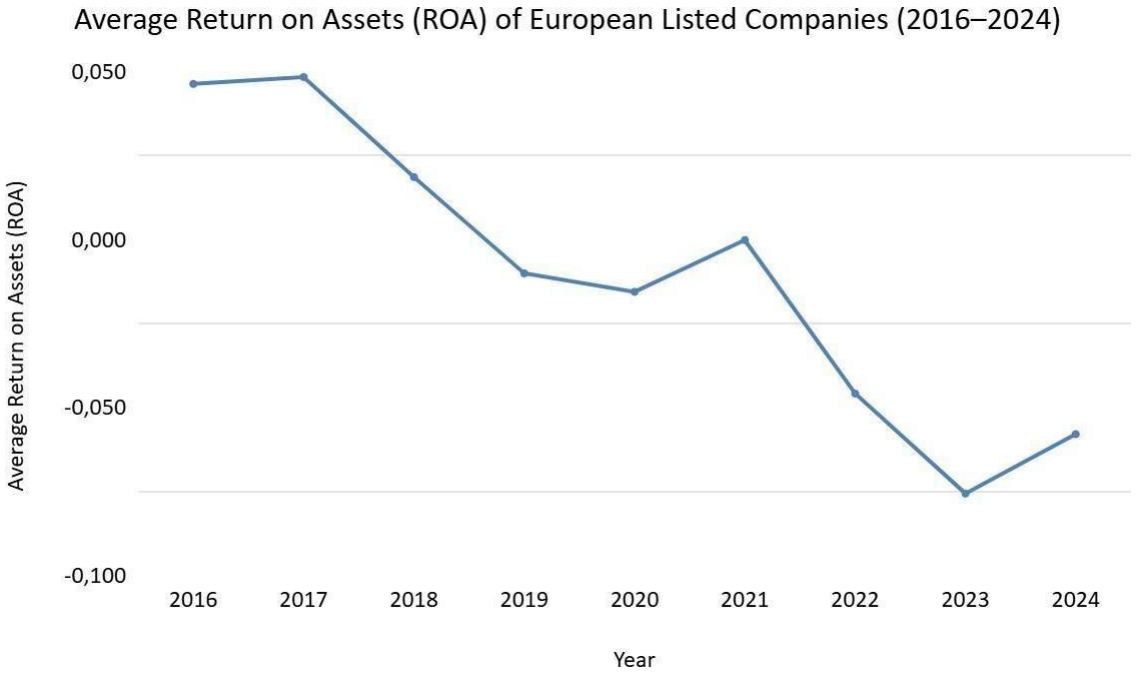

Figure 5. Average Return on Assets (ROA) of European Listed Companies (2016–2024)

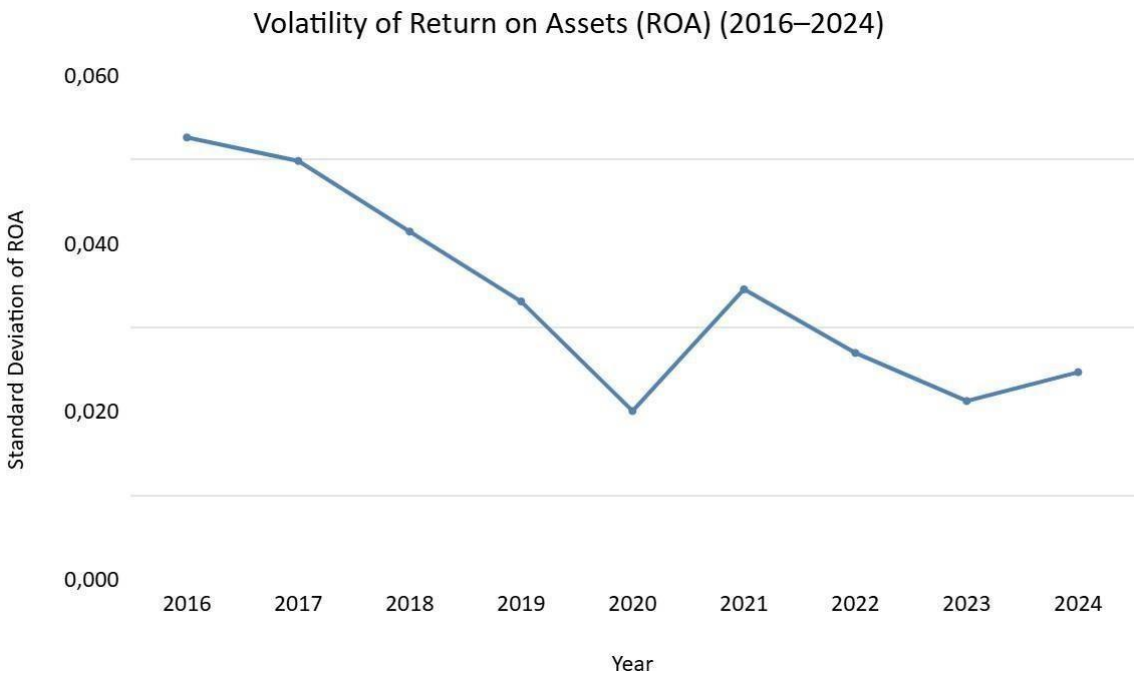

Figure 6. Volatility of Return on Assets (ROA) (2016–2024)

Although the median fluctuated within a narrow range between 0.020 and 0.041 in the early years and fell to values close to zero in the most recent period, it generally remained above the average, unlike ROE. This indicates a left-skewed distribution: most companies show profitability levels close to zero or slightly positive, while a significant proportion record significant losses that drag down the average value. This evidence is confirmed by the minimum values, which are negative in all years and range from approximately –2.1 to –3.3, indicating the presence of companies in marked economic difficulty.

The standard deviations, ranging from 0.020 to 0.045, describe a downward trend in ROA volatility from 2016 to 2020, consistent with a phase of relative stabilisation in operating results, followed by a new increase in the two-year period 2022–2023, corresponding to increased cost pressures, geopolitical instability and tighter financial conditions. Figure 5 clearly highlights the transition from a phase of moderately positive profitability to a structurally negative phase, while Figure 6 shows how the dispersion of results narrows in the first part of the period and then widens again, signalling an increase in the divergences between more and less resilient companies. Overall, the ROA profile suggests a gradual

deterioration in asset efficiency, which is an important contextual element for interpreting the payout decisions analysed in the following paragraphs.

Financial leverage, measured by the debt-to-equity ratio, is a key indicator for assessing the financial structure of companies and their use of debt leverage. The financial literature highlights how higher levels of leverage can influence dividend policy through multiple channels: contractual constraints imposed by creditors, increased risk of insolvency, reduced available liquidity and a preference for profit retention policies. Descriptive analysis allows us to observe the evolution of the average level of indebtedness of European companies in the period 2016–2024 and its variability over time.

Table 4. Financial Leverage (Debt-to-Equity Ratio) – Descriptive statistics (2016–2024)
(winsorised at the 1st and 99th percentiles)

Year	Average	Median	Std. Dev.	Min	Max
2016	0.24	0.04	0.57	-1.15	2.18
2017	0.19	0.03	0.50	-1.02	2.19
2018	0.23	0.04	0.62	-1.18	2.80
2019	0.25	0.03	0.64	-0.94	2.58
2020	0.30	0.05	0.66	-1.29	2.21
2021	0.44	0.06	0.95	-1.95	2.82
2022	0.49	0.06	0.95	-2.09	2.56
2023	0.62	0.08	1.03	-1.55	2.57
2024	0.78	0.11	1.20	-1.49	2.83

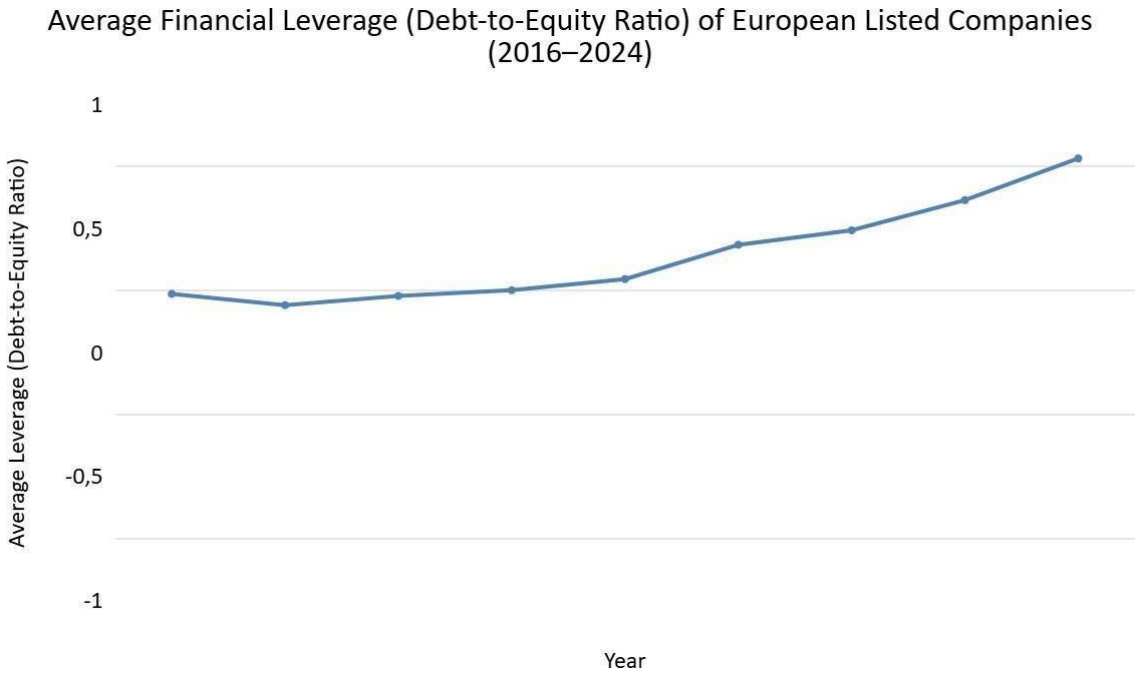

Figure 7. Average Financial Leverage (Debt-to-Equity Ratio) of European Listed Companies (2016–2024)

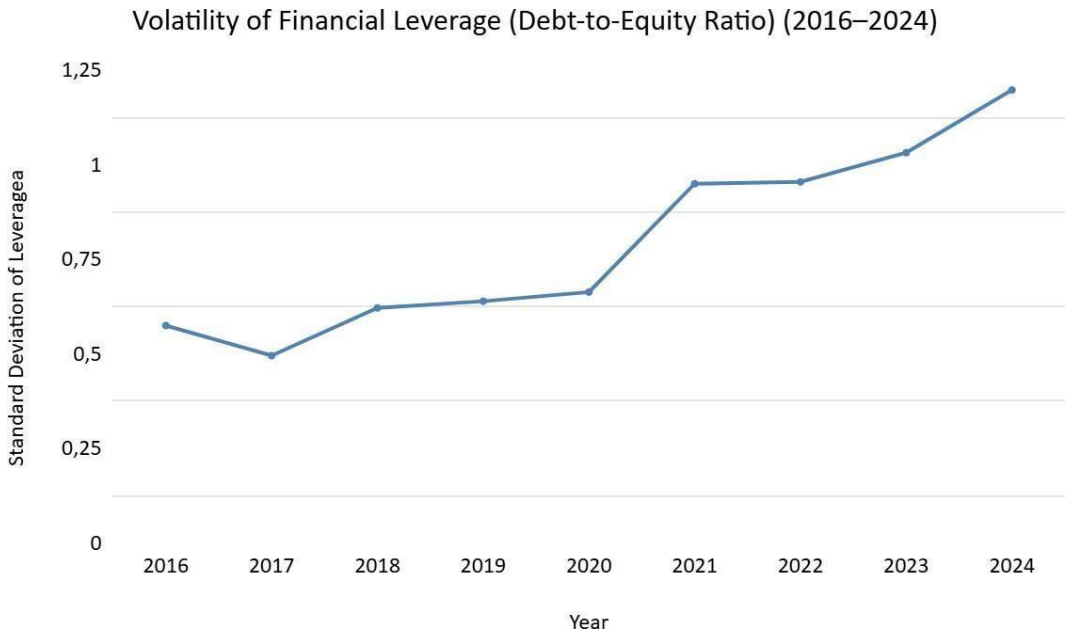

Figure 8. Volatility of Financial Leverage (Debt-to-Equity Ratio) (2016–2024)

Table 4 shows a clear upward trend in average leverage: from 0.24 in 2016 to 0.78 in 2024. The years 2017–2019 show stable values (between 0.19 and 0.30), consistent with a phase of economic expansion characterised by favourable credit conditions and greater availability of equity capital. Starting in 2020, coinciding with the pandemic and the increased need for external financing, leverage shows a more marked increase, reaching 0.62 in 2022 and 0.78 in 2024. This trend signals a growing reliance on debt by companies, probably linked to lower profits, the need to maintain operating liquidity and tighter macroeconomic conditions. The median, which is consistently lower than the average (between 0.03 and 0.11), indicates an asymmetric distribution to the right: most companies maintain low levels of debt, while a smaller proportion have significantly higher values, leading to an increase in the average value. This pattern is typical of European markets, where the financial structure varies greatly between capital-intensive sectors and sectors that are less dependent on debt.

The standard deviation provides further information on the dispersion of values: it gradually increases from 0.57 in 2016 to 1.20 in 2024, signalling an increase in the variability of debt levels among companies. This trend is confirmed by Figure 8, which shows greater volatility, especially in the post-pandemic period, consistent with the heterogeneity of the financing strategies adopted to cope with the different sectoral impacts. The extreme values are also very wide: the minimums remain negative in all years, reflecting situations where net equity is eroded or negative, while the maximums exceed 2.5 in several years, indicating highly indebted companies.

Figure 7 visually confirms the upward trend in average leverage, especially since 2020. The increase observed in the final four-year period suggests a structural change in the financial composition of the sample, likely influenced by adverse macroeconomic conditions, variable capital costs and greater reluctance on the part of investors to provide new equity.

Overall, the leverage variable highlights three key elements:

- a significant increase in the use of debt during the period analysed;
- a highly asymmetric distribution, with many companies characterised by low leverage and a minority by high leverage;

- an increase in volatility, reflecting the widening of structural differences in the financing patterns of European companies. These findings play an important role in the following sections, as leverage is traditionally considered one of the main negative determinants of dividend payout.

Company size, measured by the natural logarithm of total assets, is a key indicator for understanding the economic and operational structure of companies. In the literature, firm size is frequently associated with financial stability, access to credit, operational diversification and a greater propensity to maintain regular dividend policies. An analysis of its evolution over the period 2016–2024 allows us to assess how the size structure of the sample has developed in response to economic changes and macro-financial cycles.

Table 5. Firm Size (ln Total Assets) – Descriptive statistics (2016–2024)
(winsorised at the 1st and 99th percentiles)

Year	Mean	Median	Std. Dev.	Min	Max
2016	12.37	12.29	2.64	0	22.14
2017	12.42	12.35	2.55	0	22.17
2018	12.44	12.37	2.55	1.79	22.25
2019	12.45	12.39	2.62	0.69	22.36
2020	12.48	12.39	2.58	2.20	22.43
2021	12.59	12.50	2.56	0.69	22.60
2022	12.62	12.51	2.62	0	22.80
2023	12.62	12.54	2.65	0	22.76

2024	12.70	12.65	2.63	0	22.86

Figure 9. Average Firm Size (ln Total Assets) of European Listed Companies (2016–2024)

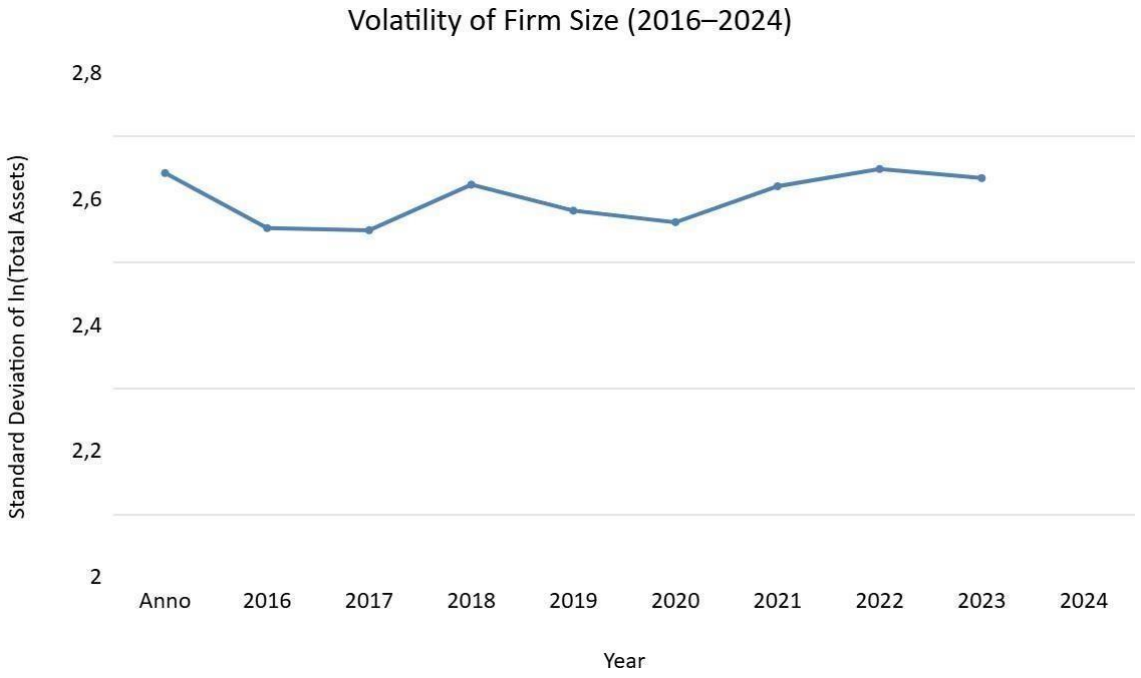

Figure 10. Volatility of Firm Size (ln Total Assets) (2016–2024)

The data in Table 5 show steady growth in the average size of European companies. The average rises from 12.37 in 2016 to 12.70 in 2024, while the median follows a similar trend, increasing from 12.29 to 12.65. This progression suggests a gradual expansion of the active base of listed companies, consistent with growth models for acquisitions, geographical expansion, increased production capacity and inflationary dynamics on asset values. The relatively uniform trend over time indicates that this process was widespread across the sample, rather than concentrated in a small number of companies.

The standard deviation remains stable between 2.50 and 2.65 for most of the period, as shown in Figure 10. This suggests moderate variability in company size, with a dispersion that reflects the coexistence in the sample of very large companies and smaller companies, without, however, recording significant widening of the differences over the years. The slight increase in volatility in the two-year period 2021–2023 can be interpreted as the effect of divergent strategies in the post-pandemic phase: some companies expanded their scope through investments and acquisitions, while others downsized their assets to contain risks.

Figure 9 confirms the progressive growth trend in average size. The most noticeable increase occurs in the period 2020–2022, when the average steadily exceeds 12.50. This trend may reflect both the recovery in investment after the pandemic crisis and the increase in the book value of assets due to inflationary effects and revaluations. It is also consistent with empirical

evidence that larger companies tend to weather periods of instability better, maintaining or expanding their invested capital.

Overall, the Firm Size analysis highlights three key elements:

- steady growth in the average size of European companies;
- relatively stable dispersion, indicating a balance between large and small firms in the sample;
- a slight increase in volatility in recent years, which can be linked to uneven corporate strategies in the post-crisis phase.

These characteristics are relevant because company size is one of the main structural factors associated with the propensity to distribute dividends, as confirmed by the literature on payout policy.

The Market-to-Book Ratio (M/B) is an important indicator for assessing the growth opportunities perceived by investors, as it reflects the ratio between the market value of equity and the book value of equity. In the literature on dividend policy, a high M/B is generally associated with companies with greater growth prospects which, in line with the Pecking Order Theory and investment models, tend to retain earnings to finance new projects internally. A descriptive analysis of M/B values over the period 2016–2024 shows how these expectations have changed over time for listed European companies.

Table 6. Market-to-Book Ratio – Descriptive statistics (2016–2024)

(winsorised at the 1st and 99th percentiles)

Year	Average	Median	Std. Dev.	Min	Max
2016	8.94	3.72	8.53	0	19.58
2017	13.27	3.33	14.89	0	33.75
2018	8.35	2.54	9.24	0.12	21.69
2019	9.16	2.61	10.60	0.12	25.10

2020	11.89	2.75	14.84	0.15	35.36
2021	13.01	2.59	19.15	0.14	49.23
2022	7.89	1.83	11.76	0	31.40
2023	5.55	1.69	7.86	0	22.35
2024	5.41	1.62	7.46	0	20.64

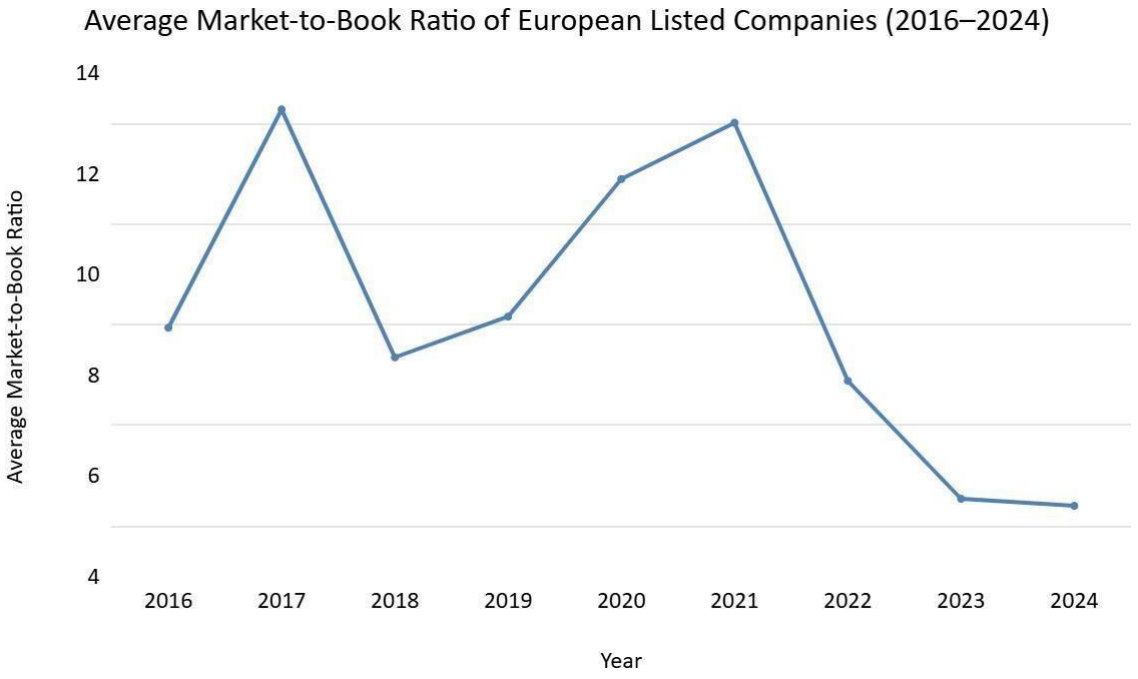

Figure 11. Average Market-to-Book Ratio of European Listed Companies (2016–2024)

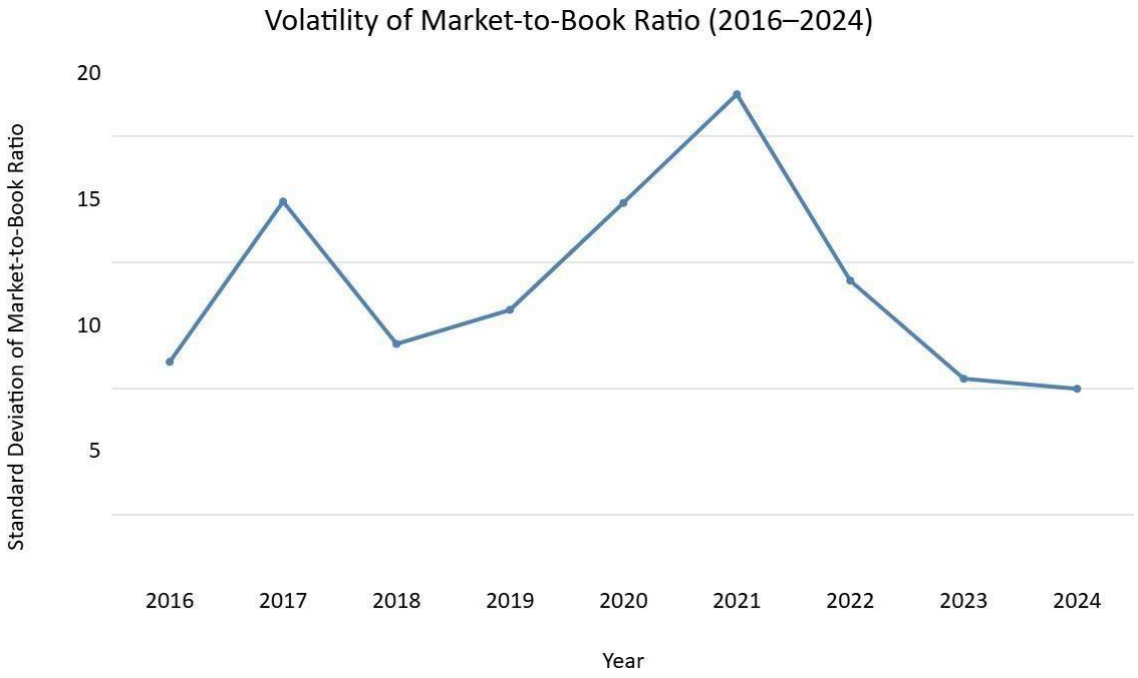

Figure 12. Volatility of Market-to-Book Ratio (2016–2024)

Table 6 shows a highly variable trend in the average Market-to-Book Ratio. After a value of 8.94 in 2016, the indicator reached a significant peak in 2017 (13.27), reflecting an economic environment characterised by high confidence in European financial markets. This was followed by a period of decline in 2018 (8.35), contrasted by a new increase in the period 2019– 2021, when the average M/B returned to above 11, culminating in a value of 13.01 in 2021. This increase can be attributed both to favourable market conditions linked to the post-pandemic recovery and to expansionary monetary policies that supported the market value of companies.

Starting in 2022, there is a sharp reversal in the trend: the average value falls to 7.89, then declines further to 5.54 in 2023 and 5.40 in 2024. This trend reflects a significant deterioration in growth expectations, influenced by rising interest rates, inflation, geopolitical tensions and higher energy and financial costs. The median, which is consistently lower than the average, indicates a marked asymmetry to the right, signalling that a limited number of companies with particularly high market valuations are raising the overall average value.

The extremes confirm the heterogeneity of the sample: the maximum values often exceed 20,

reaching 49.22 in 2021, highlighting that in some years a portion of companies benefited from exceptionally positive market expectations. The standard deviation, shown in Figure 12, follows a similar pattern: it increases significantly during periods of expansion (2017, 2021), reaching values above 15 and 18, and then falls sharply in the following three years. This suggests that, in addition to the general decline in market valuations, there has been a narrowing of the differences between companies, consistent with a context in which the market has generally scaled back its growth expectations.

Figure 11 visually confirms this trend: an initial phase of high variability, followed by a downward stabilisation. This profile highlights how investors' perceptions of the future prospects of European companies were subject to structural changes during the period under review. Overall, the analysis of the market-to-book ratio shows three significant elements:

(1) high volatility in periods of strong financial optimism;
(2) a significant reduction in market valuations since 2022;
(3) a compression of the dispersion between companies in recent years, indicating more cautious and uniform expectations.

These aspects are particularly important in interpreting the relationship between growth opportunities and dividend policy presented in the following paragraphs.

The current ratio is a fundamental measure of corporate liquidity, as it expresses the ability of companies to meet their short-term obligations using current assets. This indicator is closely linked to short-term financial strength and, in the literature on dividend policy, is frequently interpreted as a potential facilitator or constraint on profit distribution: higher levels of liquidity can support stable or more generous payments, while reduced liquidity can lead companies to retain resources.

Table 7. Current Ratio – Descriptive statistics (2016–2024)

(winsorised at the 1st and 99th percentiles)

Year	Average	Median	Std. Dev.	Min	Max
2016	10.30	1.87	14.47	0.09	35.75

2017	9.18	1.84	13.76	0.09	36.05
2018	6.66	1.67	10.53	0.09	30.54
2019	6.12	1.55	11.10	0.06	35.62
2020	5.43	1.59	10.28	0.07	37.27
2021	5.39	1.61	11.54	0.12	49.31
2022	3.76	1.53	7.33	0.09	35.75
2023	3.04	1.47	5.37	0.07	27.88
2024	4.30	1.47	9.15	0.06	39.79

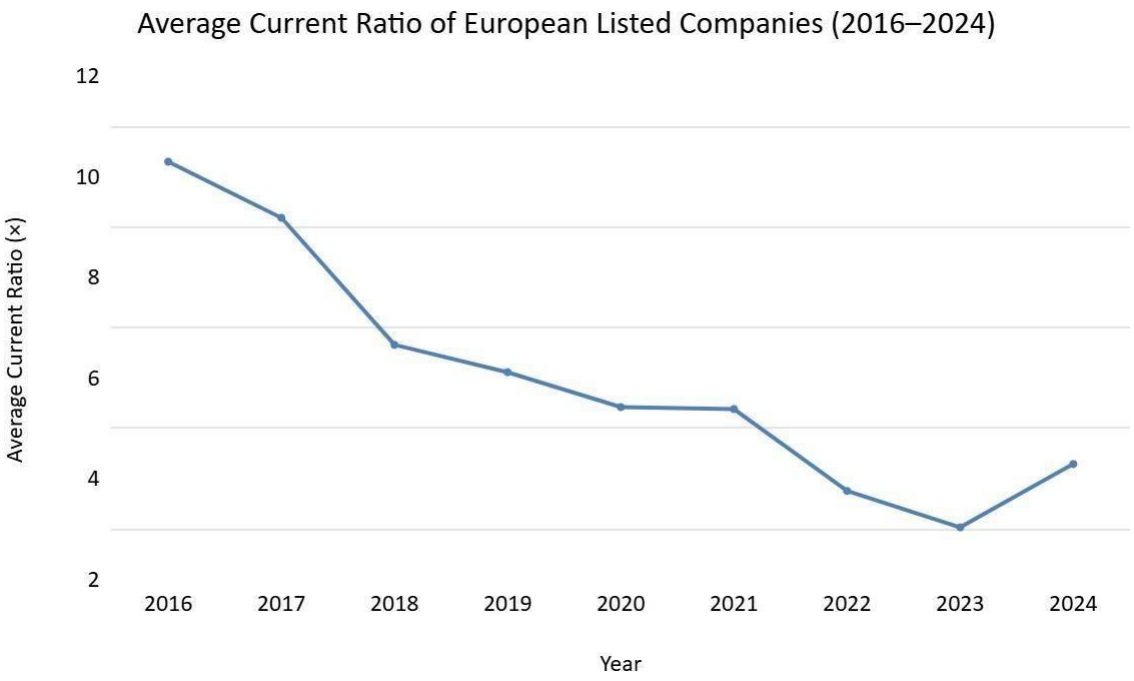

Figure 13. Average Current Ratio of European Listed Companies (2016–2024)

Figure 14. Volatility of Current Ratio (2016–2024)

The values shown in Table 7 show a clear and marked decrease in the Current Ratio over the period 2016–2024. The average falls from 10.30 in 2016 to 4.29 in 2024, with a monotonically decreasing trend that becomes more pronounced after 2019. This trend suggests a gradual reduction in the cash reserves of European companies, probably influenced by an increase in operating costs, margin erosion and the tightening of financial conditions observed in recent years. The low point is recorded in 2023 (3.04), a particularly critical year for European markets due to inflationary pressures and rising interest rates, which have impacted both working capital and refinancing costs.

The median follows a similar pattern, falling from 1.875 in 2016 to 1.474 in 2024, confirming that the reduction in liquidity is widespread across most companies, not just at the extremes. The difference between the mean and the median indicates a positive asymmetric distribution: a small proportion of companies maintain very high levels of liquidity, while most have lower values. This is consistent with the structure of European markets, where specific sectors (e.g. technology, pharmaceuticals) may have significantly higher levels of liquidity than others.

The volatility of the Current Ratio (Figure 14) shows an equally interesting profile. The standard deviation is very high in 2016–2017 (between 13.7 and 14.5), reflecting strong heterogeneity among companies. Starting in 2018, there is a downward trend in volatility,

with a low point in 2023 (5.37), indicating greater convergence in liquidity levels in the sample. In 2024, volatility rises again (9.15), suggesting a differentiation in working capital management strategies in the adjustment phase following the inflationary crisis.

Figure 13 confirms the downward trend in average liquidity, with a reversal in 2024, when a partial improvement is observed compared to the low point in 2023. This rebound is consistent with the first signs of easing macroeconomic conditions and a possible rebuilding of inventories by European companies.

Overall, the evolution of the current ratio suggests three key elements:

- a gradual contraction in liquidity over the period 2016–2024;
- a reduction in dispersion among companies until 2023, with a subsequent increase in the last year;
- significant implications for dividend policy, as lower liquidity levels make high or stable payout policies less sustainable, reinforcing the role of liquidity as an operational constraint in the short term.

4.2 Correlation matrix (dividends vs ROE, leverage, etc.)

Before proceeding with the estimation of the panel model described in Chapter 3, it is necessary to verify the adequacy of the dataset and the variables used by analysing the correlation between regressors and assessing multicollinearity. This step is an essential methodological phase to ensure that the econometric results are reliable and that the estimated coefficients are not distorted by the presence of excessively strong linear relationships between independent variables.

The entire process was conducted using the Orbis dataset containing annual financial information on listed European companies. Originally, the database had a theoretical maximum of 3,499 companies × 9 years = 31,491 possible observations, equal to the number of companies for each year from 2016 to 2024. However, as is often the case with multi-country financial datasets, the actual availability of data was uneven. Some companies lacked complete information for some of the key variables in the model (in particular Size, i.e. the logarithm of total assets, and DPR, Dividend Payout Ratio), with missing or inconsistent values.

The preliminary operation required was therefore to clean the dataset, which was carried out according to the criteria established in Chapter 3. To this end:

1) All observations in which Size was missing were eliminated.

This variable, being constructed from the logarithm of total assets, cannot take on zero or missing values. Companies lacking this information are therefore not compatible with the model.

2) Observations in which DPR_w was equal to zero for structural reasons were removed, i.e. in cases where the DPR value cannot be calculated because the company does not have distributed dividends and/or available profits (empty cells in the original variable).

These observations do not represent true zero payouts, but rather unavailable data (*not distributed/not reported*).

3) The ROE, ROA, Leverage, MTB and Current Ratio variables were retained only when all the required components were present.

Following these operations, the final dataset used for the empirical analyses consists of 22,670 valid observations, distributed over the period 2016–2024. This number ensures high statistical power and the possibility of estimating panel models with individual and temporal controls, as required by the methodology.

Once the dataset was consolidated, the correlation matrix between the dependent variable (DPR_w) and the regressors was calculated. The following table shows Pearson's correlation coefficients for the entire sample.

Table 8 - Correlation matrix

	DPR_w	ROE_w	ROA_w	Leverage_w	Size	MTB_w	Current Ratio_w
DPR_w	1.0000	-0.2832	-0.4852	0.0742	-0.3249	0.1125	0.0850
ROE_w	-0.2832	1.0000	0.2984	-0.0326	-0.0326	0.0077	0.0077

ROA_w	-0.4852	0.2984	1.0000	-0.0643	0.3931	-0.2061	-0.0043
Leverage_w	0.0742	-0.0326	-0.0643	1.0000	-0.1162	0.1007	0.0393
Size	-0.3249	0.1401	0.3931	-0.1162	1.0000	-0.3045	-0.1765
MTB_w	0.1125	0.0077	-0.2061	0.1007	-0.3045	1.0000	0.0425
Current Ratio_w	0.0850	-0.0267	-0.0043	0.0393	-0.1765	0.0425	1.0000

The correlation structure shows, first of all, that none of the variables has excessively high linear relationships, which is a necessary condition for estimating a stable panel model. In particular, the highest coefficient between two explanatory variables is 0.3938 (Size–ROA_w), a value well below the critical threshold of 0.80 commonly used to identify risks of severe multicollinearity.

The negative correlation between DPR_w and profitability indicators (in particular ROA_w with –0.4852) is of economic interest. Although theory generally suggests a positive relationship between profitability and payout, in the European sample observed, the most profitable companies tend to distribute a smaller share of profits. This behaviour is consistent with an approach geared towards retention and reinvestment, typical of companies with active investment projects or more pronounced growth strategies. The evidence is particularly relevant as it suggests that payout does not necessarily represent a signal of current performance in the European context, but may reflect long-term strategic choices.

The relationship between DPR_w and Leverage_w shows a very low and positive coefficient (0.0745). Since the agency theory between debt and dividends predicts that higher debt may reduce the financial flexibility available for distribution, a negative coefficient would be expected. The evidence observed indicates, however, that, in the sample, the level of debt is not a significant driver of dividend policy in simple linear terms. This element will be explored in more depth in the econometric regression, where simultaneous control of other variables will improve the identification of effects.

With regard to company size, the negative coefficient (-0.3244) suggests that larger companies adopt relatively more conservative payout policies. This could be attributed to

the greater propensity of large companies to undertake complex investments or maintain financial reserves to support operational stability, thereby reducing the relative payout.

Finally, growth opportunities (MTB_w) and liquidity (CurrentRatio_w) show weak and positive correlations with payout. Although the coefficients are small, their sign appears consistent with the idea that companies with greater available resources or greater market confidence have more room to support regular distributions.

In order to verify the stability of the econometric estimates, the Variance Inflation Factor (VIF) was calculated for each regressor. The resulting values are extremely low (all between 1.01 and 1.31), confirming the absence of multicollinearity problems in the model.

The VIFs used are as follows:

Table 9 - Variance Inflation Factors (VIF) of the explanatory variables included in the model

Variable	VIF
ROE_w	1.1070
ROA_w	1.2989
Leverage_w	1.0195
Size	1.3148
MTB_w	1.1261
Current Ratio_w	1.0385

Such low values indicate that each regressor makes an independent contribution to the model and that the coefficient estimates are not subject to instability due to collinearity between independent variables. This confirms the robustness of the specification adopted in Chapter 3 and allows us to proceed with the estimation of the panel models without the need for further transformations or dimensional reductions.

4.3 Regression results

The panel model is estimated using the methodology defined in Chapter 3, with the aim of analysing the relationship between dividend policy and the economic and financial characteristics of European listed companies in the period 2016–2024. The regressions use the winsorised Dividend Payout Ratio (DPR_w) as the dependent variable, constructed to mitigate the impact of extreme values, and include the variables ROE_w, ROA_w, Leverage_w, Size, MTB_w and CurrentRatio_w as regressors. All estimates adopt robust standard errors clustered at the company level in order to correct for the heteroscedasticity and serial dependence of the residuals typical of financial panels.

The estimation strategy follows the standard sequence in the literature: pooled OLS, random effects (RE) model and fixed effects (FE) model, followed by the application of the Hausman test to identify the most appropriate specification. All models include annual fixed effects, which allow for control for common macroeconomic shocks and cyclical variations that could simultaneously affect the payout of all firms.

Pooled OLS is the starting point and provides an initial descriptive assessment of the relationship between DPR_w and the regressors. The coefficients obtained are consistent in sign with the correlations discussed in the previous paragraph; however, the model does not control unobserved heterogeneity between firms and is therefore not suitable for structural inferences.

The random effects (RE) model introduces an unobserved individual component, assuming that it is not correlated with the explanatory variables. The model is highly significant, and the estimated coefficients show stability and consistency in both sign and statistical significance. In particular, ROE_w and ROA_w maintain negative and highly significant coefficients, while Size has a negative effect of high magnitude. MTB_w and CurrentRatio_w show a positive relationship with payout, consistent with the dynamics observed in European listed companies. Overall, the RE model returns plausible coefficients in line with the evidence from empirical literature.

The fixed effects (FE) model, estimated with firm and year fixed effects and clustered standard errors, allows us to control for all invariant characteristics of the firms, focusing on intra-unit variations. The FE results are qualitatively similar to those of the RE model, albeit with slight differences in magnitude. However, the choice between FE and RE cannot be

based on coefficients alone, but requires a formal assessment using the Hausman test.

The application of the Hausman test, carried out by comparing the coefficients and variance-covariance matrices of FE and RE, returns a statistic of 2.264 with 6 degrees of freedom and a p-value of 0.894. Since the p-value is well above the conventional threshold of 5%, the null hypothesis that the differences between the two models are not systematic cannot be rejected. It follows that the random effects model with annual fixed effects is the preferred specification, as it provides consistent and efficient estimates and respects the identification assumptions required by the test.

This result is consistent with the empirical literature on large and deep financial panels, where variability across firms represents relevant information and is not necessarily correlated with all the regressors included in the model. The choice of the RE model also allows the coefficients to be interpreted as average effects across firms, capturing both cross-sectional variability and time dynamics purified from macroeconomic shocks.

Overall, the results show that the dividend policy of European companies is negatively influenced by profitability (ROE_w and ROA_w) and company size, while it is positively associated with liquidity (CurrentRatio_w) and growth opportunities (MTB_w). Financial leverage also has a positive and significant coefficient in the RE model, suggesting that years characterised by higher debt are associated with higher payouts—contrary to what classical theory suggests, but consistent with some European evidence that interprets payouts as a sign of stability even in the presence of higher leverage. Econometric evidence confirms the preliminary patterns and reinforces the robustness of the inferences presented in the following paragraphs, based on the random effects model with year fixed effects.

Table 10 - Panel regression results (dependent variable: DPR_w)

Notes: robust standard errors clustered by company in brackets.

**** p < 0.01, ** p < 0.05.*

Variable	**(1) Pooled OLSYear FE**	**(2) Random EffectsYear FE**	**(3) Fixed Effects Two-Way FE**
ROE_w	−0.610*** (0.0524)	−0.587*** (0.0528)	−0.559*** (0.0560)

ROA_w	−2.656*** (0.2300)	−2.423*** (0.2380)	−2.255*** (0.2630)
Leverage_w	0.137*** (0.0422)	0.152*** (0.0411)	0.163*** (0.0400)
Size (ln Assets)	−0.327*** (0.0214)	−0.331*** (0.0215)	−0.338*** (0.0220)
MTB_w	0.0120*** (0.00379)	0.0102*** (0.00374)	0.0080** (0.00360)
CurrentRatio_w	0.0431*** (0.0105)	0.0335*** (0.00710)	0.0294*** (0.00730)
No. of observations	22,670	22,670	22,670
No. of companies	–	338	338
R^2	0.354 (overall)	0.332 (overall)	0.255 (within)
Global test	F = 414.9***	Wald χ^2 = 870.5***	F = 183.3***
Firm FE	No	No	Yes
Year FE	Yes	Yes	Yes
Cluster (SE)	Firm_ID	Firm_ID	Firm_ID
Hausman	–	$\chi^2(6) = 2.264$ (p = 0.894)	–

4.4 Discussion and interpretation

The econometric analysis conducted in 4.3 allowed us to rigorously quantify the relationship between dividend policy and the economic and financial fundamentals of European listed companies in the period 2016–2024. The discussion of the results now requires integration with the theoretical framework developed in the previous chapters and with the descriptive evidence

analysed in the initial part of Chapter 4. In this section, the coefficients of the preferred model (Random Effects with year fixed effects) are interpreted, consistency with the theoretical hypotheses formulated in Chapter 3 is assessed, and the robustness of the conclusions is discussed through alternative measures of payout policy.

The most significant outcome of the Hausman test is that the random effects model is consistent and efficient for this dataset, as the differences compared to the fixed effects model are not statistically systematic. This result allows the RE model coefficients to be interpreted as a combination of information across firms and over time, while maintaining control for macroeconomic shocks through annual fixed effects. This methodological choice is particularly appropriate in a pan-European context characterised by strong sectoral and regulatory heterogeneity, where companies differ not only in terms of structural characteristics but also in terms of their evolution over time in response to economic cycles, financial tensions and market conditions.

Within this framework, the RE model provides a clear and consistent profile of the variables affecting the Dividend Payout Ratio (DPR_w). The profitability coefficients (ROE_w and ROA_w) are negative and highly significant, suggesting that, in the sample considered, more profitable firms tend to distribute a lower share of profits. This evidence, which appears to contradict the classic assumptions of dividend theory, which predict a positive link between profits and payouts, is confirmed by the descriptive results in 4.1, where a contraction in payout levels was observed against a backdrop of uneven profitability dynamics. The tendency of highly profitable companies to retain profits may reflect self-financing strategies, reinvestment needs or regulatory constraints in more capital-intensive sectors.

The relationship between financial leverage and payout is positive and significant. Companies with higher levels of debt show higher payouts, a result that reverses the theoretical prediction that greater financial exposure should encourage profit retention policies to reduce the risk of insolvency. In the European context, however, this sign may reflect the presence of more stable financial relationships between companies and creditors, the use of dividends as a sign of solidity in periods of higher leverage, or a reverse causality dynamic in which companies with higher payouts resort more to debt to balance their financial needs.

The coefficient relating to company size, calculated as the logarithm of total assets, is negative and highly significant, indicating that larger companies tend to distribute a smaller

share of their profits. This result also confirms a pattern observed in 4.2 and suggests that, in the period considered, larger companies favoured prudent capital accumulation policies, perhaps in response to macroeconomic uncertainty and post-pandemic regulatory pressures. Growth opportunities, measured by the market-to-book ratio, are positively correlated with payout, although the coefficient is modest. The positive sign is an exception to the theory that companies with high growth opportunities tend to reinvest profits rather than distribute them. This may reflect specific sector dynamics or a different use of payout as a quality signal in European financial markets.

Finally, the coefficient relating to the Current Ratio is positive and significant: greater balance sheet liquidity is associated with a higher payout. This is the only result that is fully consistent with traditional financial theory, which sees liquidity as an essential prerequisite for supporting stable and predictable distribution policies.

Table 11 – Random Effects Regression with Year Fixed Effects (Dependent Variable: DPR_w)

Note: DPR_w= Dividend Payout Ratio winsorised at the 1st and 99th percentiles.

Variable	**Coefficient**	**Robust Std. Error**	**z-stat**	**p-value**
ROE_w	−0.5870	0.0528	−11.11	<0.001
ROA_w	−2.4230	0.2380	−10.18	<0.001
Leverage_w	+0.1520	0.0411	3.70	0.00021
Size	−0.3310	0.0215	−15.40	<0.001
MTB_w	+0.0102	0.00374	2.72	0.0065
Current Ratio_w	+0.0335	0.0071	4.71	<0.001
Constant	7.2200	—	—	—

Model statistics:

- **Observations: 22,670**
- Number of firms: **338**
- Years: 2016–2024
- R^2 (overall): ≈ **0.332**
- Wald χ^2: ≈ **870.5** ($p < 0.001$)
- Specification: **Random Effects + Year Fixed Effects**, firm-clustered robust standard errors

The empirical evidence obtained from the Random Effects model with correction for clustering and annual controls allows us to interpret the relationship between dividend policy and the economic and financial characteristics of European companies in a coherent framework, albeit one that diverges somewhat from the classical literature. The aim of this section is to systematically discuss the sign, significance and economic meaning of the estimated coefficients, relating them both to the theoretical hypotheses formulated in Chapter 3 and to the results of the robustness checks developed below.

The coefficients associated with profitability measures (ROE_w and ROA_w) are negative and highly significant. This result contradicts the traditional theoretical expectation that more profitable companies would tend to distribute a larger share of their profits. In the European context analysed, however, the evidence suggests that increases in profitability are associated with a lower level of payout. A plausible interpretation lies in the greater propensity of profitable companies to retain resources to support future investments, internal financing or consolidation strategies, especially in capital-intensive sectors. This results in behaviour closer to the *pecking order* principle, in which self-financing prevails over profit distribution. The Leverage_w variable has a positive and statistically significant coefficient, in contrast to the traditional hypothesis that higher levels of debt should reduce the scope for dividend distribution. The observed result can be interpreted in light of two dynamics: on the one hand, more indebted companies may maintain a relatively stable payout as a sign of reliability to investors; on the other hand, the positive link may reflect the presence of target financial structures, in which dividends represent a tool for financial discipline rather than a constraint. This is a significant result because it deviates from the literature and requires

contextual reflection, which will be explored in more detail in the chapter's conclusions. Company size also has a negative coefficient, which is highly intense and statistically significant. This result contrasts with the more widespread view that large companies, being more mature and stable, tend to distribute more generous dividends. In the European sample, however, larger companies seem to prefer more conservative retention policies. This result can be interpreted in relation to the sectoral composition of the sample: large companies in industrial, technological or infrastructure sectors may adopt prudent reinvestment policies, considering the internal allocation of resources to be more efficient than distribution.

Conversely, the Market-to-Book ratio (MTB_w), which represents a measure of growth opportunities, shows a positive coefficient, albeit a small one. This suggests that, in periods when market value reflects greater growth prospects, European companies tend not to reduce their payout, but rather to maintain or slightly increase it. This behaviour, which is not in line with classical predictions, could be interpreted as a strategy to signal the company's solidity to the market: maintaining a stable or growing dividend helps to sustain investor confidence even in periods of expansion.

Finally, current liquidity (CurrentRatio_w) is positively and significantly associated with payout, in line with the theoretical hypothesis that companies with greater liquidity have a greater capacity to distribute profits. This is the only result that is fully consistent with traditional literature, confirming that liquidity is a key element in supporting regular payout policies.

Overall, the results show a complex picture that is, in part, counterintuitive to the initial hypotheses. Recent literature on dividend policy in European companies recognises the presence of non-uniform behaviour, influenced by sector structure, the macroeconomic context and investment strategies. In line with this evidence, the model estimated in this paper indicates that profitability, size and growth opportunities influence dividend policy in ways that are not always predictable on the basis of classical theory, while liquidity and, to some extent, financial leverage play a role more consistent with expectations.

These findings are further confirmed by the robustness checks presented in the following paragraphs, which help to reinforce the overall interpretation.

The interpretation of the coefficients of the main model can be further explored through direct comparison with the theoretical hypotheses formulated in Chapter 3. Hypotheses H1– H6 predicted specific directions of the relationships between payout and economic and

financial variables; the empirical results now allow us to verify whether these predictions are confirmed or refuted.

H1 – Positive relationship between ROE and payout. The hypothesis is not supported by the data. The ROE_w coefficient is negative and highly significant, indicating that, in periods when the same company records higher levels of accounting profitability, the payout tends to decrease. This result is systematic, consistent between pooled, FE and RE, and is also confirmed by the preliminary correlation analysis. The deviation from theory may reflect conservative reinvestment policies, which are particularly common among European companies characterised by self-financing strategies.

H2 – Positive relationship between ROA and payout. This hypothesis also finds little empirical support. The ROA_w coefficient is negative and significant, indicating that operating profitability is associated with a lower payout level. This suggests that internal resource allocation prevails over profit distribution, consistent with corporate finance models that favour financial self-sufficiency over shareholder remuneration policies.

H3 – Negative relationship between leverage and payout. Empirical evidence contradicts H3. The Leverage_w coefficient is positive and significant in the RE model, indicating that an increase in financial leverage is associated, in individual periods, with a slightly higher payout. Although counterintuitive, the result is consistent with a possible signalling role towards investors and creditors, as well as with the presence of target financial structure policies. The consistency of the sign across specifications suggests that this behaviour is indeed relevant in the sample considered.

H4 – Positive relationship between size and payout. This hypothesis is also rejected by the data. Firm size has a negative and highly significant relationship with payout, indicating that larger firms distribute a smaller share of profits. This result, observed in both the main model and the preliminary correlations, reflects the presence of reinvestment policies prevalent among large firms, or a sectoral composition of the sample particularly oriented towards capital-intensive firms that adopt conservative strategies.

H5 – Negative relationship between MTB and payout. The hypothesis is partially contradicted: the MTB_w coefficient is positive and significant, albeit small. Companies with greater growth opportunities do not seem to reduce payouts but, on the contrary, keep them slightly higher. One possible interpretation lies in the signalling function of dividends: maintaining stable distributions could be perceived by investors as an indicator of solidity, even in contexts of expansion.

H6 – Positive relationship between liquidity and payout. The hypothesis is fully confirmed. CurrentRatio_w has a positive and significant coefficient, indicating that greater liquidity is associated with a greater ability to distribute profits. This result is consistent with the literature and with the financial constraints typical of European companies, in which the immediate availability of resources is a crucial determinant of payout policies.

Overall, the results highlight a complex relational structure, often diverging from traditional theoretical predictions. Recent literature has in fact emphasised how dividend policy in European companies is influenced by self-financing constraints, sectoral structure, corporate governance dynamics and macroeconomic conditions. The results of the RE model reinforce this view, showing non-uniform patterns that require interpretative caution and contextual analysis.

Table 12 — Robustness Check: Model A (Dividends / Total Assets)

Linear regression with year fixed effects and firm-clustered robust standard errors (N = 15,659 firm-year observations; Firms = 323; Years = 2016–2024)

Variable	Coefficient	Robust SE	p-value
ROE_w	62.964	127.620	0.622
ROA_w	980,514	1,105,804	0.375
Leverage_w	–25,115	31,913	0.431

Variable	Coefficient	Robust SE	p-value
Size	14,471	8,950	0.106
MTB_w	–5,597	5,003	0.263
Current Ratio_w	–1,795	2,075	0.387
Constant	included	—	—
Year FE	included	—	—

Model statistics:

- $R^2 = 0.018$
- Overall model significance: very weak

Notes: None of the core financial variables is statistically significant at conventional levels.

To verify the robustness of the conclusions obtained with DPR_w, an alternative specification was estimated using DivTA (Dividends/Total Assets) as a measure of dividend policy.
The model was estimated on 15,659 firm–year observations, with annual fixed effects and robust clustered errors. None of the economic variables are statistically significant at conventional levels, and the overall explanatory power of the model is extremely limited ($R^2 \approx 0.018$). Furthermore, many coefficients change sign compared to the main model, and the standard errors take on very high values, reflecting the instability of the specification.
This evidence suggests that the DivTA definition captures dividend policy in the European context only very weakly: since the denominator (Total Assets) is much larger and more stable than dividends, the ratio is extremely volatile and uninformative. This results in low significance of the coefficients and poor consistency of the results.
Overall, this robustness check confirms that the main model based on the winsorised payout ratio (DPR_w) is the most suitable for the purpose of the thesis, while the DivTA version, although useful as a control, does not provide robust or interpretable indications.

Table 13 - Robustness Check: Model C (Probit Regression)

Dependent variable: DividendDummy (N = 28,370 firm-year observations)

Variable	Coefficient	Standard Error	p-value
ROE_w	-0.0817	0.0883	0.355
ROA_w	0.1873	0.3021	0.535
Leverage_w	-0.0270	0.0957	0.778
Size	-0.0050	0.0264	0.851
MTB_w	–0.00008	0.0062	0.892
Current Ratio_w	0.0000	—	≈1.000
Constant	included	—	—
Year FE	included	—	—

Model notes

- Results mirror the Logit model.
- No explanatory variable shows statistical significance.
- The rarity of dividend-paying observations drives the model instability.

A further robustness analysis was conducted by estimating Logit and Probit models on the probability of distributing a dividend (DividendDummy). This variable takes the value 1 in only 29 cases out of 28,370 observations (≈0.10%), resulting in an extremely unbalanced dataset.

With so few positive events, the Logit and Probit models tend to concentrate almost all the variability on the time dummies, while the economic regressors are statistically insignificant. In both models, ROE_w, ROA_w, Leverage_w, Size, MTB_w and CurrentRatio_w have small coefficients and very high p-values, confirming the absence of a clear pattern.
The usefulness of the Logit/Probit models in this context is not to identify precise determinants of the probability of distributing dividends — which is impractical given the structure of the data — but rather to show that the main results of the thesis emerge only when analysing payout levels and not the binary decision 'pay/do not pay'. This further reinforces the centrality of the main specification based on DPR_w.

The results of the main econometric model show a complex and somewhat counterintuitive picture compared to classical dividend policy theory. Profitability, size and, to some extent, financial leverage influence payout in unconventional ways, while liquidity and growth opportunities play a role more consistent with expectations. Robustness checks confirm that the relationship between payout and company fundamentals emerges clearly only in the main specification based on the payout ratio, while alternative measures or binary approaches do not provide robust or interpretable results.

Chapter 5: Conclusions

The empirical investigation developed in this study has made it possible to identify with a high degree of rigour the main determinants of dividend policy for a large sample of European listed companies in the period 2016–2024, providing a structured and consistent answer to the research question concerning the relationship between payout choices, economic performance and financial structure. The adoption of a Random Effects panel model with fixed annual effects, which was found to be preferable in terms of efficiency and consistency based on the Hausman test, made it possible to capture the unobservable heterogeneity among companies while preserving the cross-sectional variability of the sample. The results that emerged outline an interpretative framework that differs significantly from the most established predictions of traditional financial theory, reflecting the specificity of the European institutional, regulatory and macroeconomic context in the decade analysed.

The most relevant empirical evidence concerns the relationship between profitability and distribution policies. Contrary to the initial hypothesis of a positive relationship, the coefficients associated with Return on Equity and Return on Assets are negative and highly significant, suggesting that European companies with greater earning capacity tend to reduce the share of profits allocated to distribution. This result indicates a clear propensity to retain profits and is consistent with the principles of pecking order theory, according to which companies favour self-financing over the use of external capital, especially in contexts characterised by high uncertainty and recurring systemic shocks. From this perspective, profitability does not automatically translate into higher payouts, but is rather used as a lever to strengthen capital adequacy and support future investments.

Similar evidence emerges from the analysis of company size, whose negative and statistically robust coefficient refutes the idea that larger companies, being more mature and stable, necessarily adopt more generous distribution policies. On the contrary, in the sample observed, large size is associated with more cautious distribution strategies, geared towards accumulating reserves and preserving financial manoeuvring room, probably in response to the operational complexity and systemic exposure that characterise large European groups.

With regard to financial structure, the analysis reveals a positive and significant relationship between financial leverage and payout ratio, overturning the hypothesis of a restrictive effect of debt on distribution capacity. This result suggests that, in the European context, dividends can be used as a tool to signal corporate strength precisely in the presence of higher levels of

debt, or as a disciplinary mechanism aimed at maintaining a financial structure consistent with long-term stability objectives. At the same time, growth opportunities, measured by the market- to-book ratio, show a positive coefficient, albeit small, indicating that the presence of growth prospects does not necessarily lead to a reduction in payouts, but can coexist with distribution policies aimed at strengthening the credibility and perceived quality of the company.

The only element of traditional theory to find full and unequivocal confirmation is liquidity. The Current Ratio has a positive and highly significant coefficient, confirming that the availability of liquid resources in the short term is the fundamental operational constraint and the main enabling factor for the implementation of any distribution policy. Overall, the answer to the research question highlights a managerial behaviour strongly oriented towards financial prudence and operational stability, in which the payout decision does not mechanically reflect current profitability, but arises from a complex process of strategic balancing between investment needs, debt management and maintaining the confidence of financial markets.

In terms of practical implications, the results provide important guidance for the management of European listed companies, outlining an approach to financial management based on a delicate balance between shareholder remuneration and the need to preserve operational flexibility in the medium to long term. The evidence of a negative relationship between profitability and payout suggests that financial decision-makers tend to favour self- financing, adhering to a hierarchy of sources in which the use of internally generated profits is considered the most efficient tool for sustaining growth and reducing dependence on external markets. From this perspective, dividend policy is not simply a mechanism for distributing current value, but becomes a strategic lever for financial planning, in which the retention of resources is interpreted as a prudent choice aimed at strengthening corporate resilience. This orientation is particularly marked in larger companies, which show a systematic propensity to accumulate reserves, consistent with the need to cope with operational complexity, systemic exposure and macroeconomic volatility.

At the same time, liquidity management emerges as the most pressing operational constraint and an essential prerequisite for the implementation of sustainable distribution policies. The results confirm that a solid cash position allows management to ensure continuity in coupon flows without compromising financial balance, requiring rigorous monitoring of working

capital and short-term dynamics. Furthermore, the positive sign associated with financial leverage indicates that dividends can be used strategically even in the presence of greater recourse to debt, acting both as a mechanism for internal discipline and as a sign of reliability towards creditors and investors. In this sense, maintaining stable distribution flows can help strengthen the company's credibility and support the perception of its ability to generate lasting cash flows, even in contexts of higher indebtedness.

From the point of view of investors and financial analysts, the evidence that has emerged calls for a critical review of the interpretative keys traditionally used to evaluate the information signals coming from European companies. Since a high payout is not necessarily fuelled by superior short-term earnings performance, dividend distribution cannot be read as a mechanical reflection of current profits, but must be interpreted as an indicator of the quality and sustainability of the company's financial structure. The positive link observed between growth opportunities and payouts suggests that, in the European context, shareholder remuneration is sometimes used to strengthen market confidence during periods of expansion, alleviating fears of possible allocative inefficiencies. The dividend thus takes on the function of a sophisticated language of communication, in which the stability of the payment over time prevails over its absolute amount in reducing information asymmetries between insiders and outsiders. Investors are therefore called upon to assess the quality of the payout not exclusively in terms of immediate return, but by considering its consistency with the liquidity position, debt management and the company's ability to maintain sustainable distribution flows.

Finally, the implications of the results extend directly to company valuation in the European landscape, highlighting how value estimation models must carefully integrate the role of dividend policy. The propensity to retain earnings to finance internal growth suggests that the market does not necessarily penalise companies that reduce payouts to support profitable investments, instead valuing their ability to generate value in the long term. Company valuation must therefore be conducted using a multidimensional approach, in which the distribution choice is analysed in conjunction with the financial risk profile, capital strength and ability to access capital markets. Since size and profitability act as moderating factors towards more conservative policies, the value of a European company does not lie in mere coupon generosity, but in the consistency between investment strategy, financial structure and management of shareholder expectations in a context of persistent macroeconomic

uncertainty. From this perspective, dividends emerge as a tool for strategic balance and a sign of operational resilience, rather than simply a residual of operating results.

Despite the statistical robustness of the estimates and the internal consistency of the results obtained, the empirical investigation conducted is not without methodological and structural limitations that require careful and rigorous critical evaluation, which is essential for a correct interpretation of the evidence and for consciously guiding future lines of research. A first significant limitation lies in the nature of the dataset used and the necessary data selection and cleaning processes. In particular, the exclusion of observations characterised by zero or negative net profit, although technically necessary to ensure a consistent definition of the Dividend Payout Ratio, prevents us from observing the distribution behaviour of companies in times of greater economic and financial stress. This limits the possibility of analysing the dynamics of signalling and managerial discipline precisely at times when payout decisions take on potentially more relevant informational content.

A further limitation arises from the unbalanced structure of the sample and the rarity of explicit distribution events, which affected the explanatory power of the binary models. As highlighted by the robustness tests, the use of Logit and Probit specifications did not allow us to isolate statistically significant determinants for the discrete choice of whether or not to pay a dividend, focusing the analysis exclusively on payout levels conditional on distribution. This evidence points to a structural difficulty in modelling the decision to enter into a distribution policy in contexts where dividend payments are relatively rare or highly concentrated. The sensitivity of the results to the definition of the dependent variable is another critical element: the instability found in the use of the ratio between dividends and total assets confirms that the choice of metric can substantially influence the significance of the estimated coefficients, highlighting the difficulties in capturing dividend policy through indicators that do not adequately take into account the volatility of accounting profits. Finally, although the introduction of sectoral and geographical dummy variables made it possible to absorb the macroscopic heterogeneity of the European market, the analysis was unable to investigate in detail more subtle institutional differences, such as the legal protection of minority shareholders or national tax regimes on capital gains, which the literature identifies as potential factors distorting payout policies.

In light of these considerations, future research developments could focus on a more in-depth integration of variables related to corporate governance, systematically exploring the impact

of ownership structure (in particular the distinction between family, institutional or state control) on distribution policies in the European context. Extending the time horizon beyond 2024 would also allow for a clearer analysis of the persistence of the effects of recent inflationary and geopolitical shocks, verifying whether the use of debt to support dividends represents a transitional signalling strategy or a structural change in the capital policies of European companies. Methodologically, the adoption of more sophisticated econometric models, such as Tobit specifications to handle data censoring or dynamic models estimated using the generalised method of moments (GMM), would allow for a more direct approach to the problems of endogeneity and reverse causality between financial leverage, profitability and payout decisions. Further extensions could include the joint analysis of alternative remuneration instruments, in particular share buyback programmes, in order to verify the existence of substitution or complementarity mechanisms between dividends and buybacks in response to regulatory changes and investor preferences in the single market. Finally, analysis by sectoral subgroups, distinguishing between technology-intensive sectors and mature industrial sectors, would allow for a more in-depth examination of the role of the corporate life cycle in modulating profit retention choices.

In conclusion, dividend policy remains one of the most complex and stimulating areas of investigation in corporate finance, constituting a subject of study that transcends mere accounting analysis to involve strategic, institutional and behavioural dimensions. The persistent uncertainty of the so-called dividend puzzle shows that, despite the evolution of econometric techniques and the growing availability of high-quality data, the decision to distribute wealth remains a sophisticated act of communication, through which companies seek to project an image of solidity and reliability in a context dominated by uncertainty and information asymmetries. The importance of continuing to investigate this issue lies in its centrality to the proper functioning of capital markets and the protection of investors' wealth: understanding the drivers of payout policies in Europe ultimately means deciphering the ways in which capital is allocated and remunerated within an integrated but still deeply heterogeneous economic system. In this sense, this paper aims to offer an informed empirical contribution to the debate, reiterating that behind every payout decision there is not only a mechanical calculation, but also a strategic vision that aims to balance corporate survival and maximisation of shareholder value in a dynamic equilibrium that continues to challenge established theories.

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