Differences and Similarities in company specific determinants for payout policies in the consumer staples and the consumer discretionary sectors in Europe and the US

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Abstract

This thesis studies determinants for total payouts, the combined spending of cash dividends and share repurchases, of companies in both consumer sectors, discretionary and cyclical, in the US and Europe. Furthermore, also the individual components of total payout are looked at with the help of the same model to find out whether one or the other is explained better by the variables chosen.

The purpose of the analysis was to find significant influences on payout decisions based on the companies' size, growth opportunities, profitability, debt levels, ownership concentration, and age.

The method used is a multiple linear regression analysis that is fed by yearly data over a time period of two business cycles. The companies chosen stem from the indices of the corresponding sectors.

Both the companies' sizes and their price-to-book value, which proxies their future growth opportunities, were statistically significant for all six regression analyses conducted in this thesis. The companies' growth opportunities impacted the payout decisions differently from what had been expected, namely in a positive instead of a negative way.

In the field of total payout debt and ownership concentration were found to be statistically significant for at least one of the two sectors. For the dividend payout all variables were statistically significant for at least one sector, and for share repurchases besides size and growth opportunities only the ownership concentration has proven to have a statistically significant impact.

Conclusions drawn in this thesis are that further growth opportunities do not have any negative influence on payouts in the consumer sectors, and that the linear regression model has the highest explained variance and the largest number of statistically significant variables with the model used here.

Keywords: total payouts, dividends, share repurchases, consumer cyclical, consumer discretionary, multiple linear regression

Table of Contents

1. Introduction:

In the developing field of corporate finance, the decision-making process regarding firms' payout policies has emerged as a worthwhile area of study. This interest comes from an ongoing discussion of what factors predominantly influence a firm's choice of payout methods, specifically between cash dividends and share repurchases. Traditional models have had difficulties to taking into consideration the many determinants that influence these decisions, indicating a gap in understanding whether a fixed set of variables can effectively predict a firm's payout behaviour in general and, more specifically, the channels, such as dividends, repurchases, or a combination of both, through which these payouts are likely to be made.

This master thesis aims to bridge this knowledge gap by exploring whether joint effects and common factors can be determined that influence the payout decisions in dividends and share repurchases within the consumer sectors. The main value of this research lies in examining the complexities surrounding the payout policies by examining if a singular theoretical framework can comprehensively explain the dividend payout and the more fluid, less sticky nature of share buybacks (Driver et al., 2020, Hasan et al., 2021). Using the tool of multiple linear regression analysis, this study sets out to identify significant factors that affect a company's decision on payouts, specifically within the discretionary and staples consumer sectors.

The research is grounded in a theoretical framework that encompasses agency cost theory, information asymmetry, and the life cycle theory, providing a sound foundation for examining the payout behaviour. This research is academically significant, as it aims at helping to enhance the understanding of how various company characteristics, such as size, investment opportunities, profitability, debt, ownership concentration, and age influence a company’s total payout. This exploration is of considerable importance, considering that prior studies, including those by Fama & French (2001), Jensen & Meckling (1976), Easterbrook (1984), and Khalfan & Wendt (2020), have identified gaps in the current understanding of payout policies. This study aims to contribute to the academic discourse by offering insights into the determinants of payout decisions in the consumer sectors, a relatively underexplored area given the rise in share repurchases alongside traditional cash dividends.

The relevancy of this thesis consists of the fact that this study is supposed to further enhance the understanding of the relationship between a company’s size, investment opportunities, profitability, debt, ownership concentration, and age on the company’s total payout (Fama & French, 2001; Jensen & Meckling, 1976; Easterbrook, 1984; Khalfan & Wendt, 2020). Thus, this study could provide dividend investors that are interested in investing in the consumer sectors with determinants against which they can quantitatively measure their investment opportunities.

A further point supporting the relevancy of this study comes from Baker et al. in 2008, a paper in which the authors state that a universal approach to explain dividend payout cannot be successful as there are differences between the firms that have an impact on their policies. Therefore, one can only look at specific parts (sectors, countries, legislations) at a time and try to draw conclusions for these parts. Since this is already challenging with a perspective limited to dividend payout, the addition of share repurchases will make the whole analysis even more difficult.

This is also another building block for the relevancy of this study, the theories that exist mostly focus on the payment of cash dividends, but with an increasing importance of share repurchases in recent years and decades it has become more relevant to assess whether these theories can be helpful in explaining the total payout of companies as well.

From a practical standpoint, the findings of this research are of substantial value for investors and business sectors alike. By identifying reliable variables that influence a company's payout decisions, this study provides actionable insights that can guide investment strategies, especially in the consumer sectors where the predictability of payouts plays an important role in investment decisions. Moreover, by expanding the focus to include share repurchases, this study addresses a significant gap in existing research, offering a more comprehensive understanding of the factors that drive total company payouts. The consumer sectors have been chosen in this thesis, as the sector consists of many companies that have paid out relatively consistently over a long period of time.

The structure of the thesis is designed to systematically address the research questions and hypotheses. Following an in-depth literature review in the second section to place the study within the context of existing research, the third section outlines the hypotheses derived from prior studies. The methodology and data used in the research are detailed in the fourth section, preparing the analysis of the multiple regression results in subsequent sections, each dedicated to exploring different aspects of the research questions. The sixth section compares the findings of this study with previous research, assessing the alignment with or divergence from their results. Finally, the conclusion in the seventh section synthesizes the study's findings, highlighting their implications for both academic and practical domains. Through this comprehensive approach, this thesis aims to contribute significantly to the discourse on payout policies, offering new insights and directions for future research in corporate finance.

2. Literature review: including research gap and research question

In the literature review, prior literature on the subject of payout policy and the level of payout is reviewed. This is done to help explain some factors influencing a company's payout decision, these factors reviewed here will also be taken as the basis for the intended analysis. To complete the picture, the underlying theories the factors stem from are also reviewed. Here the agency cost theory, the information asymmetry theory, and the life cycle theory will be taken into account and reviewed.

The goal is to find factors that have a significant influence on a company's payout policy and their level of payout and illustrate interrelationships of these factors with the underlying theories and explanations given in previous studies.

2.1 Agency cost theory

The agency cost theory was developed by Jensen and Meckling in 1976, they define the agency relationship between the principal(s) and the agent as a contract in which the principal(s) engage an agent to carry out a service for them. This contract for the service that the agent is supposed to perform on behalf of the principals involves equipping the agent with some decision-making authority. The agency problem arises because both parties want to maximize their benefits, this implies that the agent will not always act with the best interests of the principals in mind. In order to mitigate the agency problem principals will establish incentives for the agent that align the interest of both parties and monitor the agent/manager. The monitoring of the agent results in monitoring costs, which is one part of the total agency costs. The other two parts of the agency cost are the bonding expenditures of the agent and the residual loss. Jensen and Meckling (1976) believe that in general it is impossible to have an agent who makes the best possible decisions for the principal without incurring costs, and that agency costs often occur when the ownership of something is separated from the control. In their study they focus on the relationship between managers and debt and equity holders. In order to

reduce the agency costs Jensen and Meckling propose auditing, formal control systems, budget restrictions, and the aforementioned incentives that are introduced to align the interests of both parties. Budget restrictions can be payouts, dividends in Jensen and Meckling's case, that will prevent the agent from overinvesting or incurring debt, because debt also imposes budget restrictions for the managers as it takes away part of the cash flow that is available for managers. In this study the budget restriction caused by debt plays an important role as debt is taken as an independent variable for the regression analysis conducted in this thesis.

They furthermore state that in theory the firm value minus the agency costs should determine the price an investor would pay for the company, or a part of it, and they state that the agency costs are related to the cost of replacing the current manager (Jensen and Meckling, 1976).

In 1984, Easterbrook published the article "Two agency-cost explanations of dividends", in which he sets out to find out why firms pay significant amounts of dividends to shareholders. He sees the clientele effect as an unsatisfactory approach to explaining the existence of dividends. He states that dividends exist because they affect a firm's financing policies as it makes the firm spend cash, which then forces the firm to acquire new sources of funding either through debt or equity.

Dividends are seen as a mechanism that keeps the investor groups in equilibrium so that no group (shareholders or creditors) has a relative advantage. Although dividends are here taken as a mechanism that keeps the investor groups in equilibrium, Easterbrook (1984) states that there is nothing that suggests that repurchases cannot be as good as or better than dividends. This is important for the relevancy of this thesis which is concerned with the total payouts of consumer companies.

Another point that is coherent with Jensen and Meckling's paper from 1976 is the argument that debt reduces dividends as growth companies that are actively looking for new cash in the capital market often have low or no dividend payout at all, but once the growth rate and the need to source new capital have been reduced these companies start paying out dividends (Easterbrook, 1984). The start of the dividend payment can arise from a companies' need to find agency cost control devices as the firm becomes older and grows less rapidly (Easterbrook, 1984). The firm's age and size are also important for this analysis as they will serve as independent variables for the regression analysis conducted to establish company specific determinants for total payout in the consumer sectors. Furthermore, Easterbrook (1984) states that if dividends are paid out to contain the agency costs, they are more valuable when they are paid out regularly.

Moreover, firms with higher productivity levels, a larger size, higher levels of profitability and a lower level of company debt are more likely to distribute dividends to shareholders. Companies that have a lower debt ratio also tend to distribute higher levels of dividend payouts. The results of the study were in line with the agency cost theory (Mądra-Sawicka, M., & Ulrichs, M., 2020; Le et al., 2019). The larger company size and its relation to the payout of a company shows effects both in cash dividend and share repurchase directions. For companies based in Australia it was found that size was significantly positively correlated to repurchase decisions, which also supports the agency cost theory (Yarram, 2014). Because of the consensus of the previous research on the correlation of size and payout (dividend and/or share repurchase) the hypothesis for this study will also be a positive correlation of company size and company payout (dividends and/or share repurchases).

In countries in which investor protection is high and the agency costs are therefore lower than the tax costs of the dividends the company is paying out, investors prefer to receive fewer cash dividends. This lower payout in cash dividends can be "substituted" by share buybacks which are in general more tax efficient than cash dividends (Alzahrani & Lasfer, 2012). The degree to which a dividend can be substituted by a share repurchase is often discussed and, as it stands now, some researchers are in

favour of substitution (Alzaharani & Lasfer, 2012) and some researchers argue that firms use it as an alternative to paying dividends (Guay & Harford, 2000; Weston & Siu, 2003; Bae, 2017).

A possible agency problem can arise when a company's payout policy can be controlled by the company's senior management team themselves. If the senior managers have stock-based claims included in their compensation package, their interests might not be aligned properly with the shareholder interests any more. As significant numbers of share repurchases are financed by debt, with this approach the agency problems are reduced as the repurchase results in new financial constraints for the company (Backwell, McWalter & Ritchken, 2022).

Another recent study shows that high liquidity in a company leads to high dividend payouts and that the main cause for this connection is the substitute relationship between low cash dividend payout and weak creditor rights protection. In this thesis the dividend-to-sales ratio is taken as a measure for the amount of dividends paid out. To measure the propensity of dividends paid a dummy variable is used that is equal to one when the dividend-to-sales ratio is larger than zero, which implies that dividends have been paid. The analysis was conducted by means of a pooled OLS model with fixed effects for the industry as well as the year in order to investigate the impact the company's liquidity has on the dividend payout (Hu et al., 2020). Moreover, it was found out that the empirical results "weakly" support the 'outcome hypothesis', which implies that stronger shareholder rights make it easier for investors to put pressure on managers to pay out more dividends (Le et al., 2019; Hu et al., 2020).

Furthermore, dividends are considered as a safe channel for investors to receive income. These dividends act as a part of the income for the investor, and simultaneously they help investors to avoid their residual risk in the company for the case that the company faces financial distress. The authors therefore argue in line with prior studies that dividend policies can help to tackle agency problems by decreasing the free cash flow that the manager has under control (Porta et al., 2000; Le et al., 2019).

2.2 Information asymmetry theory

The information asymmetry theory implies that outside investors know less about a company than insiders, and are therefore not able to distinguish the profitability of productive assets of a certain firm in a sample of firms (Bhattacharya, 1979; Hsieh & Wang, 2009). To mitigate this asymmetry dividends are paid out because they signal a company's profitability. In Bhattacharya's study other sources of information about a firm's profitability are excluded because of the 'moral hazard' that is involved in communicating profitability (Bhattacharya, 1979). A company's dividend decisions are taken by the company's agents as they are the only people who know the cash flow distributions that their projects have. In his study Bhattacharya (1979) assumes that all firms are able to fully invest their cash flow in investment opportunities, but in real life this assumption can be relaxed.

When there is asymmetric information, a firm will put internal capital in the first place in their pecking order for financing decisions. This is done to avoid the conflicts that can arise with investors, both old and new, and to avoid consequences that arise from the inside information the manager possesses. This would make payouts more unlikely as the company does not want to be dependent on external financing and therefore will be incentivized to retain more cash, which is contrary to the model by Bhattacharya (1979). Under asymmetric information conditions, both pecking order theory and life cycle theory state that a company's dividend payout policy is connected to the firm's capital.

In agreement with Bhattacharya (1979), Chen et al. (2022) define a good signaling firm as a high growth firm paying dividends. This indicates that high growth firms distribute cash not because they

do not need it but rather for the purpose of signaling. The high growth companies can then utilize their dividends to reduce the information asymmetry and to obtain external financing at lower costs because of the decrease in uncertainty - under the signaling hypothesis this results in price appreciation. High growth firms that pay dividends also have a superior operating performance when compared to non-paying firms that also have high growth potential. High growth companies in Chen's study are those that are in the highest quintile of the price to book ratio (Chen et al., 2022). Since high growth firms are defined as being in the top 20% of firms according to the price to book ratio, low growth firms are in the bottom 20% of the price to book ratio range. Empirical results show that the cumulative abnormal returns around the dates when the dividends were announced for high growth firms are significantly higher than the cumulative abnormal returns for low growth companies announcing a dividend. Therefore, good signaling is able to better predict future profitability (Chen et al., 2022). High growth firms paying dividends achieved 27.43% higher profitability than the non-paying firms, this supports that signaling exits among the high growth firms and that the market is able to observe good signaling and reflect it through the cumulative abnormal returns around the dividend announcement dates.

Another study found out that a company's growth prospects reduce the likelihood for cash dividends and share repurchases, this result is significantly negative and is based on the lagged market-to-book value of companies inside the European Union (Von Eije & Megginson, 2008). This result is contrary to Bhattacharya (1979) and Chen et al. (2022) who stated that companies with higher growth prospects (higher information asymmetry between insiders and investors) pay out dividends to send a signal to investors that the company is, or will be, profitable.

Agarwal and Chakraverty (2023), state that based on what the investor demands from the company, high growth companies pay lower dividends and companies with lower growth opportunities pay higher dividends. This is contrary to Chen et al. (2022). What is not contrary to the study by Chen et al. (2022) is that when there is less information asymmetry, in their case after the mandatory adoption of IFRS, high growth companies could be paying less in dividends as it is not necessary to signal anymore and therefore also the investors demand less (Agarwal & Chakraverty, 2023).

Since the agency theory predicts that firms with lower growth opportunities pay out more and the pecking order theory predicts that high growth firms pay less, the effects of both theories weaken when the information asymmetry is decreased, because lower information asymmetry makes external capital more accessible, lessening the need to retain cash, and lowers agency costs in regard to the available free cash flow, reducing the need to pay out (Agarwal & Chakraverty, 2023).

Market-to-book ratio is taken as a proxy for growth opportunities, which is coherent with the measurement taken by Van Eije & Megginson (2008) and Chen et al. (2022). The classification of high growth firms in this study is the top 25% of companies, and the other way round, the bottom 25%, for low growth companies. The results show that decreased information asymmetry increased the propensity to pay dividends for low growth firms by about 11% and decreased the propensity to pay dividends for high growth firms by about 18%, when compared to control firms. This shows that an investor's increased ability to assess a firm's future earnings potential influences his demand for a payout. Therefore, reduced information asymmetry does not work in one direction only but rather reflects a firm's future growth opportunities. The authors quoted so far therefore argue that there is a negative relationship between growth opportunities and dividend payout (Agarwal & Chakraverty, 2023; Van Eije & Megginson, 2008; Fama & French, 2001).

2.3 Life cycle theory

The life cycle theory says that the life cycle phases of a business determine the nature of financial needs for the company, the financial resources the company has available, the payout policy, and the related cost of the capital (La Rocca et al., 2011). This implies that the financial needs that a company has change in relation to the company's ability to generate cash, their growth opportunities, and the risk related to the realization of the growth opportunities. In the paper the firms are clustered into young, middle-aged, and old firms. Higher leverage ratios are found for young and middle-aged companies, which is consistent with the pecking order theory, and reasonable because those companies are less likely to support the business by means of internal financing. La Rocca et al. (2011) state that in the early stages bank support and other financial intermediaries are very important for a company while later the company rebalances the capital structure. The study also acknowledges that firms prefer to use internal resources instead of external resources, which is coherent with the pecking order theory, and therefore also reflects information asymmetry problems (La Rocca et al., 2011). However, in startup and growing stages of a company's lifecycle, debt is a critical resource for the company to sustain their business. In the consolidation and maturity phases debt still plays an important role, but it is not as critical as in prior stages. The reason for the declining importance of debt is that after the early stages the firm's profitability increases and with it the firm's capacity to rely on internal financing, this also helps to slowly rebalance the firm's capital structure. Older firms then finance their operations by internal resources, which rebalances the firm's capital structure even further (La Rocca et al., 2011). Leverage is important for this thesis as debt is taken as an independent variable in the analysis here. The inclusion is based on prior studies that found that debt has a negative influence on company payout (Jensen & Mecklin, 1976; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Vermaelen, 2005; Saxena & Sahoo, 2022).

La Rocca et al. (2011) furthermore found out that profitability and ownership concentration is negatively related with leverage. The profitability-leverage relation is therefore in agreement with the pecking order theory. In contrast to profitability and ownership concentration, size, tangibility, and growth opportunities are positively related to the use of debt for financing. The paper concludes that the existence of life cycle patterns for companies has been verified, and that it was observed that the pattern is homogenous over time and relatively similar across industries and institutional contexts (La Rocca et al., 2011). Moreover, the authors conclude that in general being more profitable means less need for external financing, and that this is particularly true for mature firms. Therefore, their results do not directly imply lower levels of payout for younger companies, but since leverage negatively influences payout decisions by companies (Jensen & Mecklin, 1976; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Vermaelen, 2005; Saxena & Sahoo, 2022), one could argue that there is a connection between the level of payout and the companies' current phase in their business cycle.

Another paper on the life cycle theory takes the IPO of a company as a starting point for the firm's lifecycle (Banyi & Kahle, 2014). They found out that firms that had gone public more recently were less likely to make a payout (dividends and share repurchases). Their results show that firms that went public in the 1980s or later prefer repurchases, while older firms use repurchases to supplement their dividend policy. Banyi & Kahle (2014) also maintain that the life cycle effect does exist, and that within a group of firms with shared characteristics the likelihood to make payouts increases as the firms age, which is in accord with Easterbrook (1984). Contrary to Fama & French's findings that the propensity to make payouts decreases over time, Banyi & Kahle (2014) found little evidence of a widespread decrease in the companies' propensity to pay out. They state that the lower propensity to pay out - which can be found in older papers - can, to a large extent, be contributed to changes in the composition and characteristics of firms combined with regulatory and tax regimes that have altered

firms' payout preferences. Their findings may have come to this conclusion because of the time frame they are looking at, which only starts in 1982.

Their findings also show that the likelihood of payout across IPO decades remains unchanged even when controlling for size, profitability, growth, total equity, the companies' cash dividends history, and age, but also that firms that went public in the 1990s or later are less likely to pay out (Banyi & Kahle, 2014).

Banyi & Kahle (2014) also found a "positive monotonic" relation between the capital a firm has earned and the fractions of firms that do both repurchase shares and pay out dividends, but their study does not contain findings about the level of total payouts for the paying and repurchasing companies.

In addition to a firm's life cycle, the business cycle the firm is in is also important, as it can have an impact on a company's dividend payouts, and it can even be the reason dividends are paid or not (Sotomayor & Cadenillas, 2013). Another factor underlining the importance of business cycles in company payouts is that the optimal payout policy for a company is not always the same but highly dependent on the business cycle.

Debt issuance and equity payouts are positively correlated with each other and with investment, as firms use debt financing to make investments into their operations and to increase the shareholders' payout. Debt issuance and equity payouts are procyclical. Furthermore, it was found that GDP is also positively correlated with debt issuance and equity payout (Amdur, 2008).

Data for the US from after the second world war show that there are co-movements between share prices, debt issuance by companies, and the shareholder payout. In line with the findings by Amdur (2008), also in the US, data shows that these variables are procyclical (Bianchi et al., 2018). Moreover, coherent with the pecking order theory, the scarcity of external funds leads firms to rely on internal funds, which as a result reduces the shareholder payout (Bianchi et al., 2018).

Disruptions in macroeconomic and financial conditions for the market can have great and long-lasting effects on firms both for their financing and investment decisions (Hackbarth et al., 2006; Jermann & Quadrini, 2012; Begenau & Salomao, 2019). It is documented that large firms substitute between debt and equity financing depending on the business cycle, while small firms finance themselves procyclically for both debt and equity (Covas & Haan, 2011). Data patterns also suggest that large companies finance their equity payouts in times of a boom with debt (Begenau & Salomao, 2019).

Moreover, once a company has reached its efficient scale, they prefer to use debt for financing and payouts rather than internal funds. One reason for this is that debt is preferred over equity due to the tax advantage of debt over equity. Simultaneously, debt financing can be costly, as the repayment of debts is not enforceable and the price of debt adjusts to the likelihood of the default (Begenau & Salomao, 2019).

2.4 Dividend policy literature

One of the major papers about dividend policy is "Disappearing dividends: changing firm characteristics or lower propensity to pay?" written by Fama & French in 2001. They use three characteristics of companies that affect a company's decision whether to pay dividends, namely: company size, profitability, and investment opportunities. These variables will also be part of this thesis. Via logit regressions and summarizing statistics Fama & French analyzed the characteristics of dividend payers. They found out that the size and the profitability of a company are positively related to dividend payout, while a company's investment opportunities were negatively related to dividend

payout. The hypotheses raised in connection with this thesis are in line with the findings by Fama & French (2001).

Fittingly, non-payers have strong growth opportunities, which makes them invest at a higher rate, conduct more R&D, and therefore have a higher ratio of the market value of assets to their book value (Fama & French, 2001). Furthermore, they found out that dividend payers are the most profitable companies, and that they are about ten times as large as companies that do not pay dividends. A firm's profitability was measured by the ratio of aggregate earnings before interest to aggregate assets, however Fama & French (2001) state that earnings available for common shareholders might be more relevant for a firm's dividend payment. Regarding a firm's investment opportunities, the proxies of a firm's growth rate of assets and the market-to-book ratio was used by Fama & French (2001). This lead to the result that firms which have never paid dividends have the best growth opportunities, measured by much higher asset growth rates. They also have a higher ratio of aggregate market value to aggregate book value of assets, and higher R&D expenditures relative to their assets. The size of the companies was measured by the company's assets (Fama & French, 2001).

Newly listed firms are often small and possess very good investment opportunities, yet before 1978 newly listed firms were more profitable than older firms, while since 1978 the profitability of newly listed firms has fallen below the profitability of older firms. This lower profitability of newly listed firms is accompanied by a lower percentage of newly listed firms that pay out dividends (Fama & French, 2001). Their study also comes to the conclusion that, in general since 1978, all firms regardless of their characteristics have become less likely to pay dividends. The smaller likelihood of companies to pay dividends can be explained by a lower propensity to pay dividends in general, a consequence of the fact that the companies perceive the benefits from paying out dividends as decreasing.

Moreover, Fama & French (2001) state that the general characteristics of payers, large and profitable, do not change much, and that controlling for that dividend payers they only become a bit more likely to stop paying out dividends. After 1978 however, dividend initiation drops, also when growth opportunities for the companies are not there anymore.

With regard to share repurchases Fama & French (2001) found out that there was a jump of share repurchases in the 1980s, but that share repurchases were often made by dividend payers. Thus, the jump in share repurchases does not explain the decline in the percentage of dividend payers and is therefore not a substitution for dividends. Share repurchases are rather an increase of the already high payout of cash dividend payers (Fama & French, 2001). In order to make their results more reliable, financial and utility firms were excluded from the analysis to ensure that payout decisions of companies were not a byproduct of the regulations that these types of companies face.

The declining propensity to pay cash dividends suggests that firms have increased their awareness of the tax disadvantages that come along with cash dividends, still share repurchases are rather unimportant for Fama & French (2001) as the companies that repurchase shares often pay dividends as well, which leaves the decline in dividend payers still unexplained. Fama & French (2001) state that payers use share repurchases instead of dividends for about 25% of the cash payment to shareholders, presumably to reduce the tax disadvantage for their shareholders. Furthermore, they state that large repurchases are mostly due to an increase in the payout of ratio for cash dividend paying firms, and that share repurchases can help a company to finance mergers (Fama & French, 2001).

The results of their study show, through year-by-year logit regressions, that what they found is consistent with the pecking order model by Myers (1984) that implies that firms are reluctant to issue risky securities because they are facing asymmetric information problems. This can also help to explain why smaller firms are less likely to pay dividends, because they want to protect themselves against

having to issue risky securities as they have run out of cash due to dividend payments (Fama & French, 2001).

Moreover, the results, namely that more profitable firms pay higher dividends and less profitable firms pay smaller dividends are consistent with the proposition by Easterbrook (1984) about the role dividends play in controlling the agency costs of the free cash flow (Fama & French, 2001).

The conclusions provided by Fama & French (2001) are that the decline in payers is partly due to changed company characteristics towards smaller companies with lower earnings and larger investments, and also that given the firms' characteristics firms in general become less likely to pay dividends. This result contrasts with the findings by Banyi & Kahle from 2014.

A newer study on the determinants for a company's dividend policy analyzed growth opportunities, size, leverage, profitability, liquidity, and the rule of law. The results show that profitability has a significantly positive impact on dividend policy, while growth opportunities and leverage are significantly negative related to a firm's dividend policy. A company's FCF, its size, and the liquidity seemed to have no effect on the dividend policy (Le et al., 2019). These variables were only tested for dividend payout by Le et al. (2019), in the present study growth opportunities, size, leverage, profitability will be analyzed in regard to their influence on a company's total payout.

Furthermore, Le et al. (2019) state that firms located in countries with higher investor protection tend to pay out more cash as dividends than companies in countries with lower investor protection.

Partly similar and partly contrary results for the determinants of dividends come from Jabbouri (2016). The results of his study show that a company's size, current profits, profitability, and liquidity present a significantly positive relation to dividend payments. On the other hand, leverage, growth opportunities, FCF, and the general state of the economy have a significantly negative influence on dividend policy.

In line with Fama & French (2001), Jabbouri (2016), and Le et al. (2019), and Patra et al. (2012) also approved profitability as having a positive relation to a company's dividend policy. With regard to the positive influence of size and liquidity for a firm's dividend policy the results by Patra et al. (2012) are coherent with those by Jabbouri (2016). The negative influences found by Patra et al. were also coherent with those found by Jabbouri (2016), but not with those found by Le et al. (2019), where FCF, size, and liquidity have no effect.

The aforementioned study by Mądra-Sawicka & Ulrichs (2020) used the dividend payout ratio, size, debt, productivity, and profitability as variables to determine dividend payout. The authors state that higher productivity, a larger size, higher profitability levels, and lower debt levels positively affect a firm's decision to pay out dividends. These findings are in agreement with the agency cost theory (Mądra-Sawicka & Ulrichs, 2020).

In Europe dividend policy is significantly affected by net income, FCF, the level of institutional investors, price-to-book-value, and fixed assets. Here, fixed assets show the strongest influence on the overall amount of dividends paid out, while company size, contrary to the findings by Patra et al. (2012) and Jabbouri (2016), had no significant influence (Arndt & Kučerová, 2019). The number of institutional investors also showed an influence on the company's dividend policy, as with higher numbers of institutional investors the amount of dividends paid out increased as well (Arndt & Kučerová, 2019).

Since many studies are partly coherent and partly contrary as far as the determinants of a company's dividend policy is concerned, I assume that a case-to-case approach is necessary to find out the

determinants for a company's dividend policy in a specific country and/or sector. Nonetheless, many of the variables used by researchers for their dividend policy studies will be used here, too, to analyze total payouts, and it will be seen whether these variables have similar effects or differ completely.

2.5 Share repurchase policy literature

One major difference between dividends and share buybacks is that dividends are sticky and buybacks are not, this implies that a company can spend a large amount of cash on stock buybacks and then stop without facing the same market reaction (usually downwards, because of the signal it sends to investors) than would be the case if they stopped paying out cash dividends. Therefore, companies that face uncertainty about the amount of future cash available for possible future payouts, can increase their payout level and total payout by buying back shares as a one-off event that sends a positive signal, instead of facing negative market reactions for paying out less in dividends than the year before.

Another point in which share buybacks and dividends differ is that buybacks change the ownership structure of a company. When shares are bought back those investors who do not sell their shares back end up with a larger percentage share of ownership. Dividends also return cash to all shareholders of the company while buybacks only return cash to the shareholders that choose to sell their shares. Lastly, dividends and share buybacks create different consequences for investors with regard to taxes (Aswath, 2015). This contradicts the model by Bhattacharya from 1979.

There does not necessarily have to be an effect of share buybacks on the equity value of the company, but there can also be positive as well as negative effects. This is dependent on the source of the cash used for share buybacks and on whether and how it affects the firm's investment decisions. A buyback, unlike most dividends, does not need to be financed with cash but can also be financed partly or even fully by debt (Aswath, 2015). This is another way for companies to potentially pay out more than they would have if they were only able to distribute cash.

'Value neutral' buybacks should have no effect on the value of a company's operating assets (Aswath, 2015). Even though buybacks are not sticky they do affect stock prices. It can either be a mistake of the market, when the stock is not valued at the level of its intrinsic value, or it can be "perceived" information asymmetry. This "perceived" information asymmetry can arise if buybacks are seen as a signal of what insiders of the company think about the fair value of the company. Another possible way for buybacks to affect stock prices are liquidity effects on the market, this arises especially when the buybacks are large and/or on stock that does not have a lot of trading volume. When there is a liquidity effect, the share price should rise around the time of the actual buyback and not the time of the announcement of the buyback, this is the other way round for signalling effects which are expected to occur at the time of the buyback announcement and not at that of the actual buyback (Aswath, 2015).

If there is some kind of market mispricing, a buyback can also lead to a value transfer between those shareholders that opted for selling their shares and those who kept their shares and thus remain shareholders. The direction of this value transfer is dependent on whether the shares before the buyback were over- or under-valued. If the stock price is under-priced a buyback at this price will benefit the remaining shareholders as they are capturing the difference. In case of an overvalued share to begin with this effect is the other way round. In either case no value is created, the value is only transferred (Aswath, 2015).

One problem of buybacks that Aswath (2015) draws attention to is the change in a company's risk profile, he argues that therefore a firm should also change its PE ratio, most of the time to a lower figure. Therefore, to be able to assess the buyback effect, the full picture, consisting of financial structure and the relation of the stock price to the fair value, is necessary to judge whether shareholders are benefitting or losing out due to the buyback (Aswath, 2015).

In their paper "Stock repurchases: theory and evidence" Hsieh & Wang (2009) state that since 1996 share repurchases have been the dominant form of payout. Their expectation is that firms with high levels of excess cash flow and/or few growth opportunities should repurchase shares. In relation to the life cycle theory, they state that share repurchases in combination with few growth opportunities can signal that a firm has reached its maturity stage (Hsieh & Wang, 2009). In line with Bhattacharya (1979) the authors also assume that managers possess more knowledge than outsiders (Hsieh & Wang, 2009). Furthermore, they state that in the model by Bhattacharya (1979) dividends can be perfectly substituted by repurchases, therefore only a high-quality firm is able to repurchase, which makes the repurchases also a signal for a firm's future cash flow. A firm is also more likely to conduct share repurchases when the firm is undervalued, which results in repurchases having a higher informational content than cash dividends (Hsieh & Wang, 2009). This information asymmetry provides incentives for the management to announce share repurchase programs to signal current or future favorable financial position and prospects. In contrast to this theory, the free cash flow hypothesis predicts that the excess cash is distributed via repurchases as a response to decreasing growth opportunities and profitability (Hsieh & Wang, 2009).

Stock repurchases can also provide opportunities for managers to benefit from market inefficiencies. This is efficient if the firm has free cash flows that they can spend, or if they possess the capacity to take on more debt (Vermaelen, 2005; Saxena & Sahoo, 2022). Undervaluation is given as the primary reason for companies to repurchase shares, this is in accordance with the findings of Hsieh & Wang from 2009.

Other reasons for share buybacks are share price increases, efforts to reach the optimum capital structure, wanting to prevent earnings dilutions, substituting dividends (contrary to the findings of Szládek in 2022), signaling, takeover defence, and wanting to return excess cash to shareholders (Stonham, 2002; Saxena & Sahoo, 2022). Agency costs and the company's dividend payment history are also found to be of statistical influence (Saxena & Sahoo, 2022).

In the context of share repurchases in Europe, different managerial attitudes and different ownership concentration are likely to have an impact on the decision of the management whether to announce share repurchases (Andriosopoulos & Hoque, 2013). Tax advantages of share repurchases over cash dividends also seem to significantly influence managers' decisions to announce share buybacks, this does not seem to be the case for countries with weak investor protection, in this case Germany and France, as in these countries the managers do not consider the investors' taxation when setting up payout policies (Andriosopoulos & Hoque, 2013). Moreover, it seems that only in the UK excess cash flow is positively related to the likelihood of a share repurchase announcement (Andriosopoulos & Hoque, 2013).

In Europe dividends are still the dominant form of payouts to investors, however, share repurchases are significant as well, with a total of almost 100 billion Euros spent on repurchases in 2018. Still, European companies have not followed US companies yet, and have not yet shifted their payout method from cash dividends to share repurchases to a similar extent (Szládek, 2022). Whether a European firm starts repurchasing shares is determined by the company's profitability. In Szladek's study profitability is measured by the company's return on assets. Other determinants for repurchases

are the firm's leverage ratio, its size, measured by total assets, cash balance, and whether the firm is already paying out cash dividends. Higher profitability, higher cash balance, and a larger size were found to be characteristics of repurchasing firms, while a higher leverage ratio was found to discourage share repurchases. Another aspect that has a negative influence on share repurchases is a company's price-to-book value (Szládek, 2022).

Furthermore, the substitution hypothesis, maintaining that firms substitute cash dividends with share buybacks, is not valid for European firms in their choice to repurchase or pay dividends. This is supported by the empirical result that the dividend payment variable ('LDIV') has a positive influence on the amount of cash spent on repurchases. A factor that significantly influences the amount of cash a firm spends on share repurchases is the level of repurchases the company has carried out in the previous year (Szládek, 2022).

Abnormal, mostly positive, returns can be seen around repurchase announcements by companies. These abnormal returns are not yet completely clear, from 2000 to 2017 a positive average valuation effect of 1.4% for share repurchase announcements was documented (Anolick et al., 2021).

2.6 Total payout policy literature

Lower agency costs, better alignment of interests of principals and agents, can result in a higher level of total payout (Fenn & Liang, 2001). Furthermore, there is evidence that both, share repurchases and dividends, are significantly related to the firm characteristics consistent with the agency theory and its explanation for payouts. Fenn & Liang documented that both dividends and repurchases are positively connected to net operating cash flow and company size, and negatively connected to the market to book ratio as well as leverage.

Furthermore, repurchases as a share of total payouts increase with a higher market-to-book ratio and the volatility of a company's income, which is a logical step as repurchases, regardless of how much, are not as sticky as dividends. Repurchases were also found to be positively related to operating income and negatively related with p/b ratios (Fenn & Liang, 2001).

In the timeframe they analyzed Fenn & Liang (2001) found that 2.5% was the mean total payout for American companies, when divided by market value. They also found out that the total payout distribution was skewed less positively than either dividends or buybacks, this shows that companies are smoothing their total payouts by holding the level more or less steady through different payout compositions.

Fenn & Liang's (2001) findings also support the agency theory for all three payout level regressions analyzed, dividends, repurchases and the total payout. In accordance with the agency cost theory they found significantly positive relationships for profitability, growth opportunities, and size in relation to the level of total payout and both dividends and repurchases alone. Another of their findings which is also coherent with the agency theory is the significantly negative relationship (Fenn & Liang, 2001).

One standard deviation (SD) increase in net operating cash flow, their profitability measure, is associated with a 94 basis points increase in a company's total payouts. For the market-to-book value, their chosen growth opportunities measure which will be also used in this thesis, it was found that one SD decrease increases the total payout by an estimated 72 basis points (Fenn & Liang, 2001).

Additionally, the regression coefficients used in the individual regressions for only dividends and only share repurchases showed similar signs and magnitudes, which indicates that both dividends and

repurchases serve similar purposes and can therefore be regarded as close substitutes according to Fenn & Liang (2001).

The payout mix, that is the share of repurchases and dividends in the total payout, varies systematically with a company's growth opportunities. A higher market-to-book ratio company will - according to the results - rely more heavily on repurchases than dividends, as the company faces greater uncertainty (Fenn & Liang, 2001).

2.7 Research gap

The research gap for my study arises from the assumptions made by previous studies that there is no single theory that can fully explain dividend payout (Driver et al., 2020, Hasan et al., 2021). Moreover, research about total payout made by companies seems to be rather scarce, most studies focus on either dividend payments (Le et al., 2019; Jabbouri, 2016; Patra et al., 2012) or share repurchases (Vermaelen, 2005; Saxena & Sahoo, 2022; Hsieh & Wang, 2009). Some focus on the possibility of substitution (Alzaharani & Lasfer, 2012; Guay & Harford, 2000; Weston & Siu, 2003; Bae, 2017) between dividends and share repurchases, but the question about the joint effects remains largely unanswered - especially since opposing results have been found by several different studies.

These contrary theories and outcomes, that seem quite standard in the discussion about company payout, lead to the necessity for studies to answer the questions on determinants for dividends, share repurchases, and both on a case-to-case basis. What is true for one country and/or one sector need not necessarily be true in general. The perfect example for this are growth opportunities which are analyzed by many studies, but the effect changes between the studies. Growth is seen as a positive determinant for payout as it signals future profitability by Bhattacharya (1979) and Chen et al. (2022), while it is seen as negatively correlated to payouts by Van Eije & Megginson (2008), Agarwal & Chakraverty (2023), Fama & French (2001), Le et al. (2019), and Jabbouri (2016).

Most probably this thesis will also be unable to provide a theory that can fully explain a company's total payout, but this study can present company/ sector specific determinants for the total payout in the consumer staples and the consumer cyclical sector in an attempt to further piece together the dividend puzzle (Black, 1976) in an extended form, since share repurchases are included in the analysis conducted in this thesis.

Furthermore, according to Andriosopoulos & Hoque (2013) there is gap in the literature in terms of analysing determinants for what makes firms announce a share repurchase program. In addition to that the existing literature mostly looks at single country analysis, in particular of the US market (Andriosopoulos & Hoque, 2013). Examples of that are studies concerning the ASEAN region (Le et al., 2019), Australia (Yarram, 2014) and the US (Amdur, 2008), in which figures from non-financial firms provided the data basis. Here we will focus more on specific sectors, in this case the consumer cyclical and consumer discretionary sector. One study did analyse a complete industry, specifically the food industry in Europe (Mądra-Sawicka & Ulrichs, 2020), but only looked at dividend payouts, not at repurchases and not at total payout.

2.8 Research question

Therefore, these research questions emerge:

1. What are the company specific determinants for total payouts in the consumer staples and consumer cyclical sectors in Europe and the US?

2. What are the company specific determinants for dividend payouts in the consumer staples and consumer cyclical sectors?
3. What are the company specific determinants for share repurchases in the consumer staples and consumer cyclical sectors?

3. Hypotheses

Based on the research question and the determinants implied by the theories, the following hypotheses emerge:

H1: Firm size has a positive significant effect on dividends/ repurchases/ total payout.

Firm size was found to be positively related to a company's payout by most studies, independent of the payout channel (dividends and repurchases) (Easterbrook, 1984; Fama & French, 2001; La Rocca et al., 2011; Patra et al., 2012; Yarram, 2014; Jabbouri, 2016; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022). The studies that did not find a significantly positive relation between size and pay out did not find any opposing results either but not any significant influence in their cases (Le et al., 2019; Arndt & Kučerová, 2019).

H2: A firm's investment opportunities have a significant negative effect on dividends/ repurchases/ total payout.

Prior studies that have taken growth as an independent variable show contradictory results. Some argue that in order to signal good growth opportunities a company will pay out dividends (Bhattacharya, 1979; Chen et al., 2022) while most studies find that growth opportunities are negatively related to a company's payouts, which is in line with the life cycle and the agency cost theory (Fama & French, 2001; Van Eije & Megginson, 2008; Hsieh & Wang, 2009; Jabbouri, 2016; Le et al., 2019, Agarwal & Chakraverty, 2023).

H3: Firm profitability has a significantly positive effect on dividends/ repurchases/ total payout.

In all studies that have been reviewed for this paper profitability is always a positive determinant for payout (Fama & French, 2001; Patra et al., 2012; Jabbouri, 2016; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022). This is logical as having earned money beforehand is a prerequisite, otherwise paying out will prove difficult over time.

H4: Firm debt has a significant negative effect on dividends/ repurchases/ total payout.

For the most part firm debt is seen as a negative coefficient for payouts (Jensen & Mecklin, 1976; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020) This is also supported by Vermaelen (2005) and Saxena & Sahoo (2022), who argue that repurchasing shares helps a firm when they are not over-leveraged and therefore have open debt capacities to use. The only study that positively associates debt with payouts does so because the assumption is that more debt for a company translates into a higher investment which then ultimately results in higher payouts. This then is very much a lagged presentation of the matter as it will take some years until the debt that was taken on can eventually translate into higher earnings and payouts (Amdur, 2008).

H5: Ownership concentration of a firm has a significantly negative effect on dividends/ repurchases/ total payout.

The impact that a certain ownership structure has on the payout decisions of a company is influenced by the context and type of ownership concentration (Al-Najjar & Kilincarslan, 2016; Khalfan & Wendt, 2020). If a single controlling shareholder is able to dictate the payout policy based on what is favorable for them, it is very difficult to say which direction the payout decisions will take. Typically, ownership concentration is linked to lower payouts as the controlling shareholders are incentivized to make the company retain its cash for later capital appreciation (Khalfan & Wendt, 2020). The later capital appreciation is favorable for them because of tax advantages and the fact that they will already monitor the agents as a controlling shareholder and thus have lower agency costs.

Contrary to this, highly concentrated ownership can also lead to higher payouts, when other large shareholders than the controlling shareholders force payouts to keep a potential principle-principle problem in check (Khalfan & Wendt, 2020). The problems between principles arise when one party is trying to benefit at the cost of others, or the other ones at least perceive it like that.

Evidence from Finland suggests that foreign institutional owners increase the likelihood of share repurchases but decreases the likelihood of dividend payments. Results from Denmark and Norway contradict those from Finland. In these countries, ownership concentration increases the likelihood to pay dividends (Khalfan & Wendt, 2020). In Sweden ownership concentration is again negatively related to the propensity to pay dividends.

Payouts may help to enhance a company's corporate governance and reduce agency problems for firms with a highly concentrated ownership structure, and also help to protect the interests of minority shareholders, therefore a general classification is difficult and probably a lot less precise than a case-to-case basis where the context and type of investor are looked at.

Fittingly, it was found out that in Bangladesh family and public ownership is significantly positively related to dividend payouts, while government and institutional ownership is significantly negatively related to dividend payouts (Hasan et al., 2023).

Lastly, evidence from Turkey shows that here concentrated ownership in any form is negatively related to dividend payouts and dividend yields. One factor contributing to this could be that dividends are not used as a monitoring mechanism for agency problems in the Turkish market.

Because of these contrary findings in different regions, and the fact that ownership concentration allows the controlling investor to forego the use of dividends for monitoring purposes, here we will hypothesize that ownership concentration is negatively related to payout.

H6: Firm age has a significant positive effect on dividends/ repurchases/ total payout.

According to Easterbrook (1984), Fama & French (2001), and Banyi & Kahle (2014) company age is positively related to payout. This is comprehensible as in the early stages of a firm's life cycle they are often in the valley of death, meaning they are burning cash instead of making it, while with coming maturity the retained earnings position should increase which would allow the companies to pay out. Moreover, the stigma is that mature companies have much fewer investment opportunities, fewer positive NPV projects than younger firms which gives the agents less reason to retain cash.

The hypotheses are all for European and US consumer staples and consumer cyclical companies. Both sectors will be looked at independently as previous literature has shown that only because some variables are significant for one sector, they do not necessarily have the same effect on another sector, but for both sectors the same variables and hypotheses will be used in order to see potential similarities and differences in the results, if there are any.

4. Methodology

The analysis will be carried out with a multiple linear regression to predict the level of total payout for European, including GB and Swiss listed firms, and US firms listed in the iShares MSCI World Consumer Staples Sector UCITS ETF (WCSS.AS) and the iShares MSCI World Consumer Discretionary Sector UCITS ETF (WCDS.AS) on June 13th 2023. Therefore, the dependent variable will be total payout (1), dividends (2), and share repurchases (3) respectively. Total payout is a construct of both cash dividends paid in total in a year and the negative proceeds from the sale and issue of common and preference stock, thus the costs incurred by the company to repurchase shares (Khalfan & Wendt, 2020).

The first independent variable is profitability, which will be measured by the net profit margin (net income/revenue *100). (Otherwise company's ratio of aggregate earnings before interest to aggregate assets (Fama & French, 2001). The second independent variable are the company's investment opportunities, measured by the company's price-to-book ratio (Van Eije & Megginson, 2008; Chen et al., 2022) (capital spending as % of operating CF or other). Debt is the third independent variable, and is measured by a company's net debt, which shows whether the company is able to meet its debt obligations. The fourth independent variable is the company's age, measured by the years since the company's incorporation date. Firm size is the fifth independent variable, which is measured by the company's market capitalization (Baker & Kilincarslan, 2019). The final independent variable is ownership concentration. Ownership concentration is the aggregated ownership of the five largest owners, irrespective of the ownership percentage owned by each shareholder (Brunzell et al., 2014; Khalfan & Wendt, 2020). All independent variables will be three-year averages as the performance in the prior years can influence the decision whether to pay out in the following year.

$$\begin{aligned} Total\ payout = \\ &\propto +\beta_1 Net\ margin\ 3y\ avg_t + \beta_2 Price\ to\ book\ value\ 3y\ avg_t \\ &+ \beta_3 Net\ debt\ 3y\ avg_t + \beta_4 Age\ 3y\ avg_t \\ &+ \beta_5 Market\ capitalization\ 3y\ avg_t \\ &+ \beta_6 Ownership\ concentration_t + \varepsilon_t \end{aligned} \quad (1)$$

$$\begin{aligned} Dividends = \\ &\propto +\beta_1 Net\ margin\ 3y\ avg_t + \beta_2 Price\ to\ book\ value\ 3y\ avg_t \\ &+ \beta_3 Net\ debt\ 3y\ avg_t + \beta_4 Age\ 3y\ avg_t \\ &+ \beta_5 Market\ capitalization\ 3y\ avg_t \\ &+ \beta_6 Ownership\ concentration_t + \varepsilon_t \end{aligned} \quad (2)$$

$$\begin{aligned} Share\ repurchases = \\ &\propto +\beta_1 Net\ margin\ 3y\ avg_t + \beta_2 Price\ to\ book\ value\ 3y\ avg_t \\ &+ \beta_3 Net\ debt\ 3y\ avg_t + \beta_4 Age\ 3y\ avg_t \\ &+ \beta_5 Market\ capitalization\ 3y\ avg_t \\ &+ \beta_6 Ownership\ concentration_t + \varepsilon_t \end{aligned} \quad (3)$$

The data will be retrieved from the Orbis database and Refinitiv Eikon, for missing values company statements can be viewed individually. The time-period analyzed is from 2002 to the end of 2022, so that two full business cycles can be analyzed.

4.1 Data

The data sets were downloaded manually from Refinitv Eikon. Only annual data was used, from 2002 to 2022, and all statements were downloaded in U.S. dollars. Throughout the whole data set, ordinary shares were used as the basis for the analysis wherever possible. In cases where there were both preference and ordinary shares of a company, only the data shown for ordinary shares was included.

For a company's price-to-book ratio Refinitiv's valuation sheet was used. Net debt was taken from the company's balance sheet. A company's net profit margin and market capitalization are to be found in Refinitiv's financial summary section. The figures for payout of dividends and cash spent on repurchases came from the company's cash flow statement. The ownership concentration was provided by the company's shareholder report, whenever possible, all the data stems from the month of December of the year, whenever possible. The data for company age was taken from the database Orbis.

There were a total of 1442 observations for the consumer discretionary sector after the listwise deletion of observations with missing values, and 1266 observations for the consumer staples sector after listwise deletion.

5. Results

5.1 Results Research Question 1 (Total payout)

Discretionary sector:

In the consumer discretionary sector, the adjusted r-square of the regression analysis is 0,186, which shows that the regression model is able to explain 18,6% of the variance in the dataset (Table 1).

Table 1: Model Summary Total Payout Regression Discretionary Sector

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.435[a]	.189	.186	1504.9455886	.189	55.835	6	1435	<.001	.592

a. Predictors: (Constant), ownership concentration 3yr avg., Market Capitalization 3yr avg., net margin 3yr avg., age 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg.

b. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

Out of the six independent variables four are statistically significant for the analysis. The four statistically significant variables are: the three-year average price-to-book ratio, which proxies the companies' investment opportunities in this study, the three-year average net debt, the three-year average market capitalization, and the three-year average ownership concentration (Table 3). The independent variables: three-year-average net margin, and the three-year-average age had no statistically significant influence on the total payout by the companies in the discretionary consumer sector in the timeframe of this analysis (Table 3).

In line with the missing statistical significance of the three-year average net margin and age both variables are almost uncorrelated (0,07 and -0,037 respectively) to the observed total payout. The highest correlation of the independent variables to the dependent variable lies is the correlation between the three-year average market capitalization and the total payout. Here the correlation coefficient reads 0,321, which suggests a moderately positive linear relationship. This indicates that

as the average market capitalization increases the total payout values tend to increase as well, and vice versa (Appendix p.53).

Net debt shows a correlation coefficient of 0,226 (Appendix p. 53). As with the three-year average market capitalization, net debt has a moderate positive linear relationship to the total payout. As the three-year average net debt increases, there is a tendency for the total payout to increase, and vice versa. However, the relationship is not very strong.

The three-year average price-to-book value has a weak positive linear relationship with the dependent variable (Appendix p. 56). This suggests that companies with a higher three-year average price-to-book value tend to have slightly higher total payouts.

The only variable in a negative linear relationship with total payout is the three-year average ownership concentration. Here the correlation coefficient is -0,123, which implies a weak correlation (Appendix p. 53).

Anova:

The Anova analysis (Appendix p. 53) for the discretionary sector is significant and thus indicates that at least one of the independent variables has an effect on the total payout of a company. The significance of the Anova analysis suggests that the model as a whole can provide a statistically meaningful fit to the data.

Hypotheses testing:

Table 2: Hypotheses Total Payout Regression Discretionary Sector

H1	Firm size has a positive significant effect on total payout.	accepted
H2	A firm's investment opportunities have a significant negative effect on total payout.	rejected
H3	Firm profitability has a significant positive effect on total payout.	insignificant (rejected)
H4	Firm debt has a significant negative effect on total payout.	rejected
H5	Ownership concentration of a firm has a significant negative effect on total payout.	accepted
H6	Firm age has a significant positive effect on total payout.	insignificant (rejected)

In the regression coefficients table (Table 3) one can see that the three-year average price-to-book ratio, the three-year average net debt, the three-year average market capitalization, and the three-year average ownership concentration are statistically significant in this regression analysis, at the 1% level.

Table 3: Coefficients Total Payout Regression Discretionary Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1148.365	106.838		10.749	<.001
	net margin 3yr avg.	-.011	.043	-.006	-.261	.794
	Price to Book Value per Share - Issue Specific 3yr avg.	12.242	1.824	.161	6.711	<.001
	Net Debt 3yr avg.	.016	.002	.223	9.197	<.001
	age 3yr avg.	-.983	.868	-.027	-1.133	.257
	Market Capitalization 3yr avg.	.006	.001	.279	11.587	<.001
	ownership concentration 3yr avg.	-14.343	2.440	-.142	-5.878	<.001

a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

The first hypothesis that firm size, proxied by a company's market capitalization, has a positive effect on a company's total payout can be accepted according to the results. The three-year average market capitalization has an unstandardized coefficient of 0,006, which indicates that for each one unit increase in the average market capitalization, the total payout of a company rises by 0,006 units, assuming all other variables in the analysis are held constant (Table 3). This result is in line with the previously established hypothesis, and the results of prior research (Easterbrook, 1984; Fama & French, 2001; La Rocca et al., 2011; Patra et al., 2012; Yarram, 2014; Jabbouri, 2016; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022).

The three-year average price-to-book ratio, has an unstandardized coefficient of 12,242 implying a 12,242 million dollar increase in total payouts for each unit increase in the three-year average price-to-book ratio (Table 3), assuming all other variables are held constant, which supports the findings by Bhattacharya (1979) and Chen et al. (2022). This is contrary to the second hypothesis (Table 2), as this hypothesis predicted a negative impact of investment opportunities, proxied by the price-to-book ratio, on a company's total payout. Therefore, this also contradicts the findings by Fama & French (2001), Van Eije & Megginson (2008), Hsieh & Wang (2009), Jabbouri (2016), Le et al. (2019), as well as Agarwal & Chakraverty (2023).

Insignificant and contrary to the hypothesis put forward previously, firm profitability, proxied by net profit margin, seemed to have a negative relationship with a firm's total payouts. However, given this insignificance, the third hypothesis has to be rejected, as no statistically significant effects can be measured in this analysis (Tables 2 & 3). The findings of this thesis regarding the European and U.S. consumer discretionary sector differ from results attained in previous studies (Fama & French, 2001; Patra et al., 2012; Jabbouri, 2016; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022).

Hypothesis 4 is rejected as contrary to the assumption that firm debt has a negative effect on total payout, firm debt in fact has a statistically significant positive relationship with total payouts (Tables 2 & 3). This supports the findings by Amdur (2008), and presents a contrast to the findings Jensen & Mecklin (1976), Le et al. (2019), Mądra-Sawicka & Ulrichs (2020), Vermaelen (2005), and Saxena & Sahoo (2022) attained. The unstandardized coefficient of 0,016 suggests that for every unit increase in firm debt, proxied by the three-year average net debt in this analysis, the total payout rises by 0,016 units (Table 3). As with the other independent variables' coefficients this works only ceteris paribus.

The hypothesis asserting that ownership concentration has a negative impact on total payout (H5) can be accepted (Table 2). The unstandardized coefficient reveals that for each unit increase (%) in a company's ownership concentration the total payout falls by 14,343 units, ceteris paribus (Table 3).

The last hypothesis, that firm age has a statistically significant positive linear relationship with total payouts, is insignificant and is therefore rejected in this analysis (Table 2 & 3). Thus, the findings by Easterbrook (1984), Fama & French (2001), and Banyi & Kahle (2014) are not supported for the European and U.S. consumer discretionary sector.

As the explanations of the hypothesis testing data are the same for the following regressions, their implications will not be repeated in the descriptions of the other regressions.

Assumption testing for the discretionary sector:

The first assumption of a multiple regression analysis is that there is a linear relation of the independent variables and the dependent variable. This can be seen on the basis of scatterplots that visualize the relation of the dependent variable with one independent variable (Appendix pp. 55-56).

In this analysis it is noticeable that most values of the observations used in all variables are clustered around certain values. One example of this is the net margin scatterplot (Appendix p. 55), in which can be seen that most of the observations are between a three-year average net margin of 0 to 5%, irrespective of whether the companies are paying out or not. This suggests general similarities between the companies in the sector in terms of the net margins the companies are achieving. These relatively low net margins further suggest that companies have high competition over costs and must be very efficient in order to stay profitable and competitive. The similarities between the companies analyzed arise because only one specific sector is looked at in this analysis. With a cross-sector study these similarities between companies operating in the same sector could be more broadly distributed.

A constant variance in the error terms (residuals), homoscedasticity, is the second assumption of a regression analysis. This implies a roughly constant variance across all datapoints of the sample. In this analysis the homoscedasticity assumption is checked by examining the scatterplot of the residuals (Figure 1). If the variance of the residuals is not constant, heteroscedasticity is present.

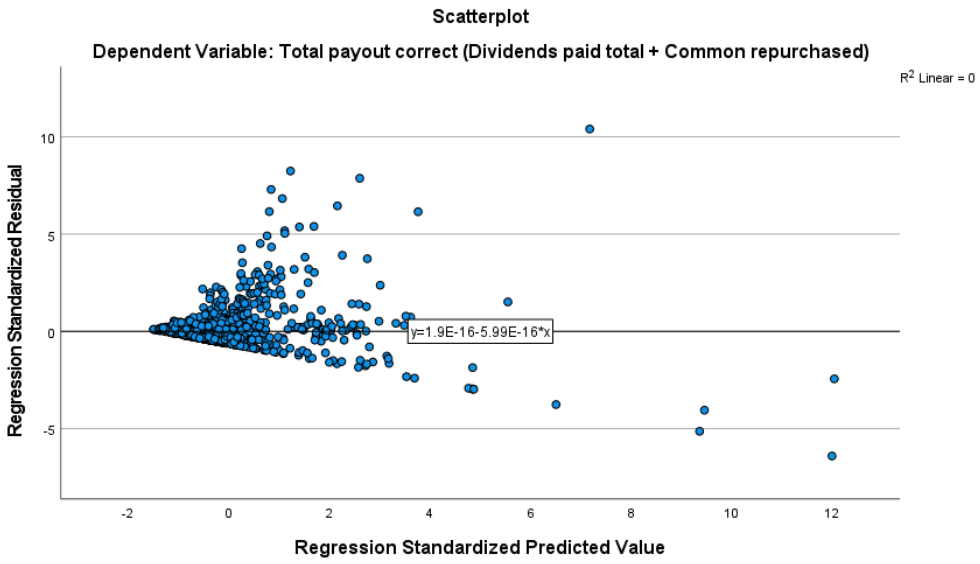


Figure 1: Residuals Scatterplot Total Payout Regression Discretionary Sector

As shown in the scatterplot above (Figure 1), we have to assume the presence of heteroscedasticity in this analysis. This can be seen in the spreading pattern of the residuals. Heteroscedasticity can lead to biased and/or skewed results, as it is possible to have biased standard errors.

The third assumption is that the error terms are uncorrelated. This states that the regression residuals are uncorrelated with each other, if the residuals are uncorrelated there is no autocorrelation in the data set. Autocorrelation suggests that there is a correlation between the values of a variable and the values of the same variable in the past. This can happen in time-series analysis where the same observations are made over multiple years of the same unit of observation.

To test for the assumption of uncorrelated error terms, the Durbin Watson test is used. The test score ranges from 0 to 4, values below 2 indicating that there is some positive autocorrelation, a value of 2 indicates no autocorrelation, and a value larger than 2 indicates a negative autocorrelation between the residuals.

The Durbin Watson test results is 0,592, it can be seen in the model summary above (Table 1). This result indicates positive autocorrelation between the regression residuals. This can have a negative impact on the regression coefficients as the standard errors of estimates could be underestimated by the model. A logical explanation for the autocorrelation in the sample used here is that this analysis looks at companies over a 20-year time frame in which the companies' result of the prior year had an influence on their performance and on the pay out in the next year. A company which has a lot of debt will, with high probability, still have a lot of debt the following year, because reducing debt is a process that can take large firms years to accomplish.

The fourth assumption in regression analysis pertains to the independence of the error terms. Given the previous observation of autocorrelation in the error terms and the fact that a time series was analyzed in this study I argue that the error terms will not be fully independent. Furthermore, since the study focuses on a specific sector rather than using random sampling, it is certainly less likely for the observations to be completely independent from each other.

The fifth assumption in regression analysis involves the normality of error terms. In order to test this assumption a normal P-P plot can be looked at and a test of normality can also be done.

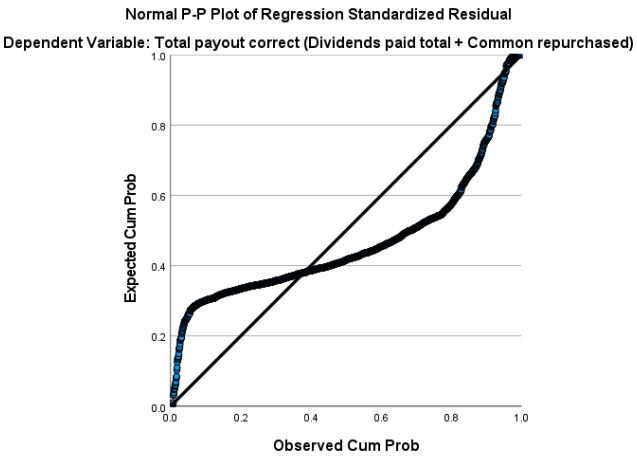


Figure 2: P-P Plot Total Payout Regression Discretionary Sector

The P-P plot of the regression residuals shows a distinctive pattern that resembles a linear relationship (Figure 2), between the expected cumulative probability and the observed cumulative probability. At both ends of the spectrum the residuals rise more steeply compared to the linear line, while they

flatten out in the middle and intersect with the linear line. In total, the residuals cross the linear line two times.

The test of normality yields a significant result (P<0,05), indicating that the residuals deviate from a normal distribution (Appendix p. 55). Like the P-P plot, the Q-Q Plot (Appendix p. 55) reveals no perfect linear relationship, but there is some indication of a linear pattern.

The sixth and last assumption that posits a lack of perfect multicollinearity is fulfilled as SPSS would not perform the analysis if there was perfect multicollinearity, this is applicable to all regressions run in this thesis and will not be mentioned again.

Staples Sector:

In the consumer staples sector the adjusted r-square of the regression analysis is 0,787, which shows that the regression model is able to explain 78,7% of the variance in the dataset (Table 4).

Table 4: Model Summary Total Payout Regression Staples Sector

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.888[a]	.788	.787	1375.8960339	.788	780.735	6	1259	.000	1.079

a. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., age 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

From the six independent variables three are statistically significant for the analysis. The three statistically significant variables are: the three-year average price-to-book ratio, the three-year average market capitalization, and the three-year average ownership concentration. The independent variables: three-year average net margin, three-year average net debt, and the three-year average age had no statistically significant influence on the total payout of the companies in the discretionary consumer sector in the timeframe of this analysis (Table 6).

The highest correlation of the independent variables with the dependent variable is the correlation between the three-year average market capitalization and the total payout (Appendix p. 59). Here the correlation coefficient is 0,88, which suggests a very strong positive linear relationship.

Net debt has a correlation coefficient of 0,57 (Appendix p. 59), and it also shows a moderate positive linear relationship to the total payout.

The three-year average price-to-book value reveals a weak positive linear relationship (correlation coefficient of 0,138) with the dependent variable (Appendix p. 59).

The only variable in a negative linear relationship with total payout is the three-year average ownership concentration. Here the correlation coefficient is -0,253, which implies a weak correlation (Appendix p. 59).

Three-year average net margin and age are almost completely uncorrelated (0,032 and 0,01 respectively) to the observed total payout (Appendix p. 59).

Anova:

The Anova analysis (Appendix p. 60) for the consumer staples sector is significant and thus suggests that – for the consumer staples sector – the model as a whole can provide a statistically meaningful fit to the data.

Hypotheses Testing:

Table 5: Hypotheses Total Payout Regression Staples Sector

H1	Firm size has a positive significant effect on total payout.	accepted
H2	A firm's investment opportunities have a significant negative effect on total payout.	rejected
H3	Firm profitability has a significant positive effect on total payout.	insignificant (rejected)
H4	Firm debt has a significant negative effect on total payout.	insignificant (rejected)
H5	Ownership concentration of a firm has a significant negative effect on total payout.	accepted
H6	Firm age has a significant positive effect on total payout.	insignificant (accepted)

In the regression coefficients table one can see that the three-year average price-to-book ratio, the three-year average market capitalization, and the three-year average ownership concentration are statistically significant in this regression analysis, at the 1% level (Table 6). A full description of the results for hypothesis testing can be found in the Appendix pages 60 and 61.

Table 6: Coefficients Total Payout Regression Staples Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	315.731	107.451		2.938	.003
	net margin 3yr avg.	.055	.953	.001	.058	.954
	Price to Book Value per Share - Issue Specific 3yr avg.	5.656	1.066	.069	5.304	<.001
	Net Debt 3yr avg.	.007	.005	.025	1.449	.148
	age 3yr avg.	1.066	.637	.022	1.674	.094
	Market Capitalization 3yr avg.	.046	.001	.843	48.875	<.001
	ownership concentration 3yr avg.	-14.290	2.159	-.088	-6.618	<.001

a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

Assumption testing for the consumer staples sector:

The linearity assumption is checked visually on the basis of scatterplots that depict the relation of the dependent variable with one independent variable (Appendix p. 62).

Here one can see that the values are clustered around certain values which indicates that there is an industry standard. This also suggests that there are similarities between the companies in the consumer staples sector (Appendix p. 62). In all variables there are outliers. The variable with the clearest cut linear relationship to the total payout is a company's market capitalization.

The second assumption pertains to homoscedasticity (Figure 3). If the variance of the residuals is not constant, its presence in the dataset must be assumed.

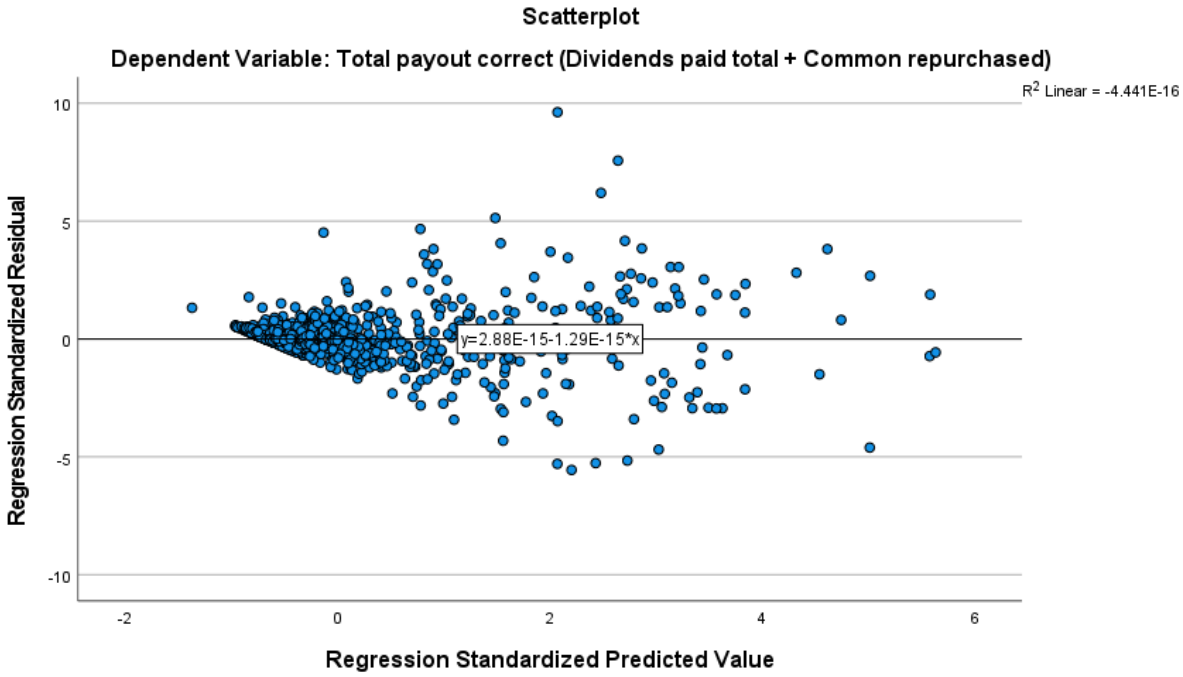


Figure 3: Residuals Scatterplot Total Payout Regression Staples Sector

In the scatterplot above (Figure 3) one can see that the variance in the error terms is not constant, because of the spreading pattern of the residuals. This can lead to biased and/or skewed results as there is the possibility of biased standard errors.

The third assumption states that there are uncorrelated error terms. In the model summary presented above (Table 4), the Durbin-Watson test result is 1.079. This result suggests the presence of positive autocorrelation among the regression residuals.

The fourth assumption in linear regression analyses pertains to the independence of error terms. Given the earlier observation of autocorrelation in the error terms and the nature of analyzing a time series in this study, it is reasonable to expect that the error terms may not be entirely independent. Additionally, since the study focuses on a specific sector rather than using random sampling, the likelihood of complete independence among observations is reduced.

The fifth assumption in regression analysis involves the normality of error terms (Figure 4).

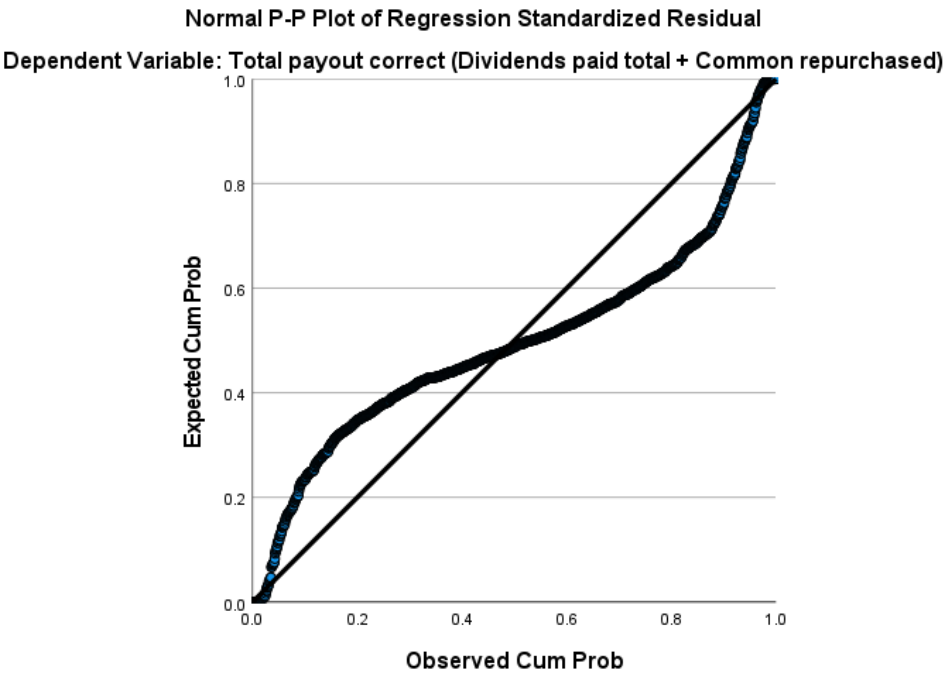


Figure 4: P-P Plot Total Payout Regression Staples Sector

The P-P plot of the regression residuals reveals a distinctive pattern, resembling a linear relationship, between the expected cumulative probability and the observed cumulative probability. Notably, at both extremes of the spectrum, the residuals exhibit steeper inclines compared to the linear line. In contrast, in the middle, the residuals level off, intersecting with the linear line. Overall, the residuals intersect the linear line at about observed cumulative probability of 0,5.

The test of normality yields a significant result (P<0.05), suggesting that the residuals deviate from a normal distribution (Appendix p. 64). The Q-Q Plot, presented in the appendix, reveals a pattern similar to that of the P-P Plot — although not a perfect linear relationship, there is some indication of a linear pattern in the distribution of the residuals (Appendix p.64).

Differences between the sectors:

The analysis of the data set on consumer staples reveals a relatively lower level of autocorrelation, as reflected by a Durbin-Watson statistic of 1.079 (Table 4). Despite this, residual autocorrelation remains present, albeit to a lesser extent compared to the discretionary dataset, in which the Durbin-Watson statistic is notably lower at 0.592 (Table 1).

In terms of explanatory power, the staples sector outperforms the discretionary sector with a higher R-squared value of 0.787 (Table 4). This indicates that the regression model applied to the data set on consumer staples accounts for a substantial proportion of the observed variability. Conversely, the discretionary sector exhibits a lower R-squared value of 0.186, suggesting that the model explains a comparatively smaller fraction of the variance in this sector (Table 1).

The variable "net debt" is only statistically significant within the discretionary sector. This highlights the variable's distinctive role in predicting the dependent variable specifically within the discretionary sector.

Similarities between the sectors:

The analysis reveals that both net margin and age exhibit almost complete lack of correlation with total payout in both sectors, rendering them statistically insignificant (Appendix p. 52 & p. 59). Notably, the correlations among the independent variables are observed to be in the same order of magnitude. Among the variables, market capitalization emerges with the highest correlation to the dependent variable, total payout. Moreover, negative ownership concentration is associated with a discernible impact on total payout. Variables such as price-to-book ratio, market capitalization, and ownership concentration demonstrate statistical significance in influencing total payout within both sectors.

5.2 Results Research Question 2 (Dividend payout)

Discretionary Sector:

The adjusted r-square of the dividend payout regression analysis in the consumer discretionary sector is 0,856. This implies that the regression model used explains 85,6% of the variance in the dataset (Table 7).

Table 7: Model Summary Dividend Payout Regression Discretionary Sector

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.856[a]	.733	.731	446.4355069	.733	527.352	6	1154	.000	.796

a. Predictors: (Constant), ownership concentration 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., net margin 3yr avg., age 3yr avg., Net Debt 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

In this analysis a company's price-to-book ratio, net debt, and its market capitalization are statistically significant variables. The other three variables are not statistically significant when looking for determinants of dividend payout in the consumer discretionary sector from 2002 to 2022 (Table 9).

In line with the statistical insignificance of the three-year average net margin, age, and the ownership concentration the three variables show very low correlations to the dependent variable, in this case dividend payout. The values here are 0.002, -0.026, and 0.064 respectively (Appendix p. 65). The highest correlation of the independent variables to the dependent variable is the correlation between the three-year average market capitalization and the total payout. Here the correlation coefficient is 0.83, which suggests a strong positive linear relationship (Appendix p. 65).

Net debt has a correlation coefficient of 0,469, suggesting a moderate positive linear relationship with dividend payout (Appendix p. 65). A further implication of this is that as net debt increases so do dividend payouts.

The three-year average price-to-book value demonstrates a weak positive linear association with the dependent variable. The correlation coefficient is 0,196 here (Appendix p. 65).

Anova:

The Anova analysis (Appendix p. 65) for the discretionary sector is significant and thus indicates that at least one of the independent variables has an effect on the dividend payout of a company.

Hypotheses testing:

Table 8: Hypotheses Dividend Payout Regression Discretionary Sector

H1	Firm size has a positive significant effect on dividend payout.	accepted
H2	A firm's investment opportunities have a significant negative effect on dividend payout.	rejected
H3	Firm profitability has a significant positive effect on dividend payout.	insignificant (rejected)
H4	Firm debt has a significant negative effect on dividend payout.	rejected
H5	Ownership concentration of a firm has a significant negative effect on dividend payout.	insignificant (accepted)
H6	Firm age has a significant positive effect on dividend payout.	insignificant (rejected)

The regression coefficients table below (Table 9) indicates that the three-year average price-to-book ratio, the three-year average net debt, and the three-year average market capitalization are statistically significant at the 1% level. A full description of the results for hypothesis testing can be found in the Appendix underneath the respective table (Appendix pp. 66-67).

Table 9: Coefficients Dividend Payout Regression Discretionary Sector

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	48.864	34.947		1.398	.162
	net margin 3yr avg.	-.010	.013	-.011	-.751	.453
	Price to Book Value per Share - Issue Specific 3yr avg.	1.928	.600	.050	3.213	.001
	Net Debt 3yr avg.	.008	.001	.221	13.470	<.001
	age 3yr avg.	-.130	.279	-.007	-.465	.642
	Market Capitalization 3yr avg.	.019	.000	.746	44.862	<.001
	ownership concentration 3yr avg.	-.340	.765	-.007	-.445	.656

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

Assumption testing for the discretionary sector:

The initial assumption in multiple regression analysis posits the existence of a linear relationship between the independent variables and the dependent variable. This relationship is shown through scatterplots, which illustrate the connection between the dependent variable and a specific independent variable (Appendix pp. 68-69).

The ownership concentration is rather broadly distributed, while - as already seen in the total payout regression - the other variables show that most observations are quite close together. The market capitalization, in which there is also the highest number of clustered values, shows the strongest linear relationship with a company's total payout (Appendix p. 69). In general, the scatterplots show that the

companies have similarities, which of course, was to be expected since all companies in question come from the same sector. In a cross-sector study these similarities between the companies could be less obvious.

The second underlying assumption of a multiple linear regression analysis is homoscedasticity. In this analysis the homoscedasticity assumption is checked by examining the scatterplot of the residuals (Figure 5). As shown in the scatterplot below (Figure 5) the presence of heteroscedasticity must be assumed in this analysis.

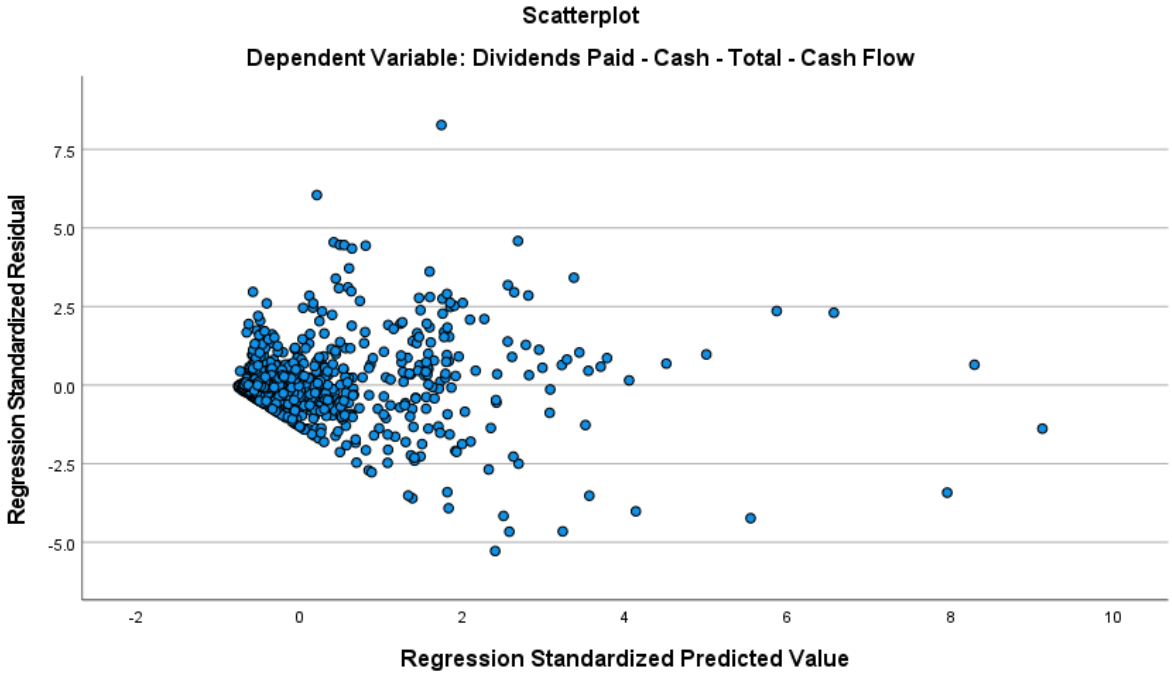


Figure 5: Residuals Scatterplot Dividend Payout Regression Discretionary Sector

The third assumption asserts that the error terms should exhibit no correlation among themselves, indicating the absence of autocorrelation in the dataset. To test for the assumption of uncorrelated error terms, the Durbin Watson test is used. The test result is 0,796 (Table 7). As with the total payout regression there is autocorrelation here, since the same dataset is used this result was to be expected.

For the fourth assumption in the dividend payout regression the same interpretation is given as for the total payout assumption, namely that I argue that the error terms will not be fully independent. The reasoning also remains the same, in this analysis a time series that was not randomly sampled was looked at, which makes it less likely for the error terms to be completely independent from one another.

The fifth assumption - normality of error terms - is tested by means of a test of normality and a P-P plot.

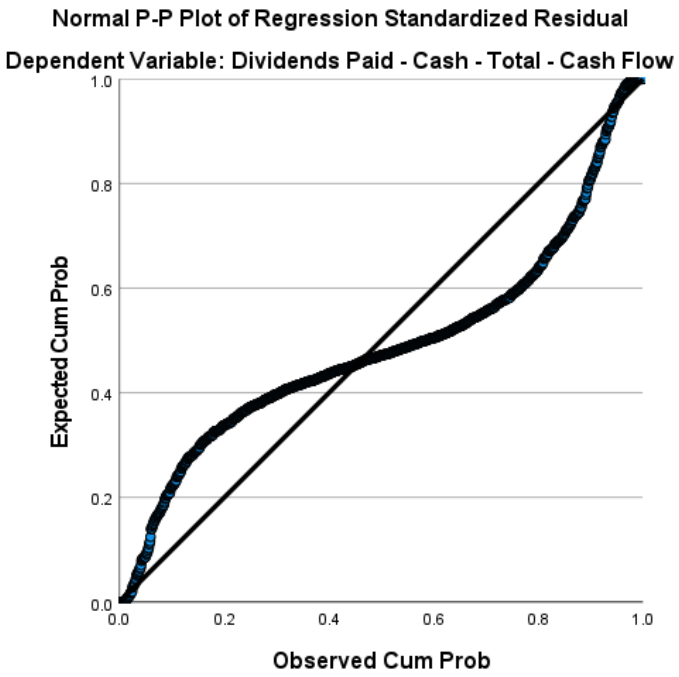


Figure 6: P-P Plot Dividend Payout Regression Discretionary Sector

Here too, when only dividend payout is looked at, the P-P plot of the regression residuals deviates from expected cumulative probability and rises more steeply at both ends of the chart, while it flattens in the middle (Figure 6).

The test of normality has a p-value of <0,05, which makes it significant, and thus indicates that the residuals are not normally distributed (Appendix p. 68).

Staples Sector:

In the consumer staples sector the adjusted r-square of the regression analysis is 0,841, thus indicating that the regression model is able to explain 84,1% of the variance in the dataset (Table 10).

Table 10: Model Summary Dividend Payout Regression Staples Sector

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.917[a]	.842	.841	676.2561453	.842	1027.797	6	1161	.000	.725

a. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

In this analysis all six independent variables are statistically significant at the 5% level, as it can be seen in the Coefficients table (Table 12). A company's three-year average price-to-book ratio, three-year average net debt, three-year average market capitalization, and the three-year average ownership concentration are significant at the 1% level.

The variable with the highest correlation in this analysis was a company's market capitalization. The correlation is very strong with at a value of 0,9. The second strongest correlation with the dividend payout stems from a company's three-year average net debt. Here the correlation is still quite strong at a value of 0,685. If measured by correlation strength, the variable that is third most strongly correlated with the dividend payout is a company's ownership concentration. Here the correlation

coefficient is -0,243. This implies a negative correlation between increasing ownership concentration and dividend payout. In fourth place there is a company's price-to-book value with a relatively week correlation of 0,112. Second to last is the three-year average net margin with a correlation value of 0,071. Another variable that is almost uncorrelated is a company's three-year average age which shows a correlation to dividend payout of -0,032 (Appendix p. 75).

Anova:

The Anova analysis (Appendix p. 76) is significant and thus indicates that at least one of the independent variables affects the total payout of a company.

Hypotheses testing:

Table 11: Hypotheses Dividend Payout Regression Staples Sector

H1	Firm size has a positive significant effect on dividend payout.	accepted
H2	A firm's investment opportunities have a significant negative effect on dividend payout.	rejected
H3	Firm profitability has a significant positive effect on dividend payout.	accepted
H4	Firm debt has a significant negative effect on dividend payout.	rejected
H5	Ownership concentration of a firm has a significant negative effect on dividend payout.	accepted
H6	Firm age has a significant positive effect on dividend payout.	accepted

A full description of the results for hypothesis testing can be found in the Appendix underneath the respective table (Appendix pp. 76-77).

Table 12: Coefficients Dividend Payout Regression Staples Sector

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	122.726	55.112		2.227	.026
	net margin 3yr avg.	1.365	.585	.027	2.335	.020
	Price to Book Value per Share - Issue Specific 3yr avg.	2.187	.525	.049	4.168	<.001
	Net Debt 3yr avg.	.033	.002	.203	13.276	<.001
	age 3yr avg.	.696	.326	.025	2.135	.033
	Market Capitalization 3yr avg.	.023	.000	.753	48.883	<.001
	ownership concentration 3yr avg.	-6.945	1.113	-.075	-6.241	<.001

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

Assumption testing for the staples sector:

The linearity assumption is checked visually on the basis of scatterplots that depict the relation of the dependent variable with one independent variable (Appendix p.79-80). In this analysis, as with the prior ones concerning the consumer staples sector, the values of independent variables are clustered showing that there are similarities between the individual companies in the sector. Market capitalization is the only variable here that has a clear-cut linear relationship with the dependent variable (Appendix p. 80).

Assumption two in linear regressions posits that there is a constant variance of error terms. In this case the scatterplot below (Figure 7) shows that there is some heteroscedasticity in the dataset.

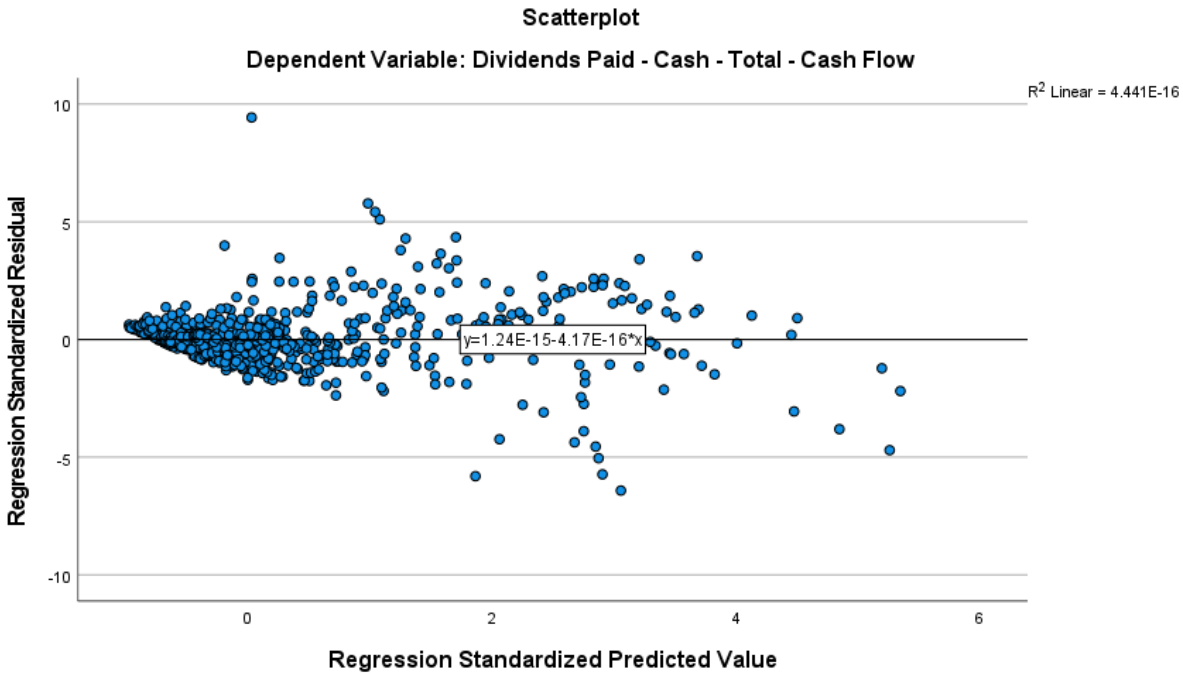


Figure 7: Residuals Scatterplot Dividend Payout Regression Staples Sector

Assumption three for regression analysis are uncorrelated error terms. Here the Durbin Watson value is 0,725 which implies that the error terms are autocorrelated to some degree (Table 10).

Independence of error terms is the fourth assumption. As with all other analyses performed in this paper, a complete independence cannot be expected since this is a time series analysis in which prior results do have an influence on the following year.

The fifth assumption in regression analysis involves the normality of error terms. The P-P plot graphically presents the finding that there are deviations from the expected cumulative probability. The test of normality yields a significant result ($P<0.05$), suggesting that the residuals do indeed deviate from a normal distribution (Appendix p.78).

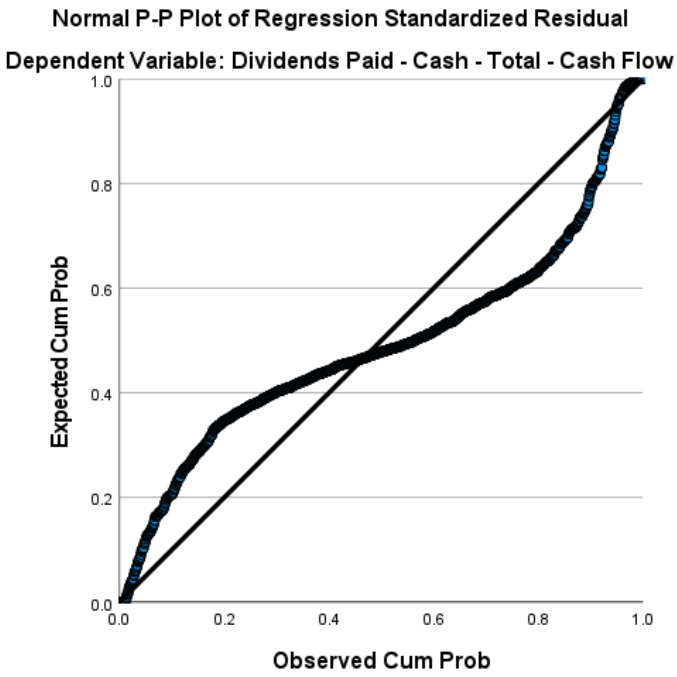


Figure 8: P-P Plot Dividend Payout Regression Staples Sector

Differences between the sectors:

In the consumer staples sector all six independent variables are statistically significant, in comparison to that the consumer discretionary sector only contains three of the six independent variables showing statistical significance (Tables 8 & 11).

The second difference between the two sectors is that ownership correlation shows a correlation to the dividend payout of -0,243 for the staples sector (Table 12), while in the discretionary sector the three-year average ownership concentration was almost completely uncorrelated with a correlation value of 0,064 (Table 9).

Similarities between the sectors:

The analysis shows that both sectors have Durbin Watson values of 0,7, indicating that they have roughly the same degree of autocorrelation in both datasets. Moreover, in both datasets the test of normality is significant, showcasing that both datasets are not perfectly normally distributed.

The Anova Analysis is also significant in both datasets. This shows that in general in both analyses at least one variable has a significant effect on the dividend payout of the companies analyzed.

In both cases the three-year average market capitalization and net debt respectively have the highest correlation to the dependent variable. Furthermore, in both cases three-year average net margin and three-year average company age are almost uncorrelated to the dividend payout.

The variance explained for both dividend payout regressions was above 80%, depicting a much better model fit for dividend payouts than for total payouts.

5.3 Results Research Question 3 (Share repurchases)

Discretionary sector:

The adjusted r-square of the share repurchases regression analysis in the consumer discretionary sector is 0,242. This implies that the regression model used explains 24,2% of the variance in the dataset (Table 13).

Table 13: Model Summary Share Repurchase Regression Discretionary Sector

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.496[a]	.246	.242	1180.6244135	.246	57.254	6	1051	<.001	1.003

a. Predictors: (Constant), ownership concentration 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., net margin 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

From the six independent variables in this analysis a company's three-year average price-to-book ratio, a company's three-year average market capitalization and a company's three-year average ownership concentration are statistically significant. Three-year average net debt, three-year average net margin, and three-year average age have no statistical significance on the share repurchase amount in the timeframe covered by this analysis (Table 14).

A company's three-year average market capitalization has the highest correlation to a company's share repurchase activity, the correlation coefficient here is 0,459 suggesting that there is a moderate positive relationship (Appendix p. 70).

The second strongest correlation with share repurchases can be found in the independent variable three-year average ownership concentration. The correlation coefficient of -0,205 suggests that there is a weak to moderate negative relationship (Appendix p. 70).

Three-year average price-to-book ratio shows a weak positive relationship with share repurchases. The correlation coefficient is 0,149 (Appendix p. 70).

The independent variables three-year average net debt, three-year average. net margin, and three-year average age are almost uncorrelated to share repurchases. The correlation coefficients are 0,045, 0,041, and -0,0038 respectively (Appendix p. 70).

Anova:

The Anova analysis (Appendix p. 71) for the discretionary sector is significant and thus indicates that at least one of the independent variables has an effect on the share repurchases of a company.

Hypotheses testing:

Table 14: Hypotheses Share Repurchase Regression Discretionary Sector

H1	Firm size has a positive significant effect on share repurchases.	accepted
H2	A firm's investment opportunities have a significant negative effect on share repurchases.	rejected
H3	Firm profitability has a significant positive effect on share repurchases.	insignificant (rejected)

H4	Firm debt has a significant negative effect on share repurchases.	insignificant (rejected)
H5	Ownership concentration of a firm has a significant negative effect on share repurchases.	accepted
H6	Firm age has a significant positive effect on share repurchases.	insignificant (rejected)

The regression coefficients table below (Table 15) clearly indicates that the three-year average price-to-book ratio, the three-year average market capitalization, and the three-year average ownership concentration are of statistical significance at the 1% level. A full description of the results for hypothesis testing can be found in the Appendix underneath the respective table (Appendix p. 71).

Table 15: Coefficients Share Repurchase Regression Discretionary Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	933.288	114.362		8.161	<.001
	net margin 3yr avg.	1.017	1.081	.025	.941	.347
	Price to Book Value per Share - Issue Specific 3yr avg.	4.641	1.448	.087	3.206	.001
	Net Debt 3yr avg.	-.002	.002	-.024	-.899	.369
	age 3yr avg.	-.599	.908	-.018	-.659	.510
	Market Capitalization 3yr avg.	.011	.001	.434	15.756	<.001
	ownership concentration 3yr avg.	-16.844	2.788	-.163	-6.041	<.001

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

Assumption testing for the discretionary sector:

Assumption one, the linear relationship between independent variables and the dependent variable, is violated here as well, because the dataset is the same as in the previous analyses (Appendix p. 73-74).

A constant variance in the error terms (residuals), homoscedasticity, is the second assumption of a regression analysis (Figure 9).

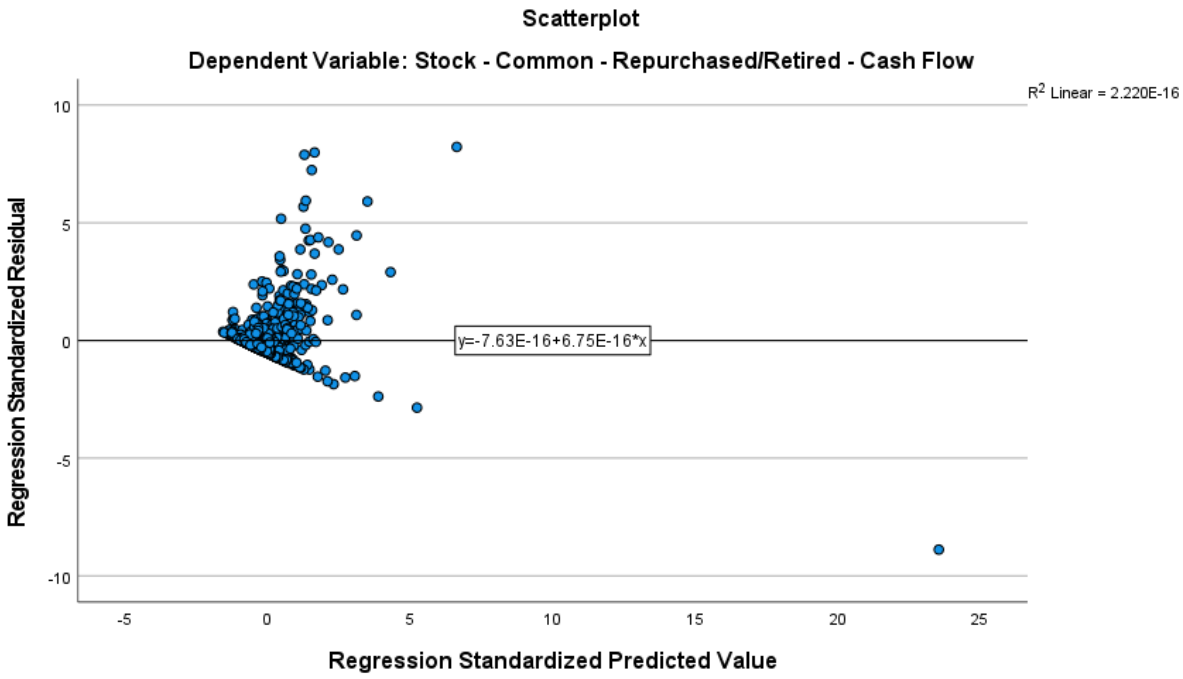


Figure 9: Residuals Scatterplot Share Repurchase Regression Discretionary Sector

As can be seen in the scatterplot above (Figure 9), there is heteroscedasticity prevails in this analysis, which can lead to biased and/or skewed results, as it is possible to have biased standard errors.

The third assumption posits uncorrelated error terms, as with the preceding analyses positive autocorrelation is also to be found here. The Durbin Watson test results in 1,003 for this analysis (Table 13).

Assumption four, independence of error terms, will probably be violated here again for the same reasons already stated in the previous sections.

The fifth assumption involves the normality of error terms. This is checked via the cumulative probability plot and a test of normality. The test of normality reveals a significant result indicating that the residuals are not normally distributed (Appendix p. 73). The P-P Plot of the regression residuals below (Figure 10) shows that as well through its deviations from the expected cumulative probability.

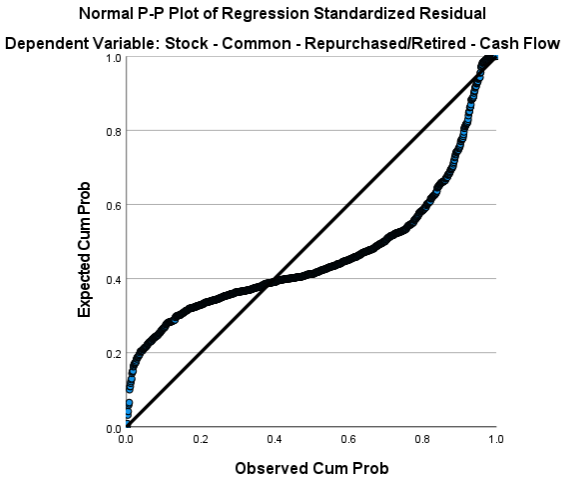


Figure 10: P-P Plot Share Repurchase Regression Discretionary Sector

Staples Sector:

In the consumer staples sector the adjusted r-square of the regression analysis comes out as 0,519, which shows that the regression model is able to explain 51,9% of the variance in the dataset (Table 16).

Table 16: Model Summary Share Repurchase Regression Staples Sector

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.720[a]	.519	.516	1314.9162010	.519	160.429	6	893	<.001	1.253

a. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

The three-year average market capitalization and price-to-book ratio are the statistically significant variables in this analysis, both at the one percent level (Table 18).

A company's three-year average market capitalization also has the highest correlation with share repurchases, with a correlation coefficient of 0,715 (Appendix p. 81).

Net debt reveals a correlation coefficient of 0,477, suggesting a moderate linear relationship with the dependent variable (Appendix p.82).

The third highest correlation coefficient can be seen in a company's three-year average ownership concentration, with a coefficient of -0,144 (Appendix p. 81). There seems to be a weak negative relationship between ownership concentration and share repurchases.

With a correlation coefficient of 0,111, a company's price-to-book value is weakly but – contrary to the hypothesis – positively related to share repurchases of the companies in the dataset (Appendix p. 81).

The age and net margin variables are almost uncorrelated with the dependent variable, their correlation coefficients are 0,054 and 0,006 respectively (Appendix p. 81).

Anova:

The Anova analysis (Appendix p. 82) for the consumer staples sector is significant.

Hypotheses testing:

Table 17: Hypotheses Share Repurchase Regression Staples Sector

H1	Firm size has a positive significant effect on share repurchases.	accepted
H2	A firm's investment opportunities have a significant negative effect on share repurchases.	rejected
H3	Firm profitability has a significant positive effect on share repurchases.	insignificant (rejected)
H4	Firm debt has a significant negative effect on share repurchases.	insignificant (rejected)
H5	Ownership concentration of a firm has a significant negative effect on share repurchases.	insignificant (rejected)

H6	Firm age has a significant positive effect on share repurchases.	insignificant (rejected)

The regression table (Table 18) shows that the three-year average market capitalization and the three-year average price-to-book ratio are statistically significant in this regression analysis, at the 1% level. A full description of the results for hypothesis testing can be found in the Appendix underneath the respective table (Appendix p. 82).

Table 18: Coefficients Share Repurchase Regression Staples Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	101.083	131.343		.770	.442
	net margin 3yr avg.	-1.324	1.205	-.026	-1.098	.272
	Price to Book Value per Share - Issue Specific 3yr avg.	2.965	1.026	.068	2.889	.004
	Net Debt 3yr avg.	-.006	.006	-.033	-1.011	.312
	age 3yr avg.	.493	.846	.014	.583	.560
	Market Capitalization 3yr avg.	.023	.001	.729	22.279	<.001
	ownership concentration 3yr avg.	-3.835	2.822	-.032	-1.359	.175

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

Assumption testing for the consumer staples sector:

Assumption one, positing the linear relation of the independent variables with the dependent variable, is checked on the basis of scatterplots (Appendix pp. 84-85). As with the previous analysis the data is clustered. Here the three-year average net debt, three-year average market capitalization, and the three-year average ownership concentration are clustered the least. Outliers are visible in all variables.

The presence of homoscedasticity is assumption number two (Figure 11). Here the result of the scatterplot is that heteroscedasticity prevails in the dataset.

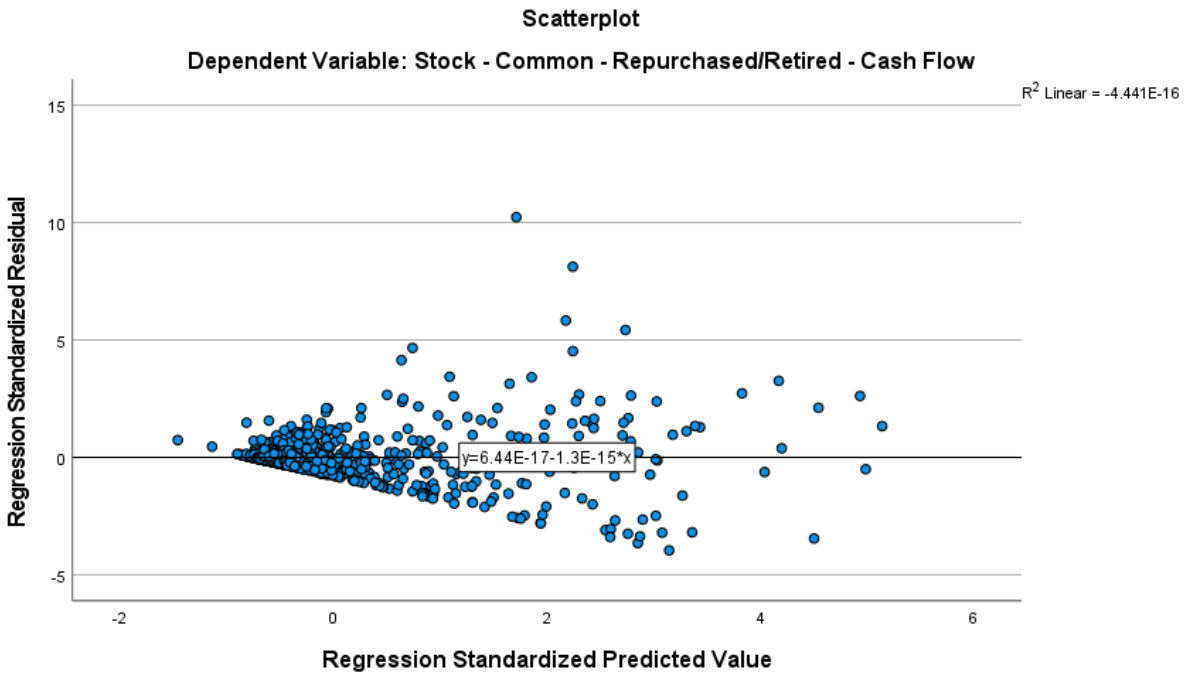


Figure 11: Residuals Scatterplot Share Repurchase Regression Staples Sector

Uncorrelated error terms are the focus of the third assumption. The value of the Durbin Watson test proves to be 1,253 (Table 16).

Ther fourth assumption is violated for the same reason why the third assumption shows autocorrelation, the nature of the study.

The fifth assumption in regression analysis involves the normality of error terms. The test of normality (Appendix p. 84) is significant indicating that the residuals are not normally distributed. The P-P Plot of the regression residuals below (Figure 12) shows that as well through its deviations from the expected cumulative probability.

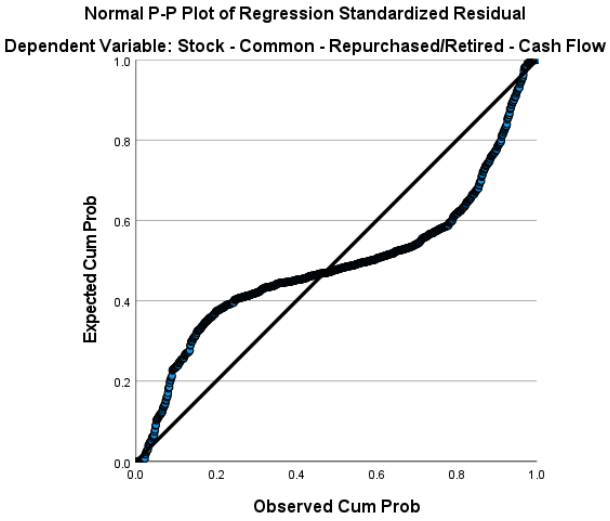


Figure 12: P-P Plot Share Repurchase Regression Staples Sector

Differences between the sectors:

The staples sector in the share repurchases regression shows less autocorrelation than the discretionary sector, and less than all other regression analyses performed in this paper.

What is also noticeable is that there is a gap between sectors concerning the question of how much of the variance the regression analysis is able to explain. For the discretionary sector the analysis is only able to explain roughly a quarter of the variance in the dataset, while slightly more than half of the variance in the dataset can be explained by the regression analysis for the staples sector (Table 13 & 16).

In the consumer discretionary sector, the three-year average ownership concentration has a statistically significant negative relationship with the money spent by companies on share repurchases (Table 15).

Lastly, the three-year average market capitalization is strongly correlated to share repurchases in the staples sector but has only a moderate correlation in the consumer discretionary sector.

Similarities between the sectors:

Concerning share repurchases, both sectors also show some similarities. Age and net margin are as variables in the analyses almost completely uncorrelated with share repurchase commitments by companies in this analysis. Furthermore, the units of analysis and their respective values for almost all variables cluster in both analyses, also showcasing similarities between the singular units of analysis. Another similarity is that the three-year average market capitalization and the three-year average price-to-book ratio are statistically significant in both sectors. Moreover, a company's price-to-book ratio is only weakly correlated with share repurchases in both cases.

Lastly, in both analyses ownership concentration is negatively correlated with share repurchases, affirming the hypothesis that higher investment opportunities for a company have a negative influence on share repurchases, but it only has statistical significance in the discretionary sector.

5.4 Residual Analysis

The residuals of the regression analyses performed are tested by means of Shapiro-Wilk, Durbin-Watson, Breusch-Pagan, and White tests (Table 19, Appendix pp. 86-92).

The Shapiro-Wilk test checks the residuals for their normal distribution, the results in this study show strong evidence against a normal distribution of the regression residuals. This suggests that skewness and kurtosis are evident in the data sampled. The regression analysis and the associated statistical tests assume a normal distribution of the residuals. The practical implications of this violated normality assumption are that the results of the regression analysis may not be valid and that the conducted hypothesis tests may not be accurate. This renders all practical inferences drawn from these results questionable, and possibly invalid.

The Durbin Watson test has already been evaluated in the sections about assumption testing of the individual regression analysis, in all individual analyses there is evidence of autocorrelation of the residuals which is due to the fact that all analyses are time-series analyses, in which the companies' results for each year are not fully independent from the results for the previous years.

The Breusch-Pagan test indicates significant evidence against the null hypothesis of homoscedasticity. All analyses conducted show a Breusch-Pagan test value of 0.000 (Table 19). To be able to draw robust conclusions from the regression, robust standard errors, which would mean Breusch-Pagan test values of over 0.05, would be preferable, as they provide the regression with more reliable standard errors.

The results obtained from the Breusch-Pagan test are further supported by the White Test, which is also concerned with the homoscedasticity of residuals. In White's test a p-value of lower than 0.05 is also related to a violation of the homoscedasticity assumption. In this case all values of the White test are below the 0.05 threshold (Table 19).

A very critical model assessment would imply regarding all results from these regression analyses as invalid since the underlying residual assumptions are not satisfied. A worthwhile endeavor for further research could be taking a statistical model that is not based on normality assumptions to provide more accurate and robust findings.

Model			Shapiro-Wilk	Durbin-Watson	Breusch-Pagan	White Test
Discretionary Sector	Total payout	Multiple regression	<.001	.592	.000	.000
	Dividends	Multiple Regression	<.001	.796	.000	.000
	Share repurchases	Multiple Regression	<.001	1.003	.000	.000
Staples Sector	Total payout	Multiple Regression	<.001	1.079	.000	.000
	Dividends	Multiple Regression	<.001	.725	.000	.000
	Share repurchases	Multiple Regression	<.001	1.253	.000	<.001

Table 19: Residual analysis

Influential Observations:

In all regressions run on the consumer staples sector no significant influential observations can be found. The maximum Cooks value for the three regressions total payout, dividends, and share repurchases were 0.2, 0.5, and 0.15 respectively (Appendix pp. 92-93).

In the consumer discretionary sector significant outliers were found. This is indicated by Cook's distance values larger than one. Here the maximum value of the total payout regression is roughly 12. For the dividend and share repurchase regressions the maximum Cook's value is over 90, which strongly indicates an influential outlier (Appendix pp. 93-94).

6. Discussion

6.1 General Discussion

The aim of this thesis was to investigate which determinants have a statistically significant effect on the total payout, and the underlying components (dividends & share repurchases), and to compare the results with those published in previous studies. We will start with a general discussion that spans all regressions that were performed in the scope of this study.

Assumption violations predominantly emerge from the inherent clustering of data within individual branches or sectors, leading to potential deviations from normal distribution. However, conducting a cross-sectoral study holds the potential to mitigate such deviations and achieve a closer approximation to a normal distribution. The assertion that market capitalization significantly influences total payout, dividends, or repurchases is intuitively logical in absolute terms. This is due to

the fact that a company ten times the size of another will have the same percentual commitment if they spend ten times as much on total payout in absolute terms.

Hypothesis one, stating that a company's three-year average market capitalization positively impacts company payouts, is accepted for all regressions undertaken in this analysis. In contrast to Jensen & Meckling's (1976) findings, debt, proxied by three-year average net debt, has not proven to be a statistically significant variable for five of the six individual regression analyses carried out. Debt only takes on a statistically significant role for dividend payouts in the consumer staples sector. Firm age has also turned out to be insignificant for five of the six regressions carried out. Like debt, firm age could be shown to be relevant for dividend payout policy in the consumer staples sector.

It seems that the model chosen for this study works best when aiming to explain dividend payouts. From a total of 12 variables (both sectors) per analysis, only three variables have proven to be statistically insignificant. For the total payout regression five of the twelve variables have turned out to be insignificant, and for the share repurchase regression seven out of the twelve variables were found to be statistically insignificant.

The extent to which a dividend can be replaced by a share repurchase is a subject of considerable discourse. Presently, divergent perspectives exist among researchers; some advocate for substitution (Alzaharani & Lasfer, 2012), while others posit that firms resort to share repurchases as an alternative to dividend payments (Guay & Harford, 2000; Weston & Siu, 2003; Bae, 2017). However, there cannot be a final conclusion, particularly within the context of this study which exclusively examines developed countries. The decision-making process involves complex interplay of a wide range of factors, rendering a definitive conclusion impossible. The expectation is that the practice of substituting dividends will remain into the foreseeable future.

Prior findings do not explicitly suggest lower payout levels for younger companies. However, considering the adverse impact of leverage on companies' payout decisions found in prior studies (Jensen & Mecklin, 1976; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Vermaelen, 2005; Saxena & Sahoo, 2022), one could infer a correlation between payout levels and a company's current phase within its business cycle. Consequently, it can be deduced that payout levels are, to some extent, influenced by a company's position in its business cycle, even if this is predominantly measured by the company's size in this context.

In this study the result of better growth potential proxied by the three-year average price-to-book ratio has not shown any statistically significant negative effect on any type of payout in any of the regressions performed.

After this general discussion of all regressions conducted within the study, we will now dive into a focused examination of determinants influencing total payout and its components, while also comparing these findings with those of prior research.

6.2 Total payout analysis

The results in the total payout regression present a contrast to those by Van Eije & Megginson from 2008, who found that for European companies growth prospects reduce the likelihood for cash dividends and share repurchases.

Despite prior studies suggesting a negative impact of debt on payouts (Jensen & Mecklin, 1976; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Vermaelen, 2005; Saxena & Sahoo, 2022) and the resulting hypothesis, the results of the present study reveal that debt does not exert a statistically significant negative influence on payouts in both consumer sectors. Furthermore, prior results showed the likelihood for payouts to increase with the company's age (Banyi & Kahle, 2014; Easterbrook, 1984),

which cannot be supported by the analysis conducted here, as this study shows that for total payouts a company's age was statistically insignificant in both sectors as far as total payouts are concerned. Besides, in three out of four regressions for dividend payout and share repurchases the companies' age turned out to be insignificant.

Contrary to the initially hypothesized relationship, the findings align with Bianchi et al. (2018), who assert that, in line with the pecking order theory, companies tend to utilize internal financing when external funds are limited, thereby reducing payout levels. Conversely, as debt levels increase, companies have more resources available for distribution to shareholders. This observation is further supported by the findings by Begenau & Salomao (2019), indicating that during periods of economic expansion, large companies finance their equity payouts through debt. Begenau & Salomao (2019) rationalize their findings through the tax advantage of debt for companies with a comparatively low likelihood of default.

Fenn & Liang (2001) found that profitability affects the level of payout. In contrast to the finding by Fenn & Liang (2001), in the results of this thesis there is no statistically significant effect of profitability, proxied by three-year average net margin, to the level of total payout. However, this study does support the findings by Fenn & Liang (2001) as far as two other aspects are concerned: the significantly positive relationship of total payout and size as well as the growth opportunities.

6.3 Dividend payout analysis

The regression for the dividend payout analysis explains the highest variance in the dataset when compared to the regressions made for total payout and share repurchases. In line with Jensen & Meckling's findings (1976), debt has shown to be a statistically significant variable for both dividend payout analysis and the discretionary total payout analysis, which implies that payouts can indeed be used to reduce agency costs through budget restrictions, which in turn make it more difficult for the manager to overinvest. Easterbrook (1984) posits that dividend payments can serve as mechanisms to mitigate agency costs as companies mature and experience slower growth. This suggests that age should positively correlate with payout, along with a higher market capitalization, which was used here as a proxy. However, the analysis revealed that age was only statistically significant in the dividend payout analysis for the consumer staples sector. Notably, the size of the company emerged as a statistically significant factor across all analyses, not only for dividends. This additionally supports the idea that dividend payouts can effectively serve as a means to contain agency costs.

While the work by Jensen & Meckling (1976) posits that debt reduces dividends, the results of this study diverge from this assertion. Instead, the results indicate that debt does not exhibit a statistically significant negative relationship with dividend payouts.

The affirmation that firms have higher dividend payouts when they are larger, more profitable, and maintain lower debt levels, as suggested by Mądra-Sawicka and Ulrichs (2020) and Le et al. (2019), is partially corroborated by the results of this study. The positive correlation between dividend payout and company size found here aligns with prior research. While higher profitability in relation to dividend payout was confirmed for the staples sector, it was insignificant for the discretionary sector. Lower debt levels emerged as significant in both sectors. However, contrary to previous findings, they did not reduce dividend payout; instead, positive unstandardized beta coefficients were observed. This phenomenon could potentially be attributed to maintaining the equilibrium between debt and equity holders, as proposed by Easterbrook (1984). Although Easterbrook suggests that this equilibrium should extend to share repurchases, the results of this study differ from his conclusion, at least within the scope of the model employed.

Chen et al. (2022) defined a good signaling firm under the information asymmetry theory as one having high growth and paying out at the same time. In this thesis better growth potential proxied by the three-year average price-to-book ratio has no statistically significant negative effect on dividend payout. This is not contrary to the results by Chen et al., but in this analysis the data consisted mostly of rather mature and already large companies. In addition, compared to other sectors like the IT sector, consumer sectors generally have more limited growth opportunities at a general glance.

From this analysis, it is not evident that higher-growth companies pay lower dividends, as suggested by Agarwal & Chakraverty (2023), Van Eije & Megginson (2008), and Fama & French (2001). Instead, the findings reveal positive coefficients of price-to-book ratio to dividend payouts. This suggests that for each unit increase in the price-to-book ratio, the dividend payout also increases, and vice versa. This trend indicates that companies continue to use payouts for signaling purposes, even following the mandatory adoption of IFRS for listed companies.

Fama & French (2001) similarly conclude that size and profitability are positively associated with dividend payout. In accordance with their findings, the results from this study also confirm the positive correlation between size and dividend payout, contrasting with Le et al. (2019). Regarding profitability, alignment with Fama & French's findings is to be found only within the consumer staples sector, partially corroborating Le et al. (2019). However, the negative relationship between growth opportunities and dividend payout, as suggested by Fama & French, cannot be verified in this analysis. The argument put forward by Fama & French (2001) that small firms are less likely to make dividend payments because they want to secure themselves, is coherent with the life cycle theory and seems logical based on the results of the analysis conducted here.

Jabbouri (2016) highlights that a company's size, current profits, profitability, and liquidity exhibit a significantly positive relationship with dividend payments. Consistent with this, my findings show the positive correlation between size and dividend payments. While profitability aligns partially with Jabbouri's findings, liquidity was not used as a variable in this analysis, and thus no inferences about this can be made. Contrary to the findings in this analysis as well as in previous studies by Patra et al. (2012) and Jabbouri (2016), Arndt & Kučerová (2019) found that firm size was insignificant for European companies.

6.4 Share repurchase analysis

As with both preceding analyses, size was significantly positively correlated to repurchase decisions taken by the firms analyzed, this is in accord with the findings by Yarram (2014). Therefore, hypothesis one was accepted for both the staples and the discretionary consumer sector. As with the two previous analyses, the finding that the absolute number for payouts goes up with a company's market capitalization even though on a percentage basis the company is paying out the same as a company repurchasing less, but which is also smaller, applies to the share repurchase analysis as well.

Contrary to Backwell et al. (2022), who stated that a significant number of repurchases is financed by debt, the results from this study show that debt seems to be insignificant for share repurchase decisions in both the consumer staples and the consumer durables sectors. Furthermore, in both consumer sectors debt is not negatively related to any type of payout, repurchases, dividends, or a combination of the two, the total payout. This contrasts with preceding studies (Jensen & Mecklin, 1976; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Vermaelen, 2005; Saxena & Sahoo, 2022).

As stated before, the assumption that higher leverage discourages buybacks cannot be confirmed by this analysis, for both consumer sectors the results were statistically insignificant. This is also contrary to the findings of Szládek (2022).

The assumption of a lower degree of 'stickiness' of repurchases would lead to believe that increasing profitability would benefit share repurchases, because more earnings are retained that can then be distributed, but the results here show an insignificance of a firm's profitability to their share repurchase commitments, which is contrary to the findings by Aswath from 2015.

In their paper, "Stock repurchases: theory and evidence", Hsieh & Wang expect companies with low growth opportunities to repurchase shares. In contrast to that the results from the consumer sectors show that higher growth opportunities do not lead to lower share repurchases statistically. Furthermore, Hsieh & Wang (2009) state that profitability can be a driver of repurchases, but this too is statistically insignificant for the consumer sectors as well. One reason for this could be the proxy for profitability used in this study, the three-year average net margin, the results might prove different if retained earnings were taken as a profitability measure. Another author whose findings indicate that profitability determines share repurchases for European firms is Szládek (2022). However, in this research this turned out to be statistically insignificant for the consumer sectors even though the focus in this analysis was on European and U.S. stocks only, and therefore had higher chances of coming to the same conclusion. A point in which the results of this study are in line with the results by Szládek (2022) is the one that size is a statistically significant determinant of share repurchases.

Ownership concentration was previously found to have an impact on share repurchases (Andriosopoulos & Hoque, 2013), this is only confirmed by this thesis for the discretionary sector. The staples sector seems to be indifferent in share repurchases related to ownership concentration, at least statistically.

Furthermore, contrary to the findings by Szládek (2022) and Fenn & Liang (2001), this thesis does not confirm a negative relationship between price-to-book value and share repurchases. Rather, the analysis reveals an overall positive and statistically significant impact of the price-to-book ratio on share repurchases.

To conclude the discussion, a critical evaluation of the model results in general is also necessary. Due to the fact that underlying assumptions (normality of residuals, a lack of autocorrelation, and homoscedasticity) of the model used in this study are violated by the data sampled, the results of this study might have to be regarded as lacking robustness and accuracy. One other factor contributing to this outcome is also that there are some larger outliers in the data sampled. The occurrence of these outliers might be attributable to a multitude of different reasons, but since these reasons are likely to be mostly company-specific, they were not studied in further detail. Removing the outliers could have improved the statistical regression results but would also have prevented the potential implications of real-world economic events like the financial crisis in 2008 and the Covid-19 pandemic from being taken into account.

7. Conclusion

To sum up, the determinants for total payout are size, growth opportunities, even if the other way around than expected, debt and the company's ownership concentration. Determinants for the dividend payout of a company in the consumer sectors are all six independent variables used in this thesis, for the consumer staples sector all of them are significant. Lastly, the determinants for the share repurchases by companies in the consumer sectors are size and growth opportunities, again with a relation inverse to that posited, and for the discretionary sector ownership concentration is significant as well.

At the same time this intra-sector analysis has also shown that the model is able to explain a different amount of the variance in every individual analysis run. It is very difficult to find variables that work

and provide significant results on the one hand, but that are on the other hand general enough to be used on a multitude of different sectors, legislatives and geographics (Baker et al., 2008). Therefore, a case-by-case approach will still be necessary in the future to determine company-specific determinants for payouts, regardless of whether a cash dividend is paid, shares are repurchased or the company performs a mixture of both.

Moreover, there are a number of further limitations to the study conducted here. First, this study looks specifically at the two consumer sectors, therefore it is impossible to use its results to draw reliable inferences about other sectors or more volatile environments, such as emerging markets, from the results of this analysis. The second limitation is grounded in the nature of the variables (absolute) and the chosen proxies. Thirdly, the time frame analyzed here only spans two business cycles (from 2002 to 2022). A fourth point are the underlying model assumptions that have been violated in this study, and which can influence all regression results and drawn inferences. Lastly, every single business of those grouped together in an index is unique, most have their individual approaches and cultures, and many have a unique selling point that differentiates them from their competitors, even if the differentiation is only perceived by the customer. This makes it very difficult, if not impossible, to apply conclusions drawn from one sector to another one, which again underlines the necessity of conducting studies on payout determinants on a case-by-case basis.

In general, further growth opportunities for companies in the consumer sectors do not negatively impact their payout, either in dividends, repurchases, or a mixture of both. This outcome of this thesis corroborates the findings by Bhattacharya (1979) and Chen et al. (2022), but displays a contrast to the results presented by Van Eije & Megginson (2008). This implies that my results rather support the hypothesis that growth opportunities do help a company to signal information to shareholders and other stakeholders, and thus reduce information asymmetry.

Company size has also proven to be a statistically significant determinant of payouts irrespective of which type of payout is looked at in the consumer sectors for European and US firms.

Adopting a future perspective, suggesting further research on this interesting topic, which is especially relevant for dividend investors, it would be recommendable to look at the determinants for payouts in different sectors, and, of course, across the globe. These studies could make use of payout ratios to reduce the importance of market capitalization which would render the analysis more level for all sizes of companies. Furthermore, future studies can improve the robustness of their results by relying on statistical methods that are not based on normality assumptions, to ensure a better model fit with the data sampled.

References:

Al-Najjar, B., & Kilincarslan, E. (2016). The effect of ownership structure on dividend policy: evidence from Turkey. *Corporate Governance: The international journal of business in society*.

Alzahrani, M., & Lasfer, M. (2012). Investor protection, taxation, and dividends. *Journal of Corporate Finance*, *18*(4), 745-762.

Anolick, N., Batten, J. A., Kinateder, H., & Wagner, N. (2021). Time for gift giving: Abnormal share repurchase returns and uncertainty. *Journal of Corporate Finance*, *66*, 101787.

Arndt, P., & Kučerová, Z. (2019). Determinants of the dividend payout policy of stock companies within the European Union. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*.

Backwell, A., McWalter, T. A., & Ritchken, P. H. (2022). On buybacks, dilutions, dividends, and the pricing of stock-based claims. *Mathematical Finance*, *32*(1), 273-308.

Bae, J. (2017). Dividend payout ratio, tax rates, and share repurchase. *Journal of Economic Theory and Econometrics*, *28*(4), 40-60.

Baker, H. K., & Kilincarslan, E. (2019). Why companies do not pay cash dividends: The Turkish experience. *Global Finance Journal*, *42*, 100419.

Banyi, M. L., & Kahle, K. M. (2014). Declining propensity to pay? A re-examination of the lifecycle theory. *Journal of Corporate Finance*, *27*, 345-366.

Covas, F., & Haan, W. J. D. (2011). The cyclical behavior of debt and equity finance. *American economic review*, *101*(2), 877-899.

Damodaran A. (2015): "Stock Buybacks: Misunderstood, Misanalyzed and Misdiagnosed" *The American Association of Individual Investors* March 2015.

Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *The American economic review*, *74*(4), 650-659.

Fama, E. F., & French, K. R. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial economics*, *60*(1), 3-43.

Guay, W., & Harford, J. (2000). The cash-flow permanence and information content of dividend increases versus repurchases. *Journal of Financial economics*, *57*(3), 385-415.

Hackbarth, D., Miao, J., & Morellec, E. (2006). Capital structure, credit risk, and macroeconomic conditions. *Journal of financial economics*, *82*(3), 519-550.

Hasan, M. B., Wahid, A. N., Amin, M. R., & Hossain, M. D. (2021). Dynamics between ownership structure and dividend policy: evidence from Bangladesh. *International Journal of Emerging Markets*, (ahead-of-print).

Hasan, M. B., Wahid, A. N., Amin, M. R., & Hossain, M. D. (2023). Dynamics between ownership structure and dividend policy: evidence from Bangladesh. *International Journal of Emerging Markets*, *18*(3), 588-606.

Hsieh, J., & Wang, Q. (2009). Stock repurchases: theory and evidence. *Available at SSRN 1395943*.

Hu, Y., Huang, W., & Chen, Z. (2020). Stock liquidity, agency cost, and dividend payouts. *Applied Economics Letters*, *27*(4), 335-339.

Jabbouri, I. (2016). Determinants of corporate dividend policy in emerging markets: Evidence from MENA stock markets. *Research in International Business and Finance*, *37*, 283-298.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. Journal of financial economics, 3(4), 305-360.

Jermann, U., & Quadrini, V. (2012). Macroeconomic effects of financial shocks. *American Economic Review*, *102*(1), 238-271.

Khalfan, T. M., & Wendt, S. (2020). The impact of ownership concentration on payout across Nordic firms. *Journal of multinational financial management*, *56*, 100640.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of financial economics*, *58*(1-2), 3-27.

La Rocca, M., La Rocca, T., & Cariola, A. (2011). Capital structure decisions during a firm's life cycle. *Small Business Economics*, *37*(1), 107-130.

Le, T. T. H., Nguyen, X. H., & Tran, M. D. (2019). Determinants of dividend payout policy in emerging markets: Evidence from the ASEAN region. *Asian Economic and Financial Review*, *9*(4), 531-546.

Mądra-Sawicka, M., & Ulrichs, M. (2020). Dividend payment policy across food industry companies–the case of European economies. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, *64*(4), 146-159.

Mądra-Sawicka, M., & Ulrichs, M. (2020). Dividend payment policy across food industry companies–the case of European economies. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, *64*(4), 146-159.

Patra, T., Poshakwale, S., & Ow-Yong, K. (2012). Determinants of corporate dividend policy in Greece. *Applied Financial Economics*, *22*(13), 1079-1087.

Stonham, P. (2002) 'A game plan for share repurchases', *European Management Journal*, Vol. 20, pp.37–44 [online] https://doi.org/10.1016/S0263-2373(01)00112-8.

Szládek, D. (2022). The Analysis of Share Repurchases in European Countries. *Regulation of Finance and Accounting: 21st and 22nd Virtual Annual Conference on Finance and Accounting (ACFA2020-21), Prague, Czech Republic* (pp. 143-152).

Vermaelen, T. (2005). Share repurchases. *Foundations and Trends in Finance*, *1*(3), 171-268.

Von Eije, H., & Megginson, W. L. (2008). Dividends and share repurchases in the European Union. *Journal of financial economics*, *89*(2), 347-374.

Weston, J. F., & Siu, J. A. (2003). Changing motives for share repurchases.

Yarram, S. R. (2014). Factors influencing on-market share repurchase decisions in Australia. *Studies in Economics and Finance*.

Appendix:

Discretionary sector descriptive statistics:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Dividends Paid - Cash - Total - Cash Flow	1493	.0000	6985.0000	514.279498	831.7659534	3.277	.063	13.630	.127
Stock - Common - Repurchased/Retired - Cash Flow	1374	-961.3600	14809.0000	608.285233	1319.3475921	4.743	.066	30.486	.132
Total payout correct (Dividends paid total + Common repurchased)	2268	-647.2000	21794.0000	707.056085	1497.5023654	5.181	.051	40.150	.103
Net Margin - %	1992	-105243.590%	8967.0000%	-78.463258%	2459.95203%	-39.698	.055	1682.712	.110
Price to Book Value per Share - Issue Specific	1750	.0600	1252.8500	7.235600	41.1318265	25.776	.059	726.603	.117
Price to Book Value per Share - Issue Specific, 5 Year Average	1557	.0000	570.0400	6.374515	22.2052124	15.698	.062	320.495	.124
Net Debt	1954	-24744.2200	297043.0000	6627.934053	22461.056003	5.420	.055	38.703	.111
age	2091	0	280	42.89	44.573	2.297	.054	7.041	.107
Market Capitalization	1884	31.2300	1691002.6000	27280.340982	78470.258559	13.548	.056	238.545	.113
ownership concentration	1898	0.0000%	95.9000%	37.917819%	17.6675806%	1.072	.056	1.032	.112
Total payout 2yr avg.	2160	-323.6000	14518.0000	695.188956	1374.5012446	4.540	.053	27.825	.105
Net Margin - % 2yr avg.	1913	-55983.2250%	4532.8200%	-86.414767%	1856.13849%	-26.721	.056	768.701	.112
Price to Book Value per Share - Issue Specific 2yr avg.	1712	.1250	1252.8500	8.212255	48.8286051	21.552	.059	497.396	.118
Net Debt 2yr avg.	1876	-22507.8450	281368.5000	6528.605624	22037.400741	5.237	.057	34.095	.113
age 2yr avg.	2007	.0	279.5	42.534	44.5412	2.300	.055	7.063	.109
Market Capitalization 2yr avg.	1815	114.7900	1662585.5400	26939.818083	75563.286711	13.223	.057	224.524	.115
ownership concentration 2yr avg.	1822	0.0001%	92.9531%	38.084393%	17.3298275%	1.048	.057	.929	.115
Total payout 3yr avg.	2052	-212.6333	13986.3333	697.336907	1333.0958848	4.426	.054	26.477	.108
net margin 3yr avg.	1833	-53888.6349%	3054.9733%	-132.829291%	2208.14464%	-18.280	.057	360.492	.114
Price to Book Value per Share - Issue Specific 3yr avg.	1476	.0000	570.0400	6.910303	23.2753987	14.181	.064	272.943	.127
Net Debt 3yr avg.	1798	-16258.6900	228067.0000	6457.541740	21673.517719	5.046	.058	29.496	.115
age 3yr avg.	1922	0	279	42.18	44.505	2.303	.056	7.088	.112
Market Capitalization 3yr avg.	1739	169.5450	1413775.0067	26175.079855	69807.606749	13.103	.059	221.699	.117
ownership concentration 3yr avg.	1747	0.0000%	92.7700%	38.243635%	17.1595729%	1.031	.059	.919	.117
Valid N (listwise)	808								

Discretionary sector total payout regression statistics:

Statistics

		Total payout correct (Dividends paid total + Common repurchased)	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
N	Valid	2268	1833	1476	1798	1922	1739	1747
	Missing	107	542	899	577	453	636	628
Median		211.310000	6.450000%	2.841667	806.738333	26.00	11137.390000	34.410000%
Mode		.0000	2.9267%	2.6100	4773.0000	21	169.5450[a]	27.3100%[a]
Std. Deviation		1497.5023654	2208.14464%	23.2753987	21673.517719	44.505	69807.606749	17.1595729%
Variance		2242513.334	4875902.761	541.744	469741370.32	1980.705	4873101960.0	294.451
Skewness		5.181	-18.280	14.181	5.046	2.303	13.103	1.031
Std. Error of Skewness		.051	.057	.064	.058	.056	.059	.059
Kurtosis		40.150	360.492	272.943	29.496	7.088	221.699	.919
Std. Error of Kurtosis		.103	.114	.127	.115	.112	.117	.117
Minimum		-647.2000	-53888.6349%	.0000	-16258.6900	0	169.5450	0.0000%
Maximum		21794.0000	3054.9733%	570.0400	228067.0000	279	1413775.0067	92.7700%

a. Multiple modes exist. The smallest value is shown

Discretionary sector total payout regression output:

Descriptive Statistics

	Mean	Std. Deviation	N
Total payout correct (Dividends paid total + Common repurchased)	936.259140	1667.9268017	1442
net margin 3yr avg.	-15.677250%	928.0407545%	1442
Price to Book Value per Share - Issue Specific 3yr avg.	6.438576	21.9431246	1442
Net Debt 3yr avg.	7466.761018	23444.442688	1442
age 3yr avg.	49.89	46.461	1442
Market Capitalization 3yr avg.	27603.064408	73493.111478	1442
ownership concentration 3yr avg.	37.335361%	16.4601127%	1442

Correlations

		Total payout correct (Dividends paid total + Common repurchased)	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
Pearson Correlation	Total payout correct (Dividends paid total + Common repurchased)	1.000	.007	.192	.226	-.037	.321	-.123
	net margin 3yr avg.	.007	1.000	.004	.004	.023	.007	-.075
	Price to Book Value per Share - Issue Specific 3yr avg.	.192	.004	1.000	-.027	-.080	.111	-.025
	Net Debt 3yr avg.	.226	.004	-.027	1.000	.136	.099	.118
	age 3yr avg.	-.037	.023	-.080	.136	1.000	-.051	.089
	Market Capitalization 3yr avg.	.321	.007	.111	.099	-.051	1.000	-.005
	ownership concentration 3yr avg.	-.123	-.075	-.025	.118	.089	-.005	1.000
Sig. (1-tailed)	Total payout correct (Dividends paid total + Common repurchased)	.	.391	<.001	<.001	.080	<.001	<.001
	net margin 3yr avg.	.391	.	.444	.438	.187	.388	.002
	Price to Book Value per Share - Issue Specific 3yr avg.	.000	.444	.	.154	.001	.000	.172
	Net Debt 3yr avg.	.000	.438	.154	.	.000	.000	.000
	age 3yr avg.	.080	.187	.001	.000	.	.026	.000
	Market Capitalization 3yr avg.	.000	.388	.000	.000	.026	.	.424
	ownership concentration 3yr avg.	.000	.002	.172	.000	.000	.424	.
N	Total payout correct (Dividends paid total + Common repurchased)	1442	1442	1442	1442	1442	1442	1442
	net margin 3yr avg.	1442	1442	1442	1442	1442	1442	1442
	Price to Book Value per Share - Issue Specific 3yr avg.	1442	1442	1442	1442	1442	1442	1442
	Net Debt 3yr avg.	1442	1442	1442	1442	1442	1442	1442
	age 3yr avg.	1442	1442	1442	1442	1442	1442	1442
	Market Capitalization 3yr avg.	1442	1442	1442	1442	1442	1442	1442
	ownership concentration 3yr avg.	1442	1442	1442	1442	1442	1442	1442

Model Summary[b]

					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.435[a]	.189	.186	1504.9455886	.189	55.835	6	1435	<.001	.592

a. Predictors: (Constant), ownership concentration 3yr avg., Market Capitalization 3yr avg., net margin 3yr avg., age 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg.

b. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	758757057.11	6	126459509.52	55.835	<.001[b]
	Residual	3250075857.6	1435	2264861.225		
	Total	4008832914.7	1441			

a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

b. Predictors: (Constant), ownership concentration 3yr avg., Market Capitalization 3yr avg., net margin 3yr avg., age 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg.

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1148.365	106.838		10.749	<.001
	net margin 3yr avg.	-.011	.043	-.006	-.261	.794
	Price to Book Value per Share - Issue Specific 3yr avg.	12.242	1.824	.161	6.711	<.001
	Net Debt 3yr avg.	.016	.002	.223	9.197	<.001
	age 3yr avg.	-.983	.868	-.027	-1.133	.257
	Market Capitalization 3yr avg.	.006	.001	.279	11.587	<.001
	ownership concentration 3yr avg.	-14.343	2.440	-.142	-5.878	<.001

a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

Coefficient Correlations[a]

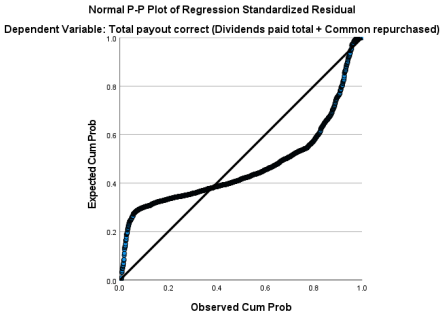
Model			ownership concentration 3yr avg.	Market Capitalization 3yr avg.	net margin 3yr avg.	age 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.
1	Correlations	ownership concentration 3yr avg.	1.000	.010	.078	-.074	.015	-.108
		Market Capitalization 3yr avg.	.010	1.000	-.007	.057	-.110	-.110
		net margin 3yr avg.	.078	-.007	1.000	-.029	-.004	-.009
		age 3yr avg.	-.074	.057	-.029	1.000	.069	-.130
		Price to Book Value per Share - Issue Specific 3yr avg.	.015	-.110	-.004	.069	1.000	.026
		Net Debt 3yr avg.	-.108	-.110	-.009	-.130	.026	1.000
	Covariances	ownership concentration 3yr avg.	5.954	1.311E-5	.008	-.157	.065	.000
		Market Capitalization 3yr avg.	1.311E-5	2.988E-7	-1.708E-7	2.681E-5	.000	-1.036E-7
		net margin 3yr avg.	.008	-1.708E-7	.002	-.001	.000	-6.313E-7
		age 3yr avg.	-.157	2.681E-5	-.001	.753	.110	.000
		Price to Book Value per Share - Issue Specific 3yr avg.	.065	.000	.000	.110	3.327	8.272E-5
		Net Debt 3yr avg.	.000	-1.036E-7	-6.313E-7	.000	8.272E-5	2.984E-6

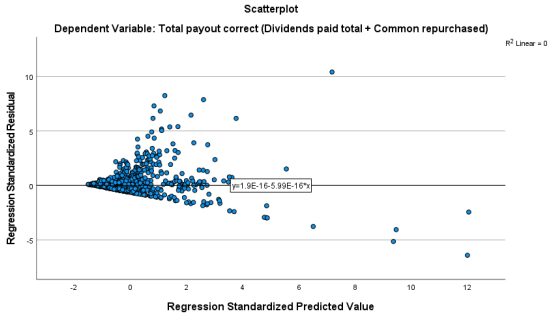
a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-147.061356	9668.681641	936.259140	725.6369368	1442
Residual	-9634.5917969	15652.570313	.0000000	1501.8091929	1442
Std. Predicted Value	-1.493	12.034	.000	1.000	1442
Std. Residual	-6.402	10.401	.000	.998	1442

a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)





Test of Normality Discretionary sector total payout regression:

Case Processing Summary

	Cases Valid N	Valid Percent	Missing N	Missing Percent	Total N	Total Percent
Unstandardized Residual	1442	60.7%	933	39.3%	2375	100.0%

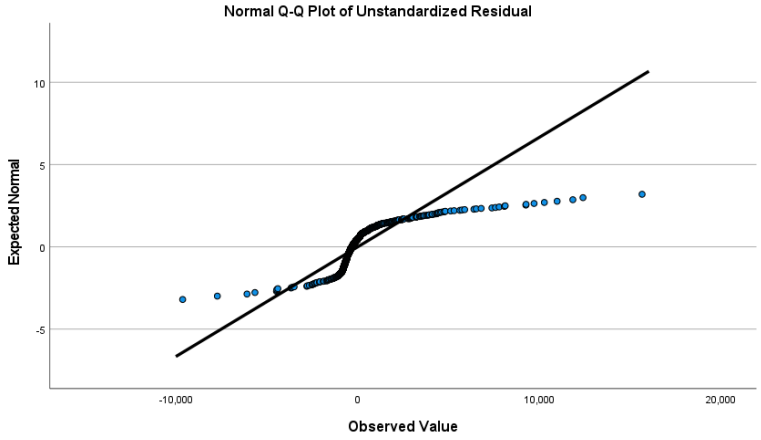
Descriptives

			Statistic	Std. Error
Unstandardized Residual	Mean		.0000000	39.54869233
	95% Confidence Interval for Mean	Lower Bound	-77.5791741	
		Upper Bound	77.5791741	
	5% Trimmed Mean		-155.4022554	
	Median		-317.5994756	
	Variance		2255430.852	
	Std. Deviation		1501.8091929	
	Minimum		-9634.59140	
	Maximum		15652.57058	
	Range		25287.16198	
	Interquartile Range		731.47822	
	Skewness		3.378	.064
	Kurtosis		25.629	.129

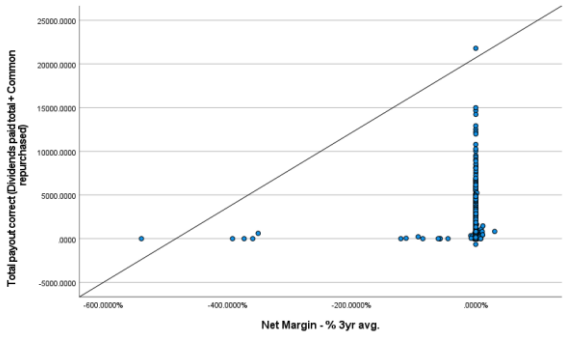
Tests of Normality

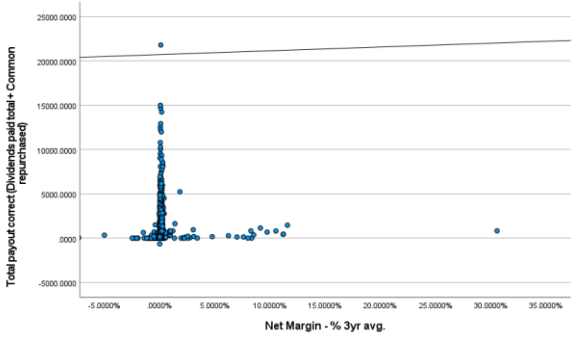
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.228	1442	<.001	.625	1442	<.001

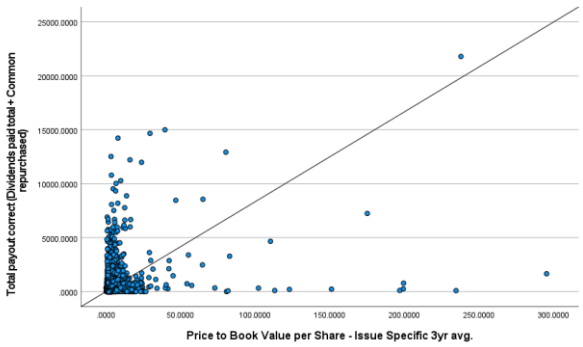
a. Lilliefors Significance Correction

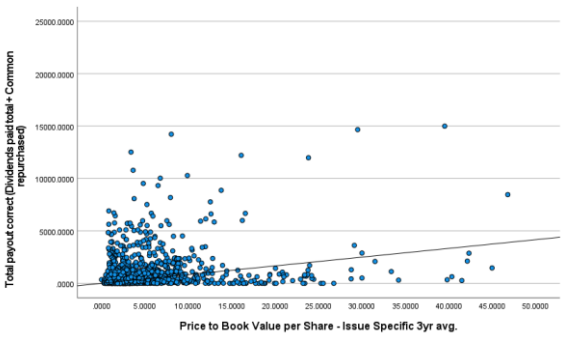


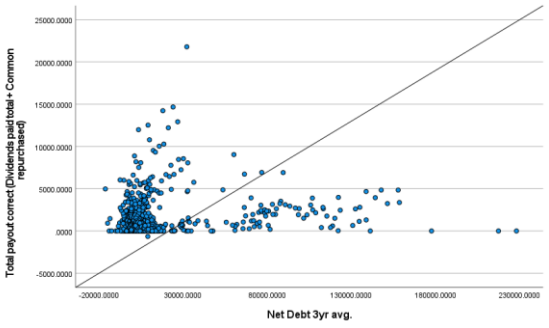
Scatterplots discretionary sector independent variables total payout regression:

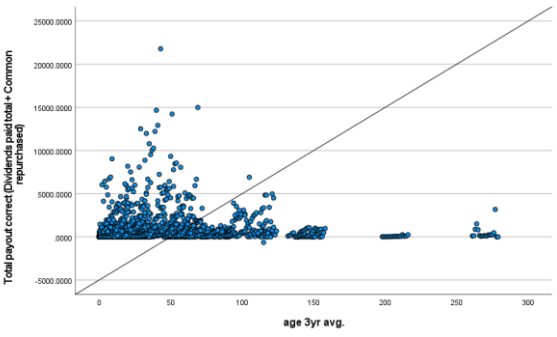


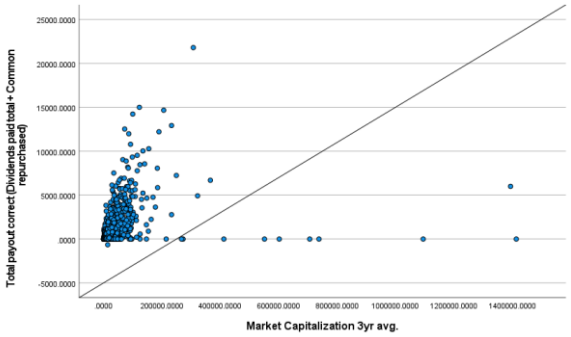


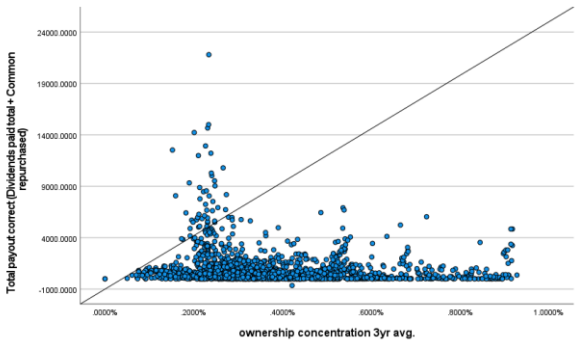




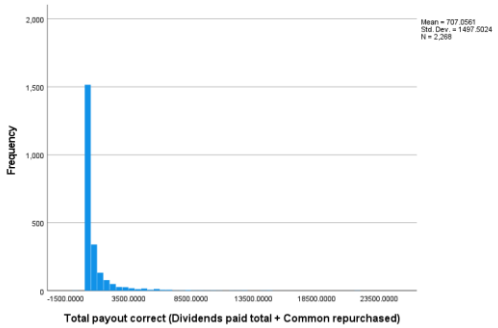


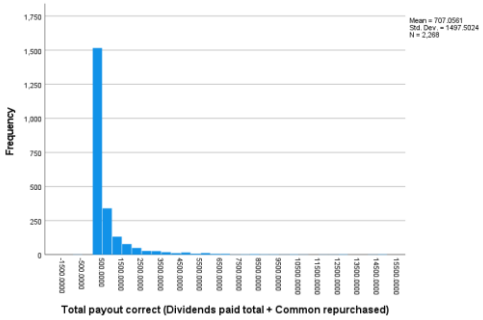




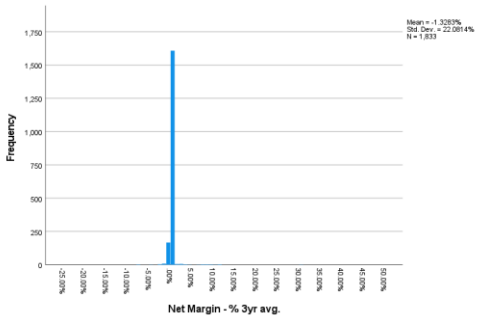


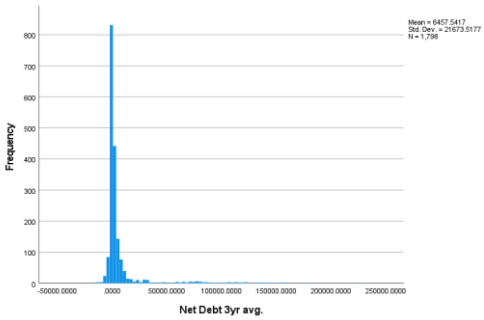
Histograms discretionary sector dependent + independent variables:

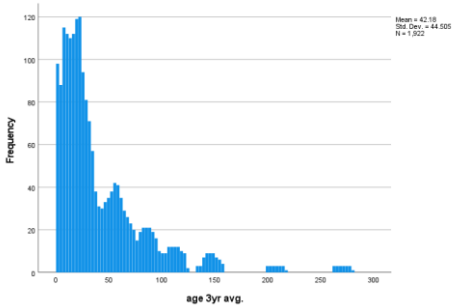


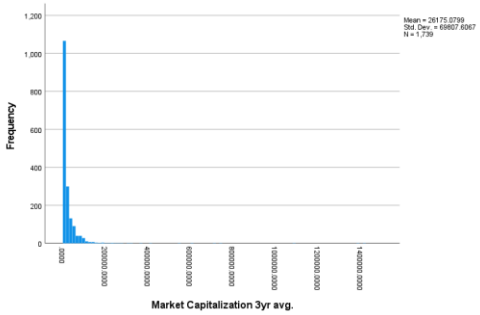


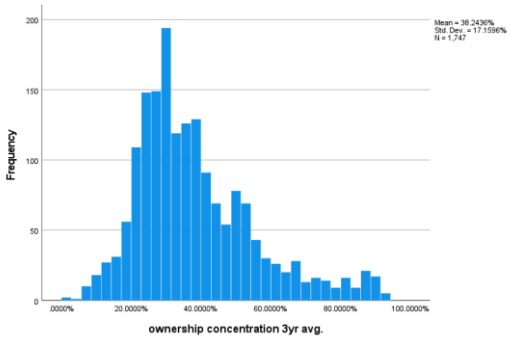

Mean = 6.9103
Std. Dev. = 23.2754
N = 1,476
Frequency
Price to Book Value per Share - Issue Specific 3yr avg.


Mean = -1.3283%
Std. Dev. = 22.0814%
N = 1,833
Frequency
Net Margin - % 3yr avg.


Mean = 6457.5417
Std. Dev. = 21673.5177
N = 1,798
Frequency
Net Debt 3yr avg.


Mean = 42.18
Std. Dev. = 44.505
N = 1,922
Frequency
age 3yr avg.


Mean = 26175.0799
Std. Dev. = 69807.6067
N = 1,739
Frequency
Market Capitalization 3yr avg.


Mean = 38.2436%
Std. Dev. = 17.1596%
N = 1,747
Frequency
ownership concentration 3yr avg.

Staples sector descriptive statistics:

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Dividends Paid - Cash - Total - Cash Flow	1312	.0000	9275.0000	1134.436799	1713.4243209	2.390	.068	5.216	.135
Stock - Common - Repurchased/Retired - Cash Flow	1013	.0000	16830.0000	987.919743	1824.8670286	3.612	.077	16.787	.154
Total payout correct (Dividends paid total + Common repurchased)	1594	.0000	20533.0000	1561.570753	2813.5537637	3.169	.061	11.473	.123
Net Margin - %	1473	-68.0800%	143.4800%	8.818893%	8.9866339%	2.486	.064	41.809	.127
Price to Book Value per Share - Issue Specific	1381	.1900	1029.2500	7.333584	36.1090144	21.604	.066	540.202	.132
Price to Book Value per Share - Issue Specific, 5 Year Average	1296	.2200	6470.8900	13.343140	182.8795044	34.143	.068	1203.316	.136
Net Debt	1469	-5008.0000	108505.0000	7069.480320	10710.425167	3.800	.064	23.414	.128
age	1451	0	368	74.19	61.497	1.675	.064	4.905	.128
Market Capitalization	1426	16.1800	397486.3800	40817.635168	57547.789422	2.703	.065	8.274	.130
ownership concentration	1455	0.0000%	328.8096%	36.508329%	20.4151363%	2.569	.064	27.943	.128
Total payout 2yr avg.	1519	.0000	19022.5000	1570.562548	2745.0788248	2.980	.063	9.691	.125
Net Margin - % 2yr avg.	1414	-8.5000	8.0000	.090765	.3583541	-.718	.065	429.565	.130
Price to Book Value per Share - Issue Specific 2yr avg.	1340	.1950	591.5000	7.866608	33.0820940	14.551	.067	234.430	.134
Net Debt 2yr avg.	1411	-4299.5000	106614.0000	7033.429957	10548.160255	3.765	.065	23.020	.130
age 2yr avg.	1388	.0000	367.5000	73.841138	61.5547992	1.671	.066	4.886	.131
Market Capitalization 2yr avg.	1370	64.8500	392651.1650	40610.031095	56468.568998	2.634	.066	7.768	.132
ownership concentration 2yr avg.	1387	0.0000%	3.6400%	0.367863%	0.2092732%	3.497	.066	43.813	.131
Total payout 3yr avg.	1444	.0000	17746.3333	1564.213114	2674.5070455	2.892	.064	9.015	.129
net margin 3yr avg.	1354	-499.9900%	866.6660%	9.852368%	39.4251128%	12.681	.066	319.902	.133
Price to Book Value per Share - Issue Specific 3yr avg.	1292	.2500	591.5000	8.515899	36.2232110	13.186	.068	193.044	.136
Net Debt 3yr avg.	1354	-3791.6667	105920.6667	7004.161470	10412.133031	3.746	.066	22.733	.133
age 3yr avg.	1326	.0000	367.0000	73.413524	61.6228529	1.666	.067	4.863	.134
Market Capitalization 3yr avg.	1310	97.0033	370043.4967	40127.436360	55034.218173	2.578	.068	7.333	.135
ownership concentration 3yr avg.	1327	0.0000%	730.0000%	37.572667%	29.3002450%	11.790	.067	250.407	.134
Valid N (listwise)	767								

Staples sector statistics total payout regression:

Statistics

		Total payout correct (Dividends paid total + Common repurchased)	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
N	Valid	1594	1354	1292	1354	1326	1310	1327
	Missing	77	317	379	317	345	361	344
Median		472.500000	8.279000%	3.346667	3261.450000	67.000000	19394.928333	29.965000%
Mode		.0000	8.5200%	1.3167	26.7667[a]	.0000	97.0033[a]	0.0000%
Std. Deviation		2813.5537637	39.4251128%	36.2232110	10412.133031	61.6228529	55034.218173	29.3002450%
Variance		7916084.781	1554.340	1312.121	108412514.26	3797.376	3028765169.9	858.504
Skewness		3.169	12.681	13.186	3.746	1.666	2.578	11.790
Std. Error of Skewness		.061	.066	.068	.066	.067	.068	.067
Kurtosis		11.473	319.902	193.044	22.733	4.863	7.333	250.407
Std. Error of Kurtosis		.123	.133	.136	.133	.134	.135	.134
Minimum		.0000	-499.9900%	.2500	-3791.6667	.0000	97.0033	0.0000%
Maximum		20533.0000	866.6660%	591.5000	105920.6667	367.0000	370043.4967	730.0000%

a. Multiple modes exist. The smallest value is shown

Staples sector total payout regression output:

Descriptive Statistics

	Mean	Std. Deviation	N
Total payout correct (Dividends paid total + Common repurchased)	1807.460900	2982.3477465	1266
net margin 3yr avg.	9.922982%	40.6517503%	1266
Price to Book Value per Share - Issue Specific 3yr avg.	8.585650	36.5855107	1266
Net Debt 3yr avg.	7062.786115	10543.463549	1266
age 3yr avg.	75.903502	61.6190060	1266
Market Capitalization 3yr avg.	40183.124567	55079.776627	1266
ownership concentration 3yr avg.	36.495691%	18.3571705%	1266

Correlations

		Total payout correct (Dividends paid total + Common repurchased)	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
Pearson Correlation	Total payout correct (Dividends paid total + Common repurchased)	1.000	.032	.138	.570	.010	.880	-.253
	net margin 3yr avg.	.032	1.000	.028	.021	.000	.035	.007
	Price to Book Value per Share - Issue Specific 3yr avg.	.138	.028	1.000	.020	-.060	.072	-.091
	Net Debt 3yr avg.	.570	.021	.020	1.000	-.104	.639	-.091
	age 3yr avg.	.010	.000	-.060	-.104	1.000	.001	.068
	Market Capitalization 3yr avg.	.880	.035	.072	.639	.001	1.000	-.188
	ownership concentration 3yr avg.	-.253	.007	-.091	-.091	.068	-.188	1.000
Sig. (1-tailed)	Total payout correct (Dividends paid total + Common repurchased)	.	.128	<.001	<.001	.356	.000	<.001
	net margin 3yr avg.	.128	.	.157	.224	.494	.109	.401
	Price to Book Value per Share - Issue Specific 3yr avg.	.000	.157	.	.236	.016	.005	.001
	Net Debt 3yr avg.	.000	.224	.236	.	.000	.000	.001
	age 3yr avg.	.356	.494	.016	.000	.	.481	.008
	Market Capitalization 3yr avg.	.000	.109	.005	.000	.481	.	.000
	ownership concentration 3yr avg.	.000	.401	.001	.001	.008	.000	.
N	Total payout correct (Dividends paid total + Common repurchased)	1266	1266	1266	1266	1266	1266	1266
	net margin 3yr avg.	1266	1266	1266	1266	1266	1266	1266
	Price to Book Value per Share - Issue Specific 3yr avg.	1266	1266	1266	1266	1266	1266	1266
	Net Debt 3yr avg.	1266	1266	1266	1266	1266	1266	1266
	age 3yr avg.	1266	1266	1266	1266	1266	1266	1266
	Market Capitalization 3yr avg.	1266	1266	1266	1266	1266	1266	1266
	ownership concentration 3yr avg.	1266	1266	1266	1266	1266	1266	1266

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.888[a]	.788	.787	1375.8960339	.788	780.735	6	1259	.000	1.079

a. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., age 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8868013393.3	6	1478002232.2	780.735	.000[b]
	Residual	2383400179.2	1259	1893089.896		
	Total	11251413573	1265			

a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

b. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., age 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., Market Capitalization 3yr avg.

Table 6: Coefficients Total Payout Regression Staples Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	315.731	107.451		2.938	.003
	net margin 3yr avg.	.055	.953	.001	.058	.954
	Price to Book Value per Share - Issue Specific 3yr avg.	5.656	1.066	.069	5.304	<.001
	Net Debt 3yr avg.	.007	.005	.025	1.449	.148
	age 3yr avg.	1.066	.637	.022	1.674	.094
	Market Capitalization 3yr avg.	.046	.001	.843	48.875	<.001
	ownership concentration 3yr avg.	-14.290	2.159	-.088	-6.618	<.001

a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

The first hypothesis is that firm size has a statistically significant positive effect on a company's total payouts is the first hypothesis (Table 5). Based on the results depicted in the coefficients table above (Table 6) this hypothesis can be accepted. The three-year average market capitalization has an unstandardized coefficient of 0,046, which indicates that for each one unit increase in the average market capitalization, the total payout of a company rises by 0,046 units (Table 6), assuming all other variables in the analysis are held constant. This finding also confirms the previous findings by Easterbrook (1984), Fama & French (2001), La Rocca et al. (2011), Patra et al. (2012), Yarram (2014), Jabbouri (2016), Mądra-Sawicka & Ulrichs (2020), and Szládek (2022).

The three-year average price-to-book ratio, has an unstandardized coefficient 5,656, which shows that statistically for each unit increase in the three-year average price-to-book ratio, the total payout should increase by 5,656 million dollars, ceteris paribus (Table 6). This leads to a rejection of hypothesis two, as the hypothesis predicted a negative impact of investment opportunities on a company's total payouts (Table 5). The results also contradict the findings by previous studies (Fama & French, 2001; Van Eije & Megginson, 2008; Hsieh & Wang, 2009; Jabbouri, 2016; Le et al., 2019; Agarwal & Chakraverty, 2023).

Firm profitability seems to have a positive impact on total payout in the consumer staples sector, however, the analysis shows that the three-year average net margin, is insignificant (Table 6). This is not in line with the significant effects found by Fama & French (2001), Patra et al. (2012), Jabbouri (2016), Le et al. (2019), Mądra-Sawicka & Ulrichs (2020), and Szládek (2022).

Hypothesis four is insignificant in this analysis (Table 5), suggesting that net debt has no statistically significant influence on the total payout in the consumer staples sector. This is not consistent with the results found in previous studies (Jensen & Mecklin, 1976; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Vermaelen, 2005; Saxena & Sahoo, 2022).

In this setting the fifth hypothesis can be accepted. The findings are statistically relevant and suggest that for every one unit increase in the ownership concentration, all other things being equal, the payout of a company falls by 14,29 units (Tables 5 & 6).

As already seen in the consumer discretionary sector the sixth hypothesis is insignificant, and it is therefore rejected in this analysis (Tables 5 & 6). Thus, the results by Easterbrook (1984), Fama & French (2001), and Banyi & Kahle (2014) cannot be supported by this thesis for the consumer staples sector in Europe and the U.S.

Coefficient Correlations[a]

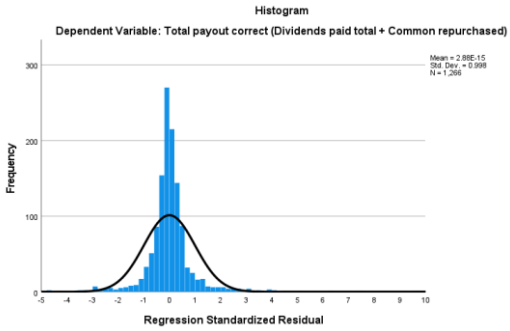
Model			ownership concentration 3yr avg.	net margin 3yr avg.	age 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	Market Capitalization 3yr avg.
1	Correlations	ownership concentration 3yr avg.	1.000	-.016	-.071	.073	-.046	.170
		net margin 3yr avg.	-.016	1.000	-.001	-.027	.001	-.027
		age 3yr avg.	-.071	-.001	1.000	.060	.142	-.104
		Price to Book Value per Share - Issue Specific 3yr avg.	.073	-.027	.060	1.000	.039	-.068
		Net Debt 3yr avg.	-.046	.001	.142	.039	1.000	-.641
		Market Capitalization 3yr avg.	.170	-.027	-.104	-.068	-.641	1.000
	Covariances	ownership concentration 3yr avg.	4.663	-.033	-.097	.169	.000	.000
		net margin 3yr avg.	-.033	.908	.000	-.027	3.301E-6	-2.438E-5
		age 3yr avg.	-.097	.000	.405	.041	.000	-6.200E-5
		Price to Book Value per Share - Issue Specific 3yr avg.	.169	-.027	.041	1.137	.000	-6.814E-5
		Net Debt 3yr avg.	.000	3.301E-6	.000	.000	2.328E-5	-2.887E-6
		Market Capitalization 3yr avg.	.000	-2.438E-5	-6.200E-5	-6.814E-5	-2.887E-6	8.719E-7

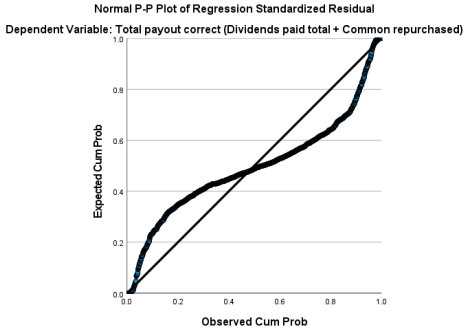
a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

Residuals Statistics[a]

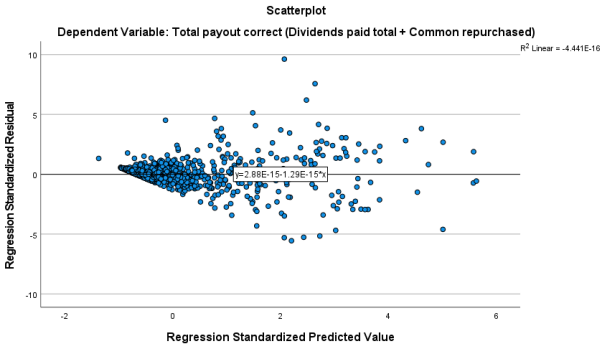
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-1821.410278	16720.705078	1807.460900	2647.6947081	1266
Residual	-7642.7509766	13240.222656	.0000000	1372.6291610	1266
Std. Predicted Value	-1.371	5.633	.000	1.000	1266
Std. Residual	-5.555	9.623	.000	.998	1266

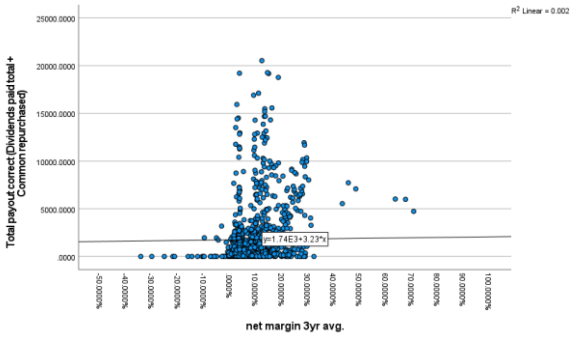
a. Dependent Variable: Total payout correct (Dividends paid total + Common repurchased)

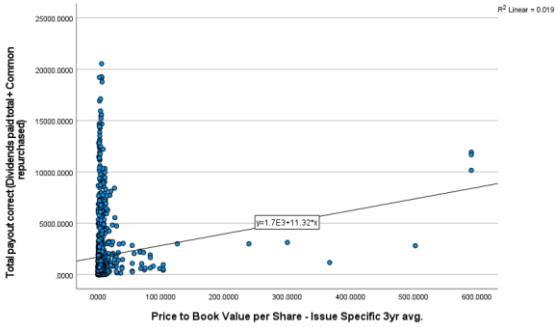


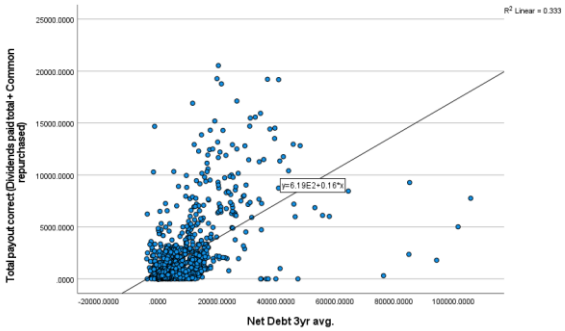


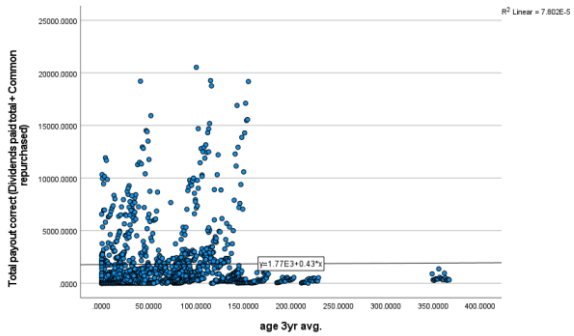
Scatterplots staples sector total payout regression:

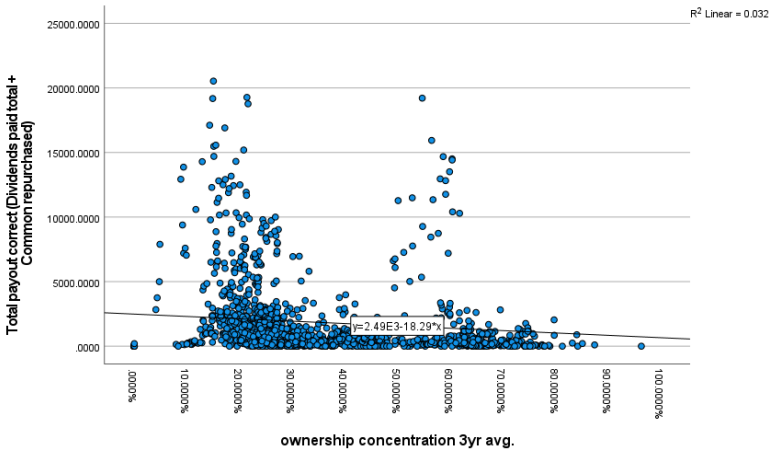




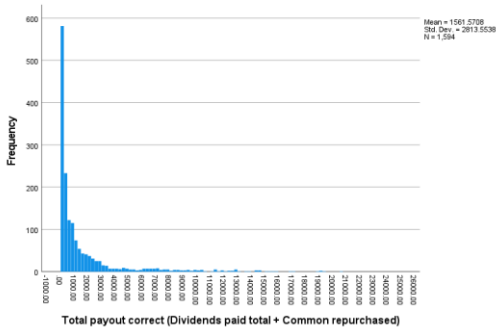


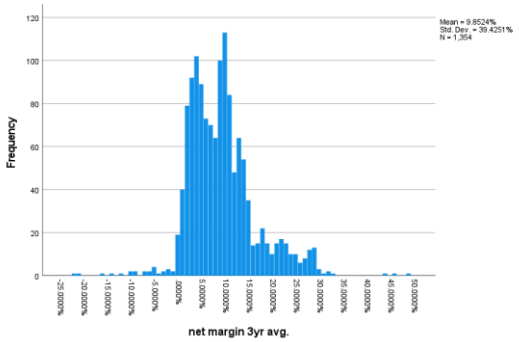


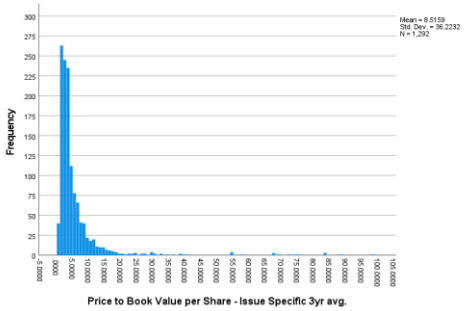


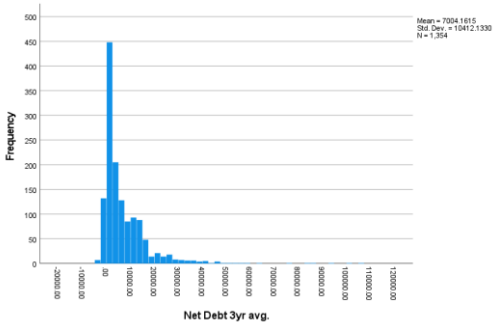


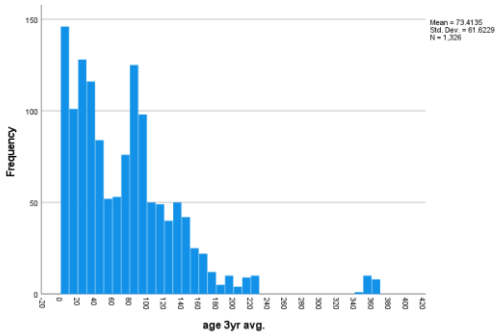
Histograms staples sector dependent + independent variables:

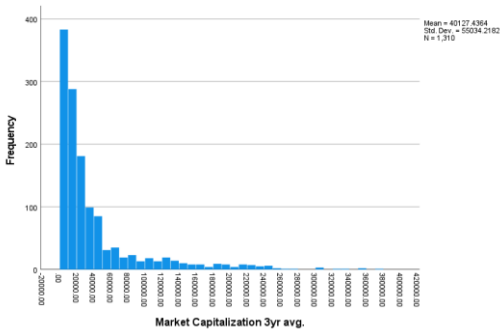


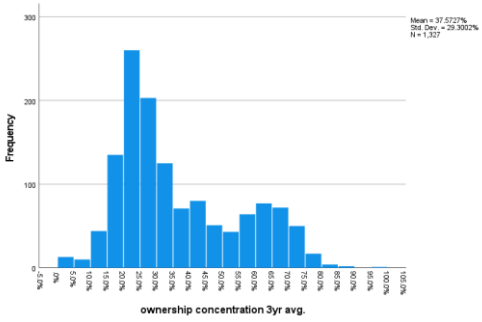












Test of Normality staples sector total payout regression:

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Unstandardized Residual	1266	75.8%	405	24.2%	1671	100.0%

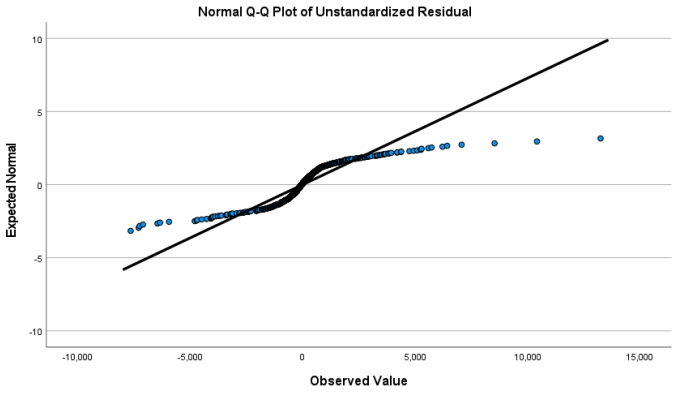
Descriptives

			Statistic	Std. Error
Unstandardized Residual	Mean		.0000000	38.57770327
	95% Confidence Interval for Mean	Lower Bound	-75.6833224	
		Upper Bound	75.6833224	
	5% Trimmed Mean		-21.1319891	
	Median		-42.1404628	
	Variance		1884110.814	
	Std. Deviation		1372.6291610	
	Minimum		-7642.75097	
	Maximum		13240.22263	
	Range		20882.97359	
	Interquartile Range		810.33034	
	Skewness		1.046	.069
	Kurtosis		16.533	.137

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.166	1266	<.001	.773	1266	<.001

a. Lilliefors Significance Correction



Discretionary sector statistics dividend payout regression:

Statistics

		Dividends Paid - Cash - Total - Cash Flow	Total payout 3yr avg.	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
N	Valid	1493	2052	1833	1476	1798	1922	1739	1747
	Missing	882	323	542	899	577	453	636	628
Mean		514.279498	697.336907	-132.829291%	6.910303	6457.541740	42.18	26175.079855	38.243635%
Std. Error of Mean		21.5263916	29.4288106	51.5758371%	.6058344	511.1337538	1.015	1673.9903809	0.4105443%
Median		216.860000	271.970000	6.450000%	2.841667	806.738333	26.00	11137.390000	34.410000%
Mode		.0000	.0000	2.9267%	2.6100	4773.0000	21	169.5450[a]	27.3100%[a]
Std. Deviation		831.7659534	1333.0958848	2208.14464%	23.2753987	21673.517719	44.505	69807.606749	17.1595729%
Variance		691834.601	1777144.638	4875902.761	541.744	469741370.32	1980.705	4873101960.0	294.451
Skewness		3.277	4.426	-18.280	14.181	5.046	2.303	13.103	1.031
Std. Error of Skewness		.063	.054	.057	.064	.058	.056	.059	.059
Kurtosis		13.630	26.477	360.492	272.943	29.496	7.088	221.699	.919
Std. Error of Kurtosis		.127	.108	.114	.127	.115	.112	.117	.117
Minimum		.0000	-212.6333	-53888.6349%	.0000	-16258.6900	0	169.5450	0.0000%
Maximum		6985.0000	13986.3333	3054.9733%	570.0400	228067.0000	279	1413775.0067	92.7700%

a. Multiple modes exist. The smallest value is shown

Discretionary sector dividend payout regression output:

Descriptive Statistics

	Mean	Std. Deviation	N
Dividends Paid - Cash - Total - Cash Flow	583.392894	861.3439543	1161
net margin 3yr avg.	-21.401369%	1033.96585%	1161
Price to Book Value per Share - Issue Specific 3yr avg.	5.879730	22.4339103	1161
Net Debt 3yr avg.	8693.483866	24990.948527	1161
age 3yr avg.	55.14	47.706	1161
Market Capitalization 3yr avg.	24618.859978	33196.092942	1161
ownership concentration 3yr avg.	37.402145%	17.4176723%	1161

Correlations

		Dividends Paid - Cash - Total - Cash Flow	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
Pearson Correlation	Dividends Paid - Cash - Total - Cash Flow	1.000	.002	.196	.469	-.026	.830	.064
	net margin 3yr avg.	.002	1.000	.003	.006	.029	.016	-.078
	Price to Book Value per Share - Issue Specific 3yr avg.	.196	.003	1.000	-.018	-.067	.201	-.036
	Net Debt 3yr avg.	.469	.006	-.018	1.000	.109	.336	.125
	age 3yr avg.	-.026	.029	-.067	.109	1.000	-.051	.096
	Market Capitalization 3yr avg.	.830	.016	.201	.336	-.051	1.000	.061
	ownership concentration 3yr avg.	.064	-.078	-.036	.125	.096	.061	1.000
Sig. (1-tailed)	Dividends Paid - Cash - Total - Cash Flow	.	.467	<.001	<.001	.191	<.001	.014
	net margin 3yr avg.	.467	.	.454	.419	.159	.291	.004
	Price to Book Value per Share - Issue Specific 3yr avg.	.000	.454	.	.267	.012	.000	.111
	Net Debt 3yr avg.	.000	.419	.267	.	.000	.000	.000
	age 3yr avg.	.191	.159	.012	.000	.	.040	.001
	Market Capitalization 3yr avg.	.000	.291	.000	.000	.040	.	.020
	ownership concentration 3yr avg.	.014	.004	.111	.000	.001	.020	.
N	Dividends Paid - Cash - Total - Cash Flow	1161	1161	1161	1161	1161	1161	1161
	net margin 3yr avg.	1161	1161	1161	1161	1161	1161	1161
	Price to Book Value per Share - Issue Specific 3yr avg.	1161	1161	1161	1161	1161	1161	1161
	Net Debt 3yr avg.	1161	1161	1161	1161	1161	1161	1161
	age 3yr avg.	1161	1161	1161	1161	1161	1161	1161
	Market Capitalization 3yr avg.	1161	1161	1161	1161	1161	1161	1161
	ownership concentration 3yr avg.	1161	1161	1161	1161	1161	1161	1161

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.856[a]	.733	.731	446.4355069	.733	527.352	6	1154	.000	.796

a. Predictors: (Constant), ownership concentration 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., net margin 3yr avg., age 3yr avg., Net Debt 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	630621973.03	6	105103662.17	527.352	.000[b]
	Residual	229997579.78	1154	199304.662		
	Total	860619552.81	1160			

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

b. Predictors: (Constant), ownership concentration 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., net margin 3yr avg., age 3yr avg., Net Debt 3yr avg., Market Capitalization 3yr avg.

Table 9: Coefficients Dividend Payout Regression Discretionary Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	48.864	34.947		1.398	.162
	net margin 3yr avg.	-.010	.013	-.011	-.751	.453
	Price to Book Value per Share - Issue Specific 3yr avg.	1.928	.600	.050	3.213	.001
	Net Debt 3yr avg.	.008	.001	.221	13.470	<.001
	age 3yr avg.	-.130	.279	-.007	-.465	.642
	Market Capitalization 3yr avg.	.019	.000	.746	44.862	<.001
	ownership concentration 3yr avg.	-.340	.765	-.007	-.445	.656

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

The first hypothesis stating that firm size, proxied by a company's market capitalization, has a positive effect on a company's dividend payout can be accepted according to the results (Table 8). The three-year average market capitalization has an unstandardized coefficient of 0,019, which indicates that for each one unit increase in the average market capitalization, a company's dividend payout rises by 0,019 units, assuming all other variables in the analysis are held constant (Table 9). This result is in line with the previously established hypothesis, and the results of prior research (Easterbrook, 1984; Fama & French, 2001; La Rocca et al., 2011; Patra et al., 2012; Yarram, 2014; Jabbouri, 2016; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022).

The three-year average price-to-book ratio, has an unstandardized coefficient of 1,928, implying a 1,928 million dollar increase in dividend payouts for each unit increase in the three-year average price-to-book ratio, assuming all other variables are held constant (Table 9). This is contrary to the second hypothesis, as the hypothesis predicted a negative impact of investment opportunities, proxied by the price-to-book ratio, on a company's dividend payout (Table 8). This was assumed because it was believed that the company would rather invest in new opportunities than pay out cash to their shareholders (Fama & French, 2001; Van Eije & Megginson, 2008; Hsieh & Wang, 2009; Jabbouri, 2016; Le et al., 2019, Agarwal & Chakraverty, 2023).

Contrary to the initially proposed hypothesis, the relationship between firm profitability, as proxied by net profit margin, and dividend payouts is found to be both insignificant and negative. However, due to the lack of statistical significance, the third hypothesis must be rejected, as no measurable and statistically significant effects could be observed in this analysis (Tables 8 & 9).

Hypothesis four is rejected, as it contradicts the initial assumption that firm debt exerts a negative influence on dividend payout (Table 8). Surprisingly, firm debt is found to have a statistically significant positive relationship with dividend payouts (Table 9). The unstandardized coefficient of 0.08 implies that for each unit increase in firm debt, represented by the three-year average net debt in this analysis, the dividend payout increases by 0.008 units. It is important to note that, as with the coefficients of other independent variables, this relationship holds only under ceteris paribus conditions. Thus, the findings of this thesis contrast those by Jensen & Mecklin (1976), Le et al. (2019), Mądra-Sawicka & Ulrichs (2020), Vermaelen (2005), as well as Saxena & Sahoo (2022).

Hypothesis five has to be rejected as the results are insignificant (Tables 8 & 9). Ownership concentration does not seem to have any statistically relevant influence on dividend payout. This is contrary to the findings in the total payout regression which the dividend payout is also a part of. There, ownership concentration has a statistically significant negative relationship.

The final hypothesis, asserting a statistically significant positive linear relationship between firm age and dividend payouts, is found to be insignificant and is consequently rejected in this analysis (Tables 8 & 9).

Coefficient Correlations[a]

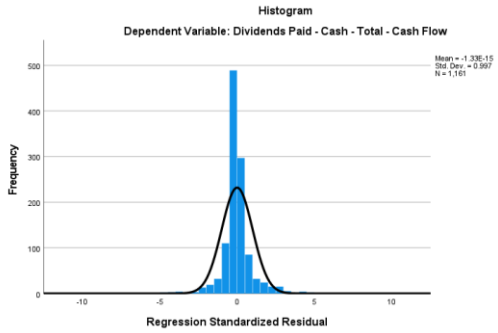
Model			ownership concentration 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	net margin 3yr avg.	age 3yr avg.	Net Debt 3yr avg.	Market Capitalization 3yr avg.
1	Correlations	ownership concentration 3yr avg.	1.000	.036	.083	-.087	-.096	-.036
		Price to Book Value per Share - Issue Specific 3yr avg.	.036	1.000	.001	.042	.082	-.216
		net margin 3yr avg.	.083	.001	1.000	-.037	-.005	-.020
		age 3yr avg.	-.087	.042	-.037	1.000	-.121	.085
		Net Debt 3yr avg.	-.096	.082	-.005	-.121	1.000	-.348
		Market Capitalization 3yr avg.	-.036	-.216	-.020	.085	-.348	1.000
	Covariances	ownership concentration 3yr avg.	.584	.016	.001	-.018	-4.158E-5	-1.204E-5
		Price to Book Value per Share - Issue Specific 3yr avg.	.016	.360	1.037E-5	.007	2.791E-5	-5.584E-5
		net margin 3yr avg.	.001	1.037E-5	.000	.000	-3.352E-8	-1.098E-7
		age 3yr avg.	-.018	.007	.000	.078	-1.908E-5	1.027E-5
		Net Debt 3yr avg.	-4.158E-5	2.791E-5	-3.352E-8	-1.908E-5	3.211E-7	-8.499E-8
		Market Capitalization 3yr avg.	-1.204E-5	-5.584E-5	-1.098E-7	1.027E-5	-8.499E-8	1.862E-7

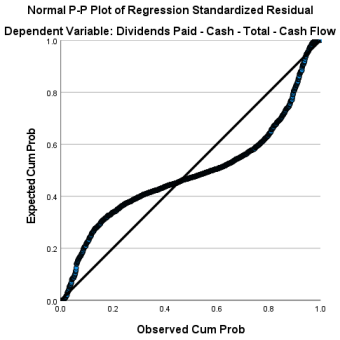
a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

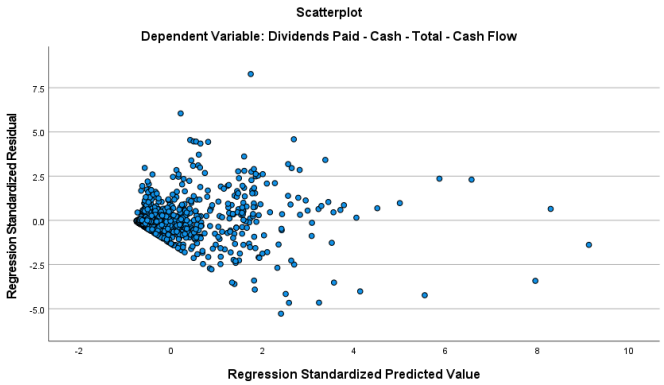
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	29.406868	7310.421875	583.392894	737.3192198	1161
Residual	-2355.9187012	3695.1818848	.0000000	445.2794355	1161
Std. Predicted Value	-.751	9.124	.000	1.000	1161
Std. Residual	-5.277	8.277	.000	.997	1161

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow







Test of normality discretionary sector dividend payout regression:

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Unstandardized Residual dividend payout	1161	48.9%	1214	51.1%	2375	100.0%

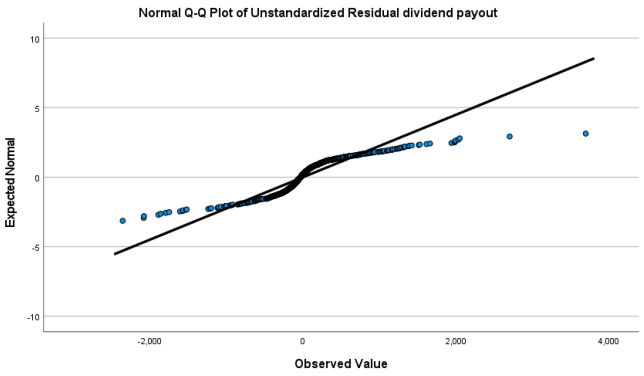
Descriptives

			Statistic	Std. Error
Unstandardized Residual dividend payout	Mean		.0000000	13.06822275
	95% Confidence Interval for Mean	Lower Bound	-25.6399987	
		Upper Bound	25.6399987	
	5% Trimmed Mean		-12.9915954	
	Median		-31.6464444	
	Variance		198273.776	
	Std. Deviation		445.27943549	
	Minimum		-2355.91881	
	Maximum		3695.18191	
	Range		6051.10072	
	Interquartile Range		245.88830	
	Skewness		.918	.072
	Kurtosis		10.427	.143

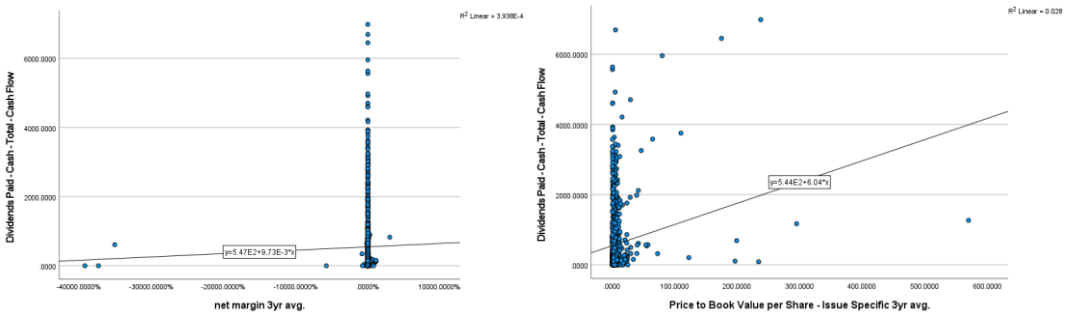
Tests of Normality

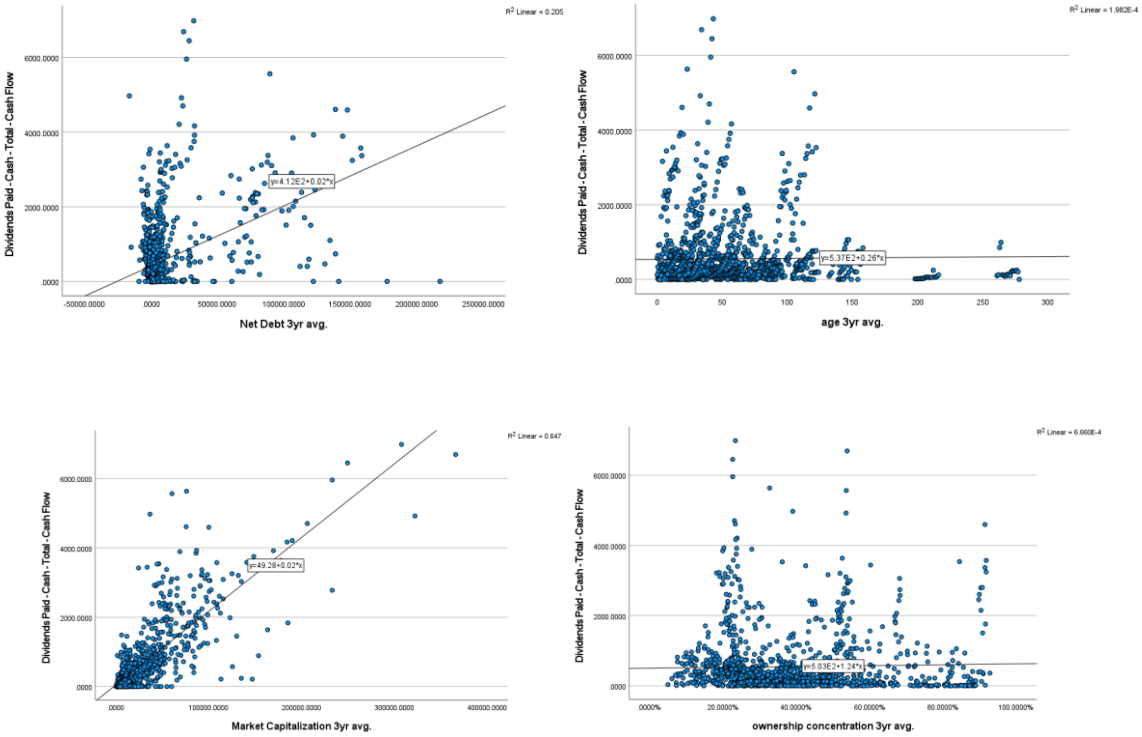
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual dividend payout	.167	1161	<.001	.816	1161	<.001

a. Lilliefors Significance Correction

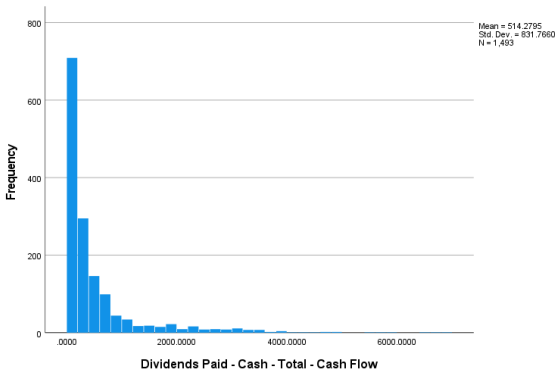


Scatterplots discretionary sector independent variables dividend payout regression:





Histogram discretionary sector dividend payout regression dependent variable:



Discretionary sector statistics share repurchase regression:

Statistics

		Stock - Common - Repurchased/ Retired - Cash Flow	Total payout 3yr avg.	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
N	Valid	1374	2052	1833	1476	1798	1922	1739	1747
	Missing	1001	323	542	899	577	453	636	628
Mean		608.285233	697.336907	-132.829291%	6.910303	6457.541740	42.18	26175.079855	38.243635%
Std. Error of Mean		35.5931039	29.4288106	51.5758371%	.6058344	511.1337538	1.015	1673.9903809	0.4105443%
Median		154.820000	271.970000	6.450000%	2.841667	806.738333	26.00	11137.390000	34.410000%
Mode		.0000	.0000	2.9267%	2.6100	4773.0000	21	169.5450[a]	27.3100%[a]
Std. Deviation		1319.3475921	1333.0958848	2208.14464%	23.2753987	21673.517719	44.505	69807.606749	17.1595729%
Variance		1740678.069	1777144.638	4875902.761	541.744	469741370.32	1980.705	4873101960.0	294.451
Skewness		4.743	4.426	-18.280	14.181	5.046	2.303	13.103	1.031
Std. Error of Skewness		.066	.054	.057	.064	.058	.056	.059	.059
Kurtosis		30.486	26.477	360.492	272.943	29.496	7.088	221.699	.919
Std. Error of Kurtosis		.132	.108	.114	.127	.115	.112	.117	.117
Minimum		-961.3600	-212.6333	-53888.6349%	.0000	-16258.6900	0	169.5450	0.0000%
Maximum		14809.0000	13986.3333	3054.9733%	570.0400	228067.0000	279	1413775.0067	92.7700%

a. Multiple modes exist. The smallest value is shown

Discretionary sector share repurchases regression output:

Descriptive Statistics

	Mean	Std. Deviation	N
Stock - Common - Repurchased/Retired - Cash Flow	635.885189	1356.0872558	1058
net margin 3yr avg.	7.676952%	33.6712556%	1058
Price to Book Value per Share - Issue Specific 3yr avg.	7.404011	25.3802632	1058
Net Debt 3yr avg.	5739.017357	20802.530975	1058
age 3yr avg.	43.56	40.261	1058
Market Capitalization 3yr avg.	23647.931934	51412.327769	1058
ownership concentration 3yr avg.	34.132344%	13.0999826%	1058

Correlations

		Stock - Common - Repurchased/ Retired - Cash Flow	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
Pearson Correlation	Stock - Common - Repurchased/Retired - Cash Flow	1.000	.041	.149	.045	-.038	.459	-.205
	net margin 3yr avg.	.041	1.000	.014	-.051	-.037	.021	-.020
	Price to Book Value per Share - Issue Specific 3yr avg.	.149	.014	1.000	-.002	-.064	.139	-.006
	Net Debt 3yr avg.	.045	-.051	-.002	1.000	.078	.154	-.037
	age 3yr avg.	-.038	-.037	-.064	.078	1.000	-.038	-.027
	Market Capitalization 3yr avg.	.459	.021	.139	.154	-.038	1.000	-.100
	ownership concentration 3yr avg.	-.205	-.020	-.006	-.037	-.027	-.100	1.000
Sig. (1-tailed)	Stock - Common - Repurchased/Retired - Cash Flow	.	.092	<.001	.070	.107	<.001	<.001
	net margin 3yr avg.	.092	.	.327	.050	.117	.243	.256
	Price to Book Value per Share - Issue Specific 3yr avg.	.000	.327	.	.475	.019	.000	.427
	Net Debt 3yr avg.	.070	.050	.475	.	.006	.000	.112
	age 3yr avg.	.107	.117	.019	.006	.	.109	.191
	Market Capitalization 3yr avg.	.000	.243	.000	.000	.109	.	.001
	ownership concentration 3yr avg.	.000	.256	.427	.112	.191	.001	.
N	Stock - Common - Repurchased/Retired - Cash Flow	1058	1058	1058	1058	1058	1058	1058
	net margin 3yr avg.	1058	1058	1058	1058	1058	1058	1058
	Price to Book Value per Share - Issue Specific 3yr avg.	1058	1058	1058	1058	1058	1058	1058
	Net Debt 3yr avg.	1058	1058	1058	1058	1058	1058	1058
	age 3yr avg.	1058	1058	1058	1058	1058	1058	1058
	Market Capitalization 3yr avg.	1058	1058	1058	1058	1058	1058	1058
	ownership concentration 3yr avg.	1058	1058	1058	1058	1058	1058	1058

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.496[a]	.246	.242	1180.6244135	.246	57.254	6	1051	<.001	1.003

a. Predictors: (Constant), ownership concentration 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., net margin 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	478832506.05	6	79805417.674	57.254	<.001[b]
	Residual	1464961580.1	1051	1393874.006		
	Total	1943794086.1	1057			

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

b. Predictors: (Constant), ownership concentration 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., net margin 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

Table 15: Coefficients Share Repurchase Regression Discretionary Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	933.288	114.362		8.161	<.001
	net margin 3yr avg.	1.017	1.081	.025	.941	.347
	Price to Book Value per Share - Issue Specific 3yr avg.	4.641	1.448	.087	3.206	.001
	Net Debt 3yr avg.	-.002	.002	-.024	-.899	.369
	age 3yr avg.	-.599	.908	-.018	-.659	.510
	Market Capitalization 3yr avg.	.011	.001	.434	15.756	<.001
	ownership concentration 3yr avg.	-16.844	2.788	-.163	-6.041	<.001

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

The first hypothesis which states that firm size, proxied by a company's market capitalization, has a positive effect on a company's share repurchases can be accepted according to the results. The three-year average market capitalization shows an unstandardized coefficient of 0,011, which indicates that for each one unit increase in the average market capitalization, the dividend payout of a company rises by 0,011 units, assuming all other variables in the analysis are held constant. This also supports the findings of the previous studies cited in section 5.1 and 5.2 (Table 15).

The three-year average price-to-book ratio has an unstandardized coefficient of 4,641, implying a 4,641 million dollar increase in share repurchases for each unit increase in the three-year average price-to-book ratio, assuming all other variables are held constant (Table 15). This contradicts the second hypothesis, which predicted a negative impact of investment opportunities, proxied by the price-to-book ratio, on a company's share repurchases. Here, too, the previously mentioned authors whose findings are supported by this thesis are Bhattacharya (1979), and Chen et al. (2022).

Hypothesis five is accepted, the three-year average ownership concentration has a negative effect on share repurchases. The unstandardized coefficient is -16,844 (Table 15).

Hypotheses three, four, and six are statistically insignificant, therefore they are rejected.

Coefficient Correlations[a]

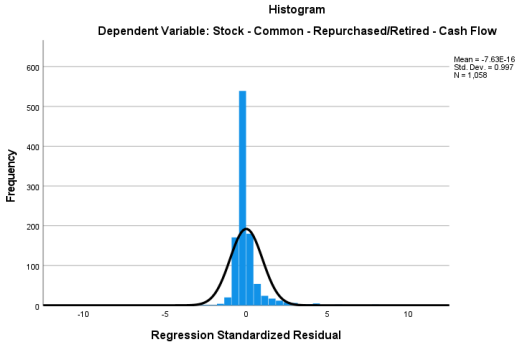
Model			ownership concentration 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	net margin 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.
1	Correlations	ownership concentration 3yr avg.	1.000	-.006	.020	.021	.029	.096
		Price to Book Value per Share - Issue Specific 3yr avg.	-.006	1.000	-.008	.018	.057	-.137
		net margin 3yr avg.	.020	-.008	1.000	.052	.031	-.025
		Net Debt 3yr avg.	.021	.018	.052	1.000	-.081	-.157
		age 3yr avg.	.029	.057	.031	-.081	1.000	.044
		Market Capitalization 3yr avg.	.096	-.137	-.025	-.157	.044	1.000
	Covariances	ownership concentration 3yr avg.	7.775	-.025	.061	.000	.074	.000
		Price to Book Value per Share - Issue Specific 3yr avg.	-.025	2.096	-.012	4.694E-5	.075	.000
		net margin 3yr avg.	.061	-.012	1.169	9.980E-5	.031	-1.930E-5
		Net Debt 3yr avg.	.000	4.694E-5	9.980E-5	3.154E-6	.000	-2.020E-7
		age 3yr avg.	.074	.075	.031	.000	.825	2.899E-5
		Market Capitalization 3yr avg.	.000	.000	-1.930E-5	-2.020E-7	2.899E-5	5.274E-7

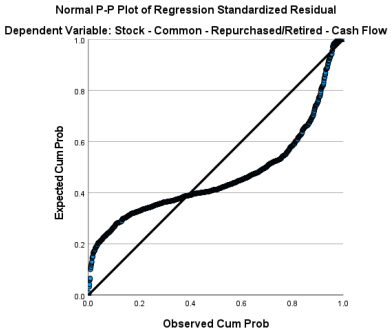
a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

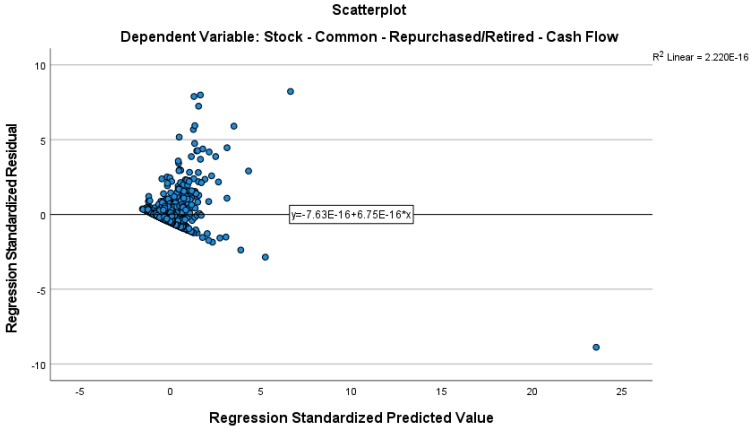
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-422.591522	16488.521484	635.885189	673.0608335	1058
Residual	-10488.52148	9711.5000000	.0000000	1177.2687712	1058
Std. Predicted Value	-1.573	23.553	.000	1.000	1058
Std. Residual	-8.884	8.226	.000	.997	1058

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow







Test of normality discretionary sector share repurchases regression:

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Unstandardized Residual share repurchases	1058	44.5%	1317	55.5%	2375	100.0%

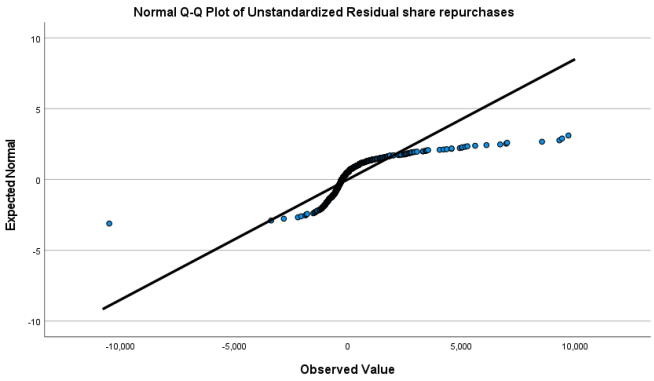
Descriptives

			Statistic	Std. Error
Unstandardized Residual share repurchases	Mean		.0000000	36.19368398
	95% Confidence Interval for Mean	Lower Bound	-71.0196396	
		Upper Bound	71.0196396	
	5% Trimmed Mean		-135.0901717	
	Median		-260.9331893	
	Variance		1385961.760	
	Std. Deviation		1177.2687712	
	Minimum		-10488.52174	
	Maximum		9711.50033	
	Range		20200.02206	
	Interquartile Range		560.09753	
	Skewness		2.941	.075
	Kurtosis		26.048	.150

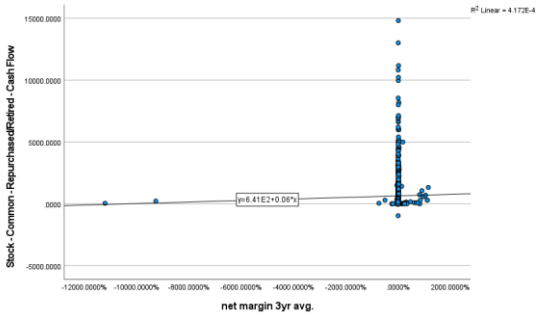
Tests of Normality

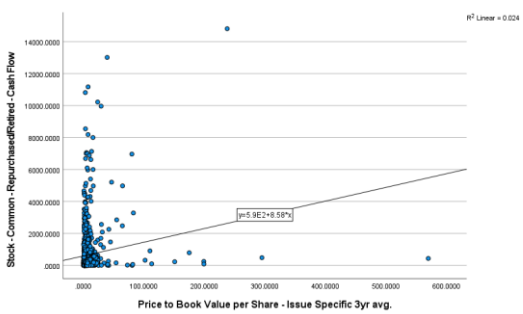
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual share repurchases	.224	1058	<.001	.620	1058	<.001

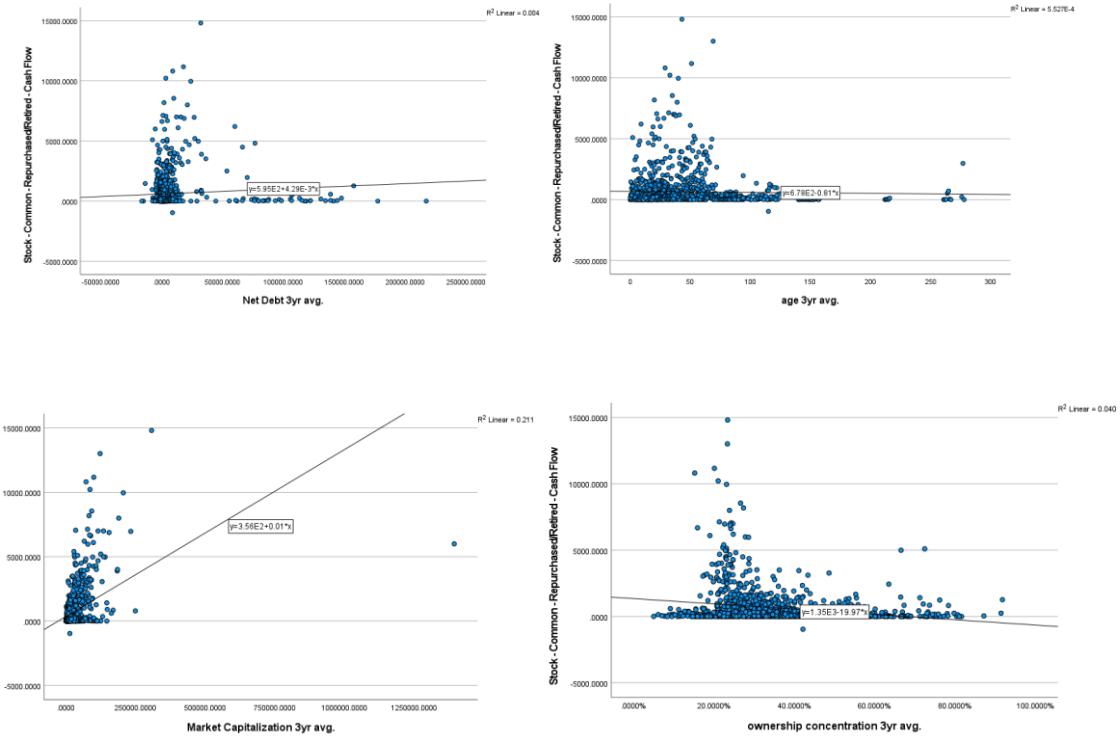
a. Lilliefors Significance Correction



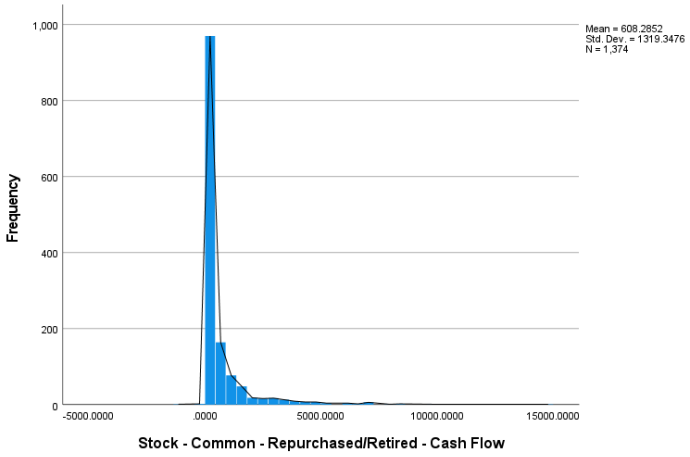
Scatterplots discretionary sector independent variables share repurchases regression:







Histogram discretionary sector share repurchases regression dependent variable:



Staples sector statistics dividend payout regression:

Statistics

		Dividends Paid - Cash - Total - Cash Flow	Total payout 3yr avg.	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
N	Valid	1312	1444	1354	1292	1354	1326	1310	1327
	Missing	359	227	317	379	317	345	361	344
Mean		1134.436799	1564.213114	9.852368%	8.515899	7004.161470	73.413524	40127.436360	37.572667%
Std. Error of Mean		47.3040156	70.3817644	1.0714295%	1.0077567	282.9634723	1.6922715	1520.5375631	0.8043328%
Median		424.800000	535.408333	8.279000%	3.346667	3261.450000	67.000000	19394.928333	29.965000%
Mode		.0000	.0000	8.5200%	1.3167	26.7667[a]	.0000	97.0033[a]	0.0000%
Std. Deviation		1713.4243209	2674.5070455	39.4251128%	36.2232110	10412.133031	61.6228529	55034.218173	29.3002450%
Variance		2935822.904	7152987.936	1554.340	1312.121	108412514.26	3797.376	3028765169.9	858.504
Skewness		2.390	2.892	12.681	13.186	3.746	1.666	2.578	11.790
Std. Error of Skewness		.068	.064	.066	.068	.066	.067	.068	.067
Kurtosis		5.216	9.015	319.902	193.044	22.733	4.863	7.333	250.407
Std. Error of Kurtosis		.135	.129	.133	.136	.133	.134	.135	.134
Minimum		.0000	.0000	-499.9900%	.2500	-3791.6667	.0000	97.0033	0.0000%
Maximum		9275.0000	17746.3333	866.6660%	591.5000	105920.6667	367.0000	370043.4967	730.0000%

a. Multiple modes exist. The smallest value is shown

Staples sector dividend payout regression output:

Descriptive Statistics

	Mean	Std. Deviation	N
Dividends Paid - Cash - Total - Cash Flow	1154.659991	1694.5799664	1168
net margin 3yr avg.	9.453189%	33.9369866%	1168
Price to Book Value per Share - Issue Specific 3yr avg.	8.946390	38.0585833	1168
Net Debt 3yr avg.	7314.370962	10533.471131	1168
age 3yr avg.	80.168950	62.0198087	1168
Market Capitalization 3yr avg.	41946.752641	56093.736322	1168
ownership concentration 3yr avg.	35.901451%	18.2968810%	1168

Correlations

		Dividends Paid - Cash - Total - Cash Flow	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
Pearson Correlation	Dividends Paid - Cash - Total - Cash Flow	1.000	.071	.112	.685	-.032	.900	-.243
	net margin 3yr avg.	.071	1.000	.034	.031	.020	.047	.011
	Price to Book Value per Share - Issue Specific 3yr avg.	.112	.034	1.000	.020	-.070	.070	-.091
	Net Debt 3yr avg.	.685	.031	.020	1.000	-.136	.632	-.105
	age 3yr avg.	-.032	.020	-.070	-.136	1.000	-.025	.108
	Market Capitalization 3yr avg.	.900	.047	.070	.632	-.025	1.000	-.193
	ownership concentration 3yr avg.	-.243	.011	-.091	-.105	.108	-.193	1.000
Sig. (1-tailed)	Dividends Paid - Cash - Total - Cash Flow	.	.008	<.001	<.001	.135	.000	<.001
	net margin 3yr avg.	.008	.	.124	.142	.253	.054	.348
	Price to Book Value per Share - Issue Specific 3yr avg.	.000	.124	.	.251	.008	.008	.001
	Net Debt 3yr avg.	.000	.142	.251	.	.000	.000	.000
	age 3yr avg.	.135	.253	.008	.000	.	.192	.000
	Market Capitalization 3yr avg.	.000	.054	.008	.000	.192	.	.000
	ownership concentration 3yr avg.	.000	.348	.001	.000	.000	.000	.
N	Dividends Paid - Cash - Total - Cash Flow	1168	1168	1168	1168	1168	1168	1168
	net margin 3yr avg.	1168	1168	1168	1168	1168	1168	1168
	Price to Book Value per Share - Issue Specific 3yr avg.	1168	1168	1168	1168	1168	1168	1168
	Net Debt 3yr avg.	1168	1168	1168	1168	1168	1168	1168
	age 3yr avg.	1168	1168	1168	1168	1168	1168	1168
	Market Capitalization 3yr avg.	1168	1168	1168	1168	1168	1168	1168
	ownership concentration 3yr avg.	1168	1168	1168	1168	1168	1168	1168

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.917[a]	.842	.841	676.2561453	.842	1027.797	6	1161	.000	.725

a. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2820207397.1	6	470034566.18	1027.797	.000[b]
	Residual	530951276.23	1161	457322.374		
	Total	3351158673.3	1167			

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

b. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

Table 12: Coefficients Dividend Payout Regression Staples Sector

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	122.726	55.112		2.227	.026
	net margin 3yr avg.	1.365	.585	.027	2.335	.020
	Price to Book Value per Share - Issue Specific 3yr avg.	2.187	.525	.049	4.168	<.001
	Net Debt 3yr avg.	.033	.002	.203	13.276	<.001
	age 3yr avg.	.696	.326	.025	2.135	.033
	Market Capitalization 3yr avg.	.023	.000	.753	48.883	<.001
	ownership concentration 3yr avg.	-6.945	1.113	-.075	-6.241	<.001

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

The first hypothesis maintaining that firm size, proxied by a company's market capitalization, has a positive effect on a company's dividend payout in the consumer staples sector can be accepted according to the results (Table 12). The three-year average market capitalization has an unstandardized coefficient of 0,023, which indicates that for each one unit increase in the average market capitalization, the total payout of a company rises by 0,023 units, assuming all other variables in the analysis are held constant (Table 12). This is in line with findings from previous studies (Easterbrook, 1984; Fama & French, 2001; La Rocca et al., 2011; Patra et al., 2012; Yarram, 2014; Jabbouri, 2016; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022).

The three-year average price-to-book ratio has an unstandardized coefficient of 2,187 implying a 2,187 million dollar increase in dividend payouts for each unit increase in the three-year average price-to-book ratio, assuming all other variables remain constant (Table 12). This rejects the second hypothesis, as this hypothesis predicts a negative impact of investment opportunities, proxied by the price-to-book ratio, on a company's dividend payout. Therefore the findings of this thesis contrast those of the majority of previous studies (Fama & French, 2001; Van Eije & Megginson, 2008; Hsieh & Wang, 2009; Jabbouri, 2016; Le et al., 2019; Agarwal & Chakraverty, 2023), but support the findings by Bhattacharya (1979) and Chen et al. (2022).

Firm profitability, proxied by net profit margin, has a positive influence on dividend payouts. The unstandardized coefficient is 1,365, implying a 1,365 million dollar increase in dividend payouts for each unit increase in a company's three-year average net margin (Table 12). Hypothesis three

therefore is accepted, confirming the findings of previous studies for the dividend payout in the consumer staples sector in Europe and the US (Fama & French, 2001; Patra et al., 2012; Jabbouri, 2016; Le et al., 2019; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022).

Hypothesis four is rejected as, contrary to the assumption that firm debt has a negative effect on dividend payout, firm debt is shown to have a statistically significant positive relationship with dividend payouts (Table 11). The unstandardized coefficient of 0,033 suggests that for every unit increase in firm debt, proxied by the three-year average net debt in this analysis, the dividend payout rises by 0,033 units (Table 12). As with the other independent variables coefficients, this works only ceteris paribus. This supports the findings by Amdur (2008), but contrasts findings by Jensen & Mecklin (1976), Le et al. (2019), Mądra-Sawicka & Ulrichs (2020), Vermaelen (2005), as well as Saxena & Sahoo (2022).

The hypothesis that ownership concentration has a negative impact on dividend payout (H5) can be accepted (Table 11). The unstandardized coefficient shows that for each unit increase (%) in a company's three-year average ownership concentration the dividend payout falls by 6,945 units, ceteris paribus (Table 12).

The last hypothesis, stating that firm age has a statistically significant positive linear relationship with dividend payouts is accepted (Table 11). The results show that for every year a company becomes older the model predicts the dividend payout to rise by 696.000 dollar (Table 12). The findings by Easterbrook (1984), Fama & French (2001), and Banyi & Kahle (2014) are supported by the results presented in this thesis.

Coefficient Correlations[a]

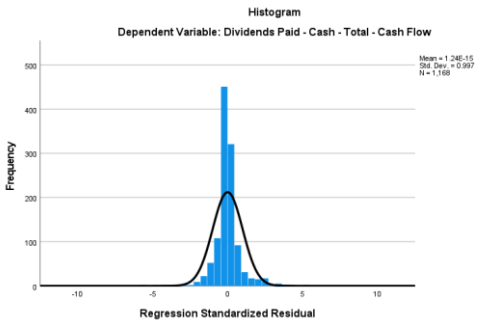
Model			ownership concentration 3yr avg.	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.
1	Correlations	ownership concentration 3yr avg.	1.000	-.021	.071	-.036	-.104	.168
		net margin 3yr avg.	-.021	1.000	-.034	-.006	-.021	-.034
		Price to Book Value per Share - Issue Specific 3yr avg.	.071	-.034	1.000	.041	.067	-.066
		Net Debt 3yr avg.	-.036	-.006	.041	1.000	.160	-.632
		age 3yr avg.	-.104	-.021	.067	.160	1.000	-.099
		Market Capitalization 3yr avg.	.168	-.034	-.066	-.632	-.099	1.000
	Covariances	ownership concentration 3yr avg.	1.238	-.014	.042	-9.812E-5	-.038	8.696E-5
		net margin 3yr avg.	-.014	.342	-.010	-8.540E-6	-.004	-9.214E-6
		Price to Book Value per Share - Issue Specific 3yr avg.	.042	-.010	.275	5.260E-5	.011	-1.616E-5
		Net Debt 3yr avg.	-9.812E-5	-8.540E-6	5.260E-5	6.049E-6	.000	-7.233E-7
		age 3yr avg.	-.038	-.004	.011	.000	.106	-1.503E-5
		Market Capitalization 3yr avg.	8.696E-5	-9.214E-6	-1.616E-5	-7.233E-7	-1.503E-5	2.165E-7

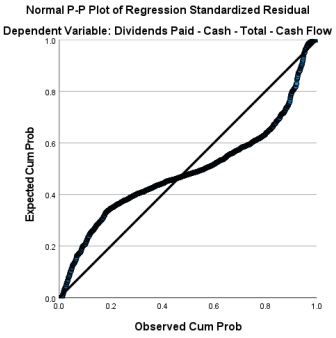
a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow

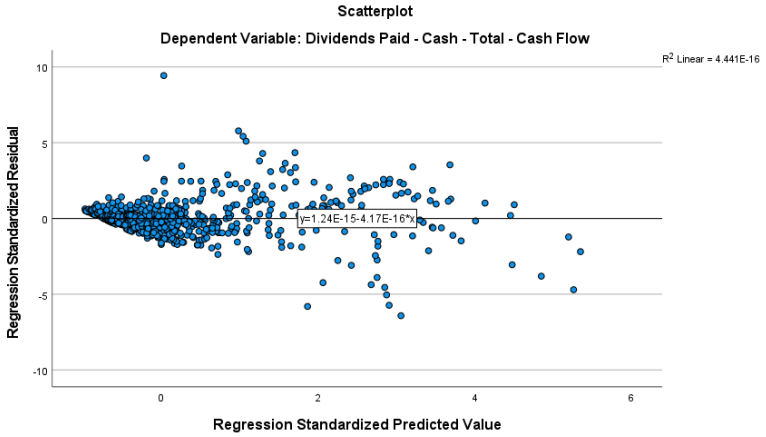
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-353.582520	9467.900391	1154.659991	1554.5514338	1168
Residual	-4339.9028320	6378.9609375	.0000000	674.5154573	1168
Std. Predicted Value	-.970	5.348	.000	1.000	1168
Std. Residual	-6.418	9.433	.000	.997	1168

a. Dependent Variable: Dividends Paid - Cash - Total - Cash Flow







Test of normality staples sector dividend payout regression:

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Unstandardized Residual dividend payout	1168	69.9%	503	30.1%	1671	100.0%

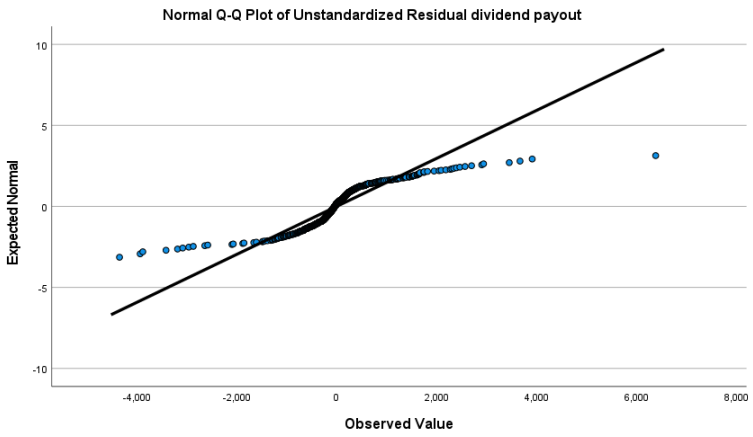
Descriptives

			Statistic	Std. Error
Unstandardized Residual dividend payout	Mean		.0000000	19.73651573
	95% Confidence Interval for Mean	Lower Bound	-38.7230212	
		Upper Bound	38.7230212	
	5% Trimmed Mean		-18.6478870	
	Median		-36.6861363	
	Variance		454971.102	
	Std. Deviation		674.51545733	
	Minimum		-4339.90306	
	Maximum		6378.96093	
	Range		10718.86398	
	Interquartile Range		391.37825	
	Skewness		.714	.072
	Kurtosis		15.499	.143

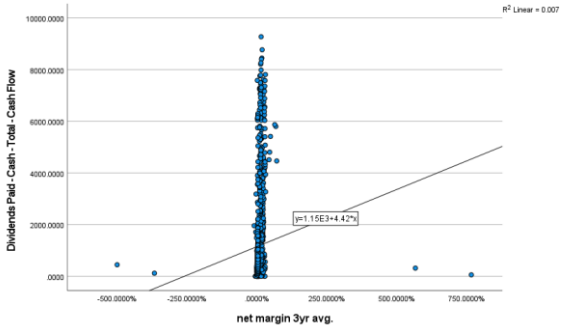
Tests of Normality

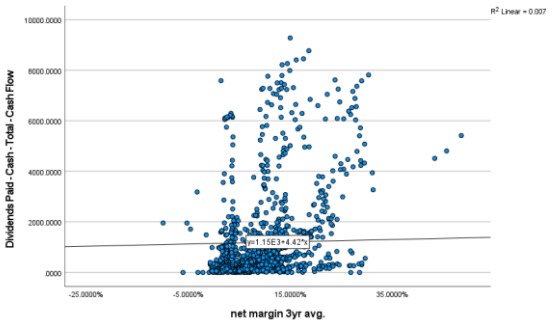
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual dividend payout	.168	1168	<.001	.785	1168	<.001

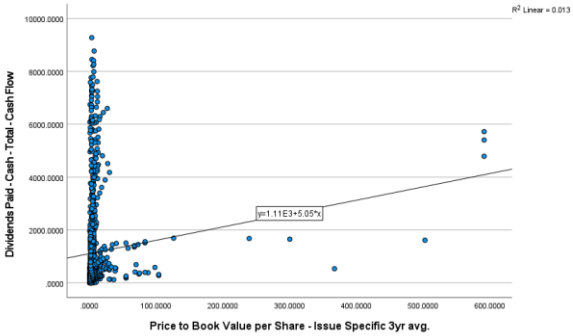
a. Lilliefors Significance Correction

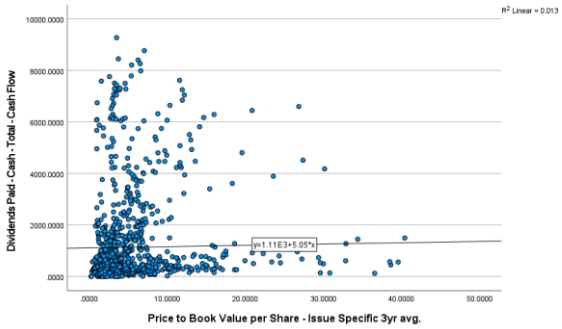


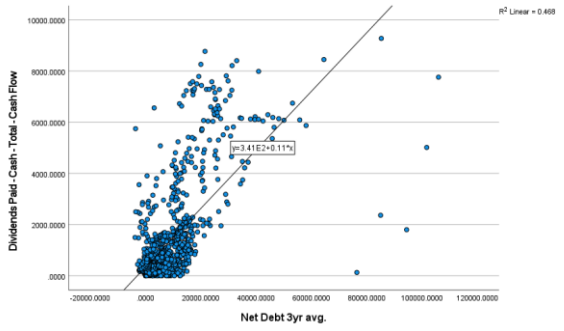
Scatterplots staples sector independent variables dividend payout regression:

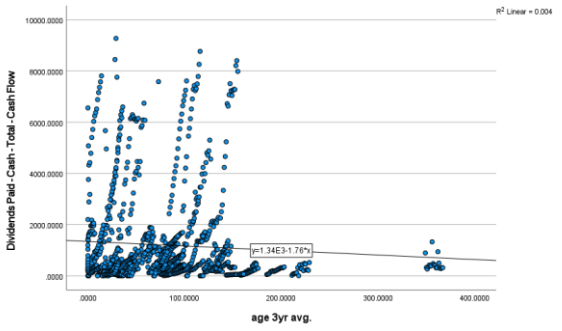


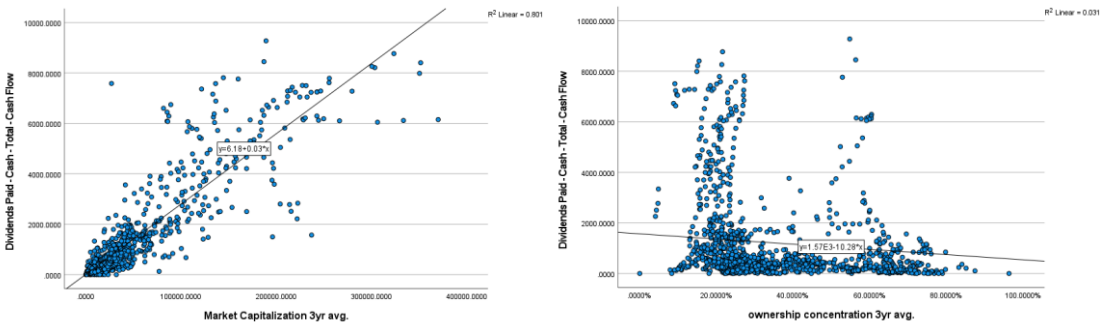




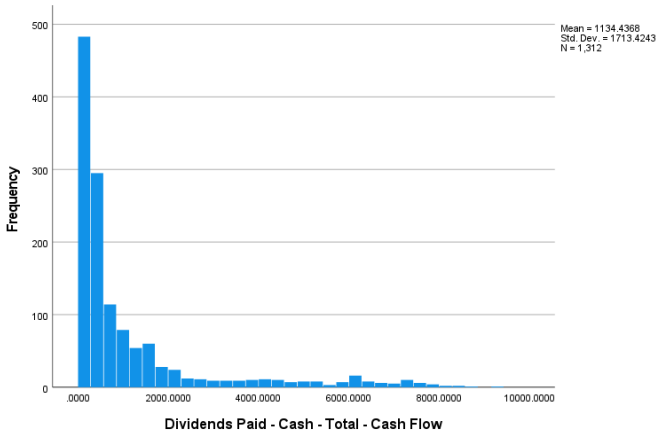








Histogram staples sector dividend payout regression dependent variable:



Staples sector statistics share repurchase regression:

Statistics

		Stock - Common - Repurchased/ Retired - Cash Flow	Total payout 3yr avg.	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
N	Valid	1013	1444	1354	1292	1354	1326	1310	1327
	Missing	658	227	317	379	317	345	361	344
Mean		987.919743	1564.213114	9.852368%	8.515899	7004.161470	73.413524	40127.436360	37.572667%
Std. Error of Mean		57.3358825	70.3817644	1.0714295%	1.0077567	282.9634723	1.6922715	1520.5375631	0.8043328%
Median		321.100000	535.408333	8.279000%	3.346667	3261.450000	67.000000	19394.928333	29.965000%
Mode		.0000	.0000	8.5200%	1.3167	26.7667[a]	.0000	97.0033[a]	0.0000%
Std. Deviation		1824.8670286	2674.5070455	39.4251128%	36.2232110	10412.133031	61.6228529	55034.218173	29.3002450%
Variance		3330139.672	7152987.936	1554.340	1312.121	108412514.26	3797.376	3028765169.9	858.504
Skewness		3.612	2.892	12.681	13.186	3.746	1.666	2.578	11.790
Std. Error of Skewness		.077	.064	.066	.068	.066	.067	.068	.067
Kurtosis		16.787	9.015	319.902	193.044	22.733	4.863	7.333	250.407
Std. Error of Kurtosis		.154	.129	.133	.136	.133	.134	.135	.134
Minimum		.0000	.0000	-499.9900%	.2500	-3791.6667	.0000	97.0033	0.0000%
Maximum		16830.0000	17746.3333	866.6660%	591.5000	105920.6667	367.0000	370043.4967	730.0000%

a. Multiple modes exist. The smallest value is shown

Staples sector share repurchases regression output:

Descriptive Statistics

	Mean	Std. Deviation	N
Stock - Common - Repurchased/Retired - Cash Flow	1044.002922	1889.1114309	900
net margin 3yr avg.	10.340093%	36.4676025%	900
Price to Book Value per Share - Issue Specific 3yr avg.	10.633924	43.0898359	900
Net Debt 3yr avg.	7396.384452	9582.5702639	900
age 3yr avg.	71.418704	52.4981407	900
Market Capitalization 3yr avg.	47070.162648	61131.741973	900
ownership concentration 3yr avg.	32.152932%	15.8160566%	900

Correlations

		Stock - Common - Repurchased/ Retired - Cash Flow	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.	ownership concentration 3yr avg.
Pearson Correlation	Stock - Common - Repurchased/Retired - Cash Flow	1.000	.006	.111	.477	.054	.715	-.144
	net margin 3yr avg.	.006	1.000	.031	.049	.029	.043	.006
	Price to Book Value per Share - Issue Specific 3yr avg.	.111	.031	1.000	.025	-.068	.060	-.081
	Net Debt 3yr avg.	.477	.049	.025	1.000	-.027	.695	-.083
	age 3yr avg.	.054	.029	-.068	-.027	1.000	.058	-.087
	Market Capitalization 3yr avg.	.715	.043	.060	.695	.058	1.000	-.148
	ownership concentration 3yr avg.	-.144	.006	-.081	-.083	-.087	-.148	1.000
Sig. (1-tailed)	Stock - Common - Repurchased/Retired - Cash Flow	.	.423	<.001	<.001	.052	<.001	<.001
	net margin 3yr avg.	.423	.	.176	.071	.194	.099	.423
	Price to Book Value per Share - Issue Specific 3yr avg.	.000	.176	.	.228	.021	.036	.008
	Net Debt 3yr avg.	.000	.071	.228	.	.212	.000	.006
	age 3yr avg.	.052	.194	.021	.212	.	.042	.004
	Market Capitalization 3yr avg.	.000	.099	.036	.000	.042	.	.000
	ownership concentration 3yr avg.	.000	.423	.008	.006	.004	.000	.
N	Stock - Common - Repurchased/Retired - Cash Flow	900	900	900	900	900	900	900
	net margin 3yr avg.	900	900	900	900	900	900	900
	Price to Book Value per Share - Issue Specific 3yr avg.	900	900	900	900	900	900	900
	Net Debt 3yr avg.	900	900	900	900	900	900	900
	age 3yr avg.	900	900	900	900	900	900	900
	Market Capitalization 3yr avg.	900	900	900	900	900	900	900
	ownership concentration 3yr avg.	900	900	900	900	900	900	900

Model Summary[b]

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.720[a]	.519	.516	1314.9162010	.519	160.429	6	893	<.001	1.253

a. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

b. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1664297934.7	6	277382989.12	160.429	<.001[b]
	Residual	1544001121.8	893	1729004.616		
	Total	3208299056.5	899			

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

b. Predictors: (Constant), ownership concentration 3yr avg., net margin 3yr avg., Price to Book Value per Share - Issue Specific 3yr avg., Net Debt 3yr avg., age 3yr avg., Market Capitalization 3yr avg.

Table 18: Coefficients Share Repurchase Regression Staples Sector

Coefficients[a]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	101.083	131.343		.770	.442
	net margin 3yr avg.	-1.324	1.205	-.026	-1.098	.272
	Price to Book Value per Share - Issue Specific 3yr avg.	2.965	1.026	.068	2.889	.004
	Net Debt 3yr avg.	-.006	.006	-.033	-1.011	.312
	age 3yr avg.	.493	.846	.014	.583	.560
	Market Capitalization 3yr avg.	.023	.001	.729	22.279	<.001
	ownership concentration 3yr avg.	-3.835	2.822	-.032	-1.359	.175

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

Hypothesis one is accepted, the results show that in this analysis a firm's market capitalization does have a statistically significant influence on share repurchases, with an unstandardized coefficient of 0,023. This indicates that for each one unit increase in the average market capitalization, the total payout of a company rises by 0,023 units, which equals 23.000 per million dollars market capitalization. As previously stated for the total payout and dividend regressions the results of this thesis are in line with previous studies (Easterbrook, 1984; Fama & French, 2001; La Rocca et al., 2011; Patra et al., 2012; Yarram, 2014; Jabbouri, 2016; Mądra-Sawicka & Ulrichs, 2020; Szládek, 2022) (Tables 17 & 18).

The three-year average price-to-book ratio, which is used to proxy a company's investment opportunities, has an unstandardized coefficient of 2,965, which shows that statistically for each unit increase in the three-year average price-to-book ratio, the money spent in share repurchases should increase by 2,965 million dollars, ceteris paribus (Table 18). Therefore, hypothesis two is rejected, because it predicted a reverse result. This presents a contrast to the findings by Fama & French (2001), Van Eije & Megginson (2008), Hsieh & Wang (2009), Jabbouri (2016), Le et al. (2019), as well as Agarwal & Chakraverty (2023), who predicted a negative influence of investment opportunities on payouts.

Independent variables in hypotheses three to six are insignificant and for this reason rejected in this analysis (Tables 17 & 18).

Coefficient Correlations[a]

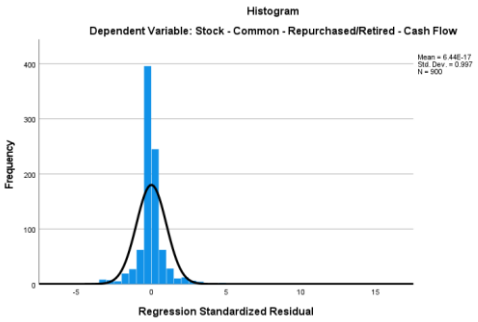
Model			ownership concentration 3yr avg.	net margin 3yr avg.	Price to Book Value per Share - Issue Specific 3yr avg.	Net Debt 3yr avg.	age 3yr avg.	Market Capitalization 3yr avg.
1	Correlations	ownership concentration 3yr avg.	1.000	-.017	.079	-.018	.084	.113
		net margin 3yr avg.	-.017	1.000	-.033	-.030	-.033	-.009
		Price to Book Value per Share - Issue Specific 3yr avg.	.079	-.033	1.000	.030	.081	-.057
		Net Debt 3yr avg.	-.018	-.030	.030	1.000	.094	-.695
		age 3yr avg.	.084	-.033	.081	.094	1.000	-.100
		Market Capitalization 3yr avg.	.113	-.009	-.057	-.695	-.100	1.000
	Covariances	ownership concentration 3yr avg.	7.966	-.058	.228	.000	.200	.000
		net margin 3yr avg.	-.058	1.453	-.041	.000	-.033	-1.100E-5
		Price to Book Value per Share - Issue Specific 3yr avg.	.228	-.041	1.053	.000	.070	-5.930E-5
		Net Debt 3yr avg.	.000	.000	.000	4.092E-5	.001	-4.497E-6
		age 3yr avg.	.200	-.033	.070	.001	.716	-8.537E-5
		Market Capitalization 3yr avg.	.000	-1.100E-5	-5.930E-5	-4.497E-6	-8.537E-5	1.024E-6

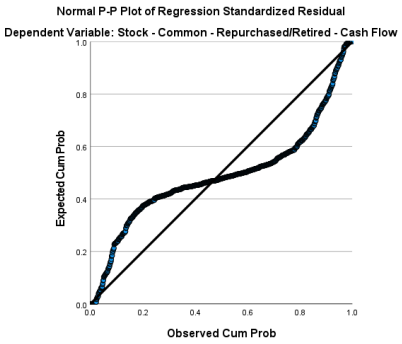
a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow

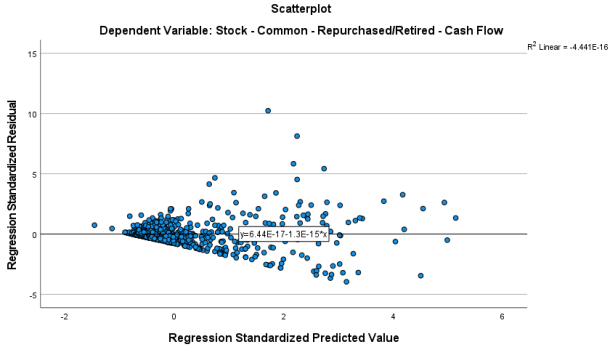
Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-940.106995	8036.741211	1044.002922	1360.6163684	900
Residual	-5211.2299805	13456.062500	.0000000	1310.5209256	900
Std. Predicted Value	-1.458	5.139	.000	1.000	900
Std. Residual	-3.963	10.233	.000	.997	900

a. Dependent Variable: Stock - Common - Repurchased/Retired - Cash Flow







Test of normality staples sector share repurchases regression:

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Unstandardized Residual share repurchases	900	53.9%	771	46.1%	1671	100.0%

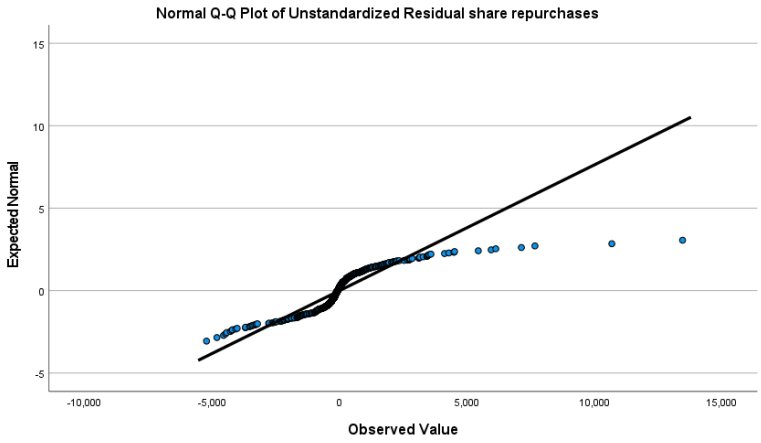
Descriptives

			Statistic	Std. Error
Unstandardized Residual share repurchases	Mean		.0000000	43.68403085
	95% Confidence Interval for Mean	Lower Bound	-85.7345528	
		Upper Bound	85.7345528	
	5% Trimmed Mean		-36.5213724	
	Median		-73.7889100	
	Variance		1717465.097	
	Std. Deviation		1310.5209256	
	Minimum		-5211.23003	
	Maximum		13456.06280	
	Range		18667.29283	
	Interquartile Range		566.83405	
	Skewness		2.258	.082
	Kurtosis		21.824	.163

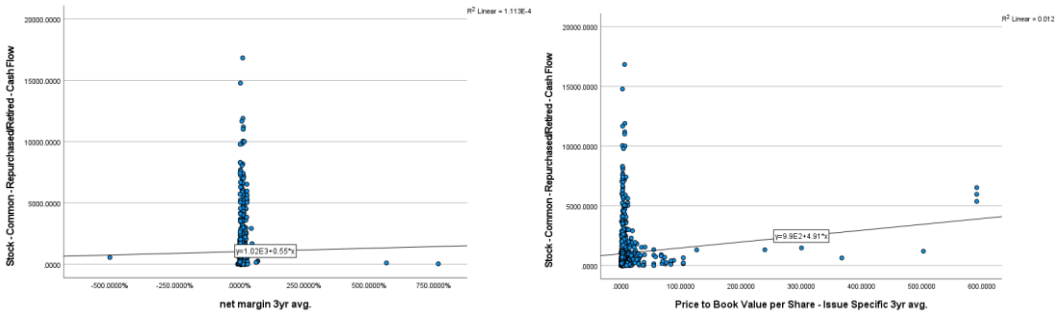
Tests of Normality

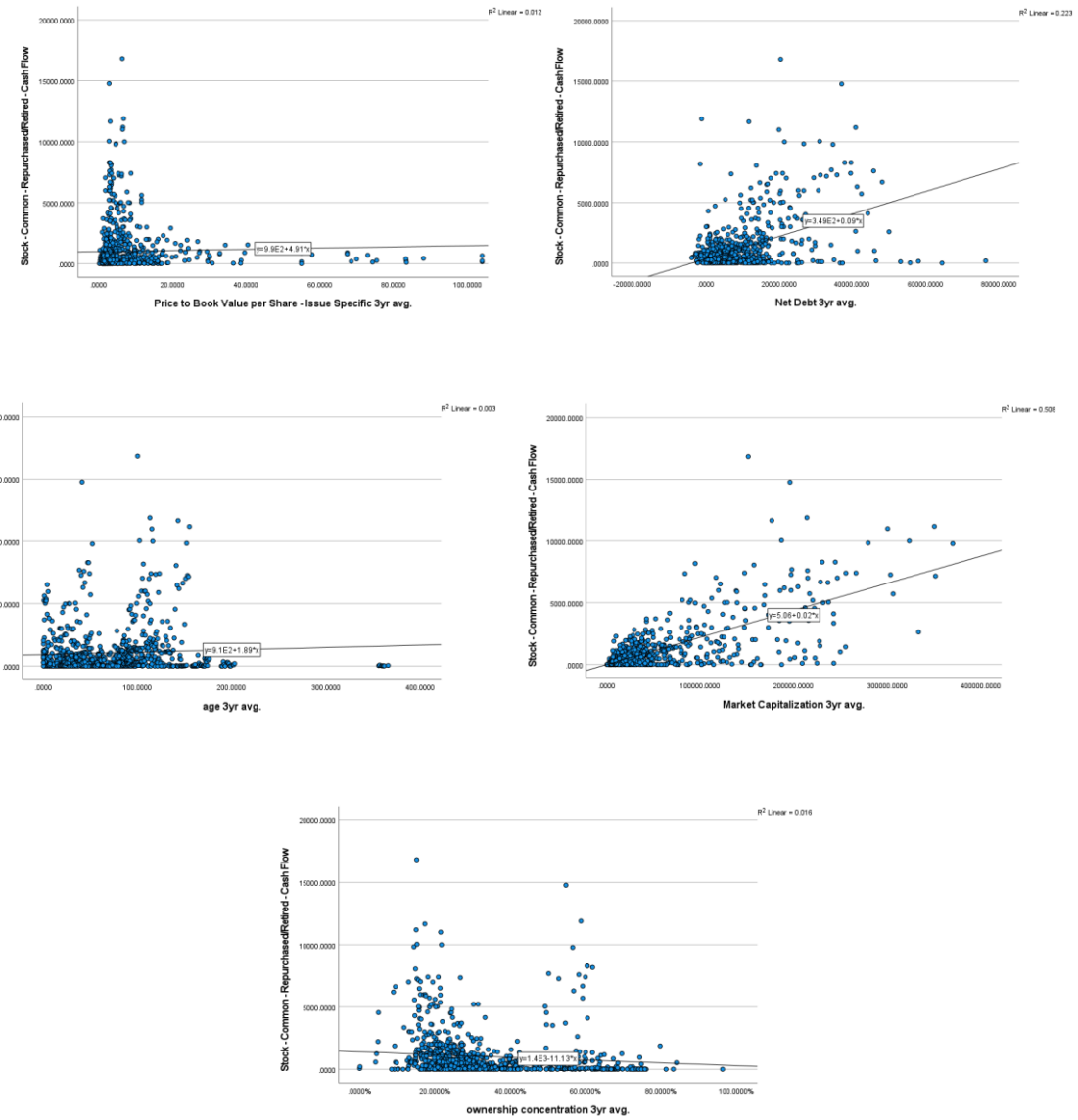
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual share repurchases	.191	900	<.001	.747	900	<.001

a. Lilliefors Significance Correction

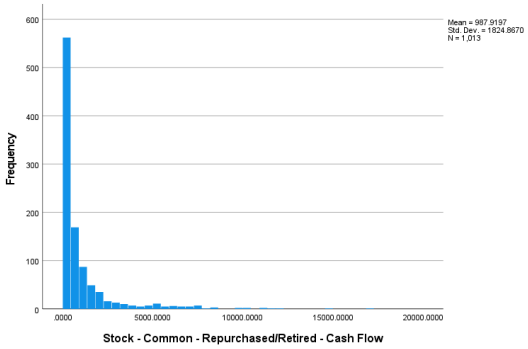


Scatterplots staples sector independent variables share repurchases regression:





Histogram staples sector share repurchases regression dependent variable:



Residual Analysis:

Staples Sector:

White Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
270.114	27	.000

a. Dependent variable: Total payout correct (Dividends paid total + Common repurchased)

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg + NetMargin3yravg * NetMargin3yravg + NetMargin3yravg * PricetoBookValueperShareIssueSpecific3yravg + NetMargin3yravg * NetDebt3yravg + NetMargin3yravg * age3yravg + NetMargin3yravg * MarketCapitalization3yravg + NetMargin3yravg * ownershipconcentration3yravg + PricetoBookValueperShareIssueSpecific3yravg * PricetoBookValueperShareIssueSpecific3yravg + PricetoBookValueperShareIssueSpecific3yravg * NetDebt3yravg + PricetoBookValueperShareIssueSpecific3yravg * age3yravg + PricetoBookValueperShareIssueSpecific3yravg * MarketCapitalization3yravg + PricetoBookValueperShareIssueSpecific3yravg * ownershipconcentration3yravg + NetDebt3yravg * NetDebt3yravg + NetDebt3yravg * age3yravg + NetDebt3yravg * MarketCapitalization3yravg + NetDebt3yravg * ownershipconcentration3yravg + age3yravg * age3yravg + age3yravg * MarketCapitalization3yravg + age3yravg * ownershipconcentration3yravg + MarketCapitalization3yravg * MarketCapitalization3yravg + MarketCapitalization3yravg * ownershipconcentration3yravg + ownershipconcentration3yravg * ownershipconcentration3yravg

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
2092.521	1	.000

a. Dependent variable: Total payout correct (Dividends paid total + Common repurchased)

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg

White Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
334.368	27	.000

a. Dependent variable: Dividends Paid - Cash - Total - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg + NetMargin3yravg * NetMargin3yravg + NetMargin3yravg * PricetoBookValueperShareIssueSpecific3yravg + NetMargin3yravg * NetDebt3yravg + NetMargin3yravg * age3yravg + NetMargin3yravg * MarketCapitalization3yravg + NetMargin3yravg * ownershipconcentration3yravg + PricetoBookValueperShareIssueSpecific3yravg * PricetoBookValueperShareIssueSpecific3yravg + PricetoBookValueperShareIssueSpecific3yravg * NetDebt3yravg + PricetoBookValueperShareIssueSpecific3yravg * age3yravg + PricetoBookValueperShareIssueSpecific3yravg * MarketCapitalization3yravg + PricetoBookValueperShareIssueSpecific3yravg * ownershipconcentration3yravg + NetDebt3yravg * NetDebt3yravg + NetDebt3yravg * age3yravg + NetDebt3yravg * MarketCapitalization3yravg + NetDebt3yravg * ownershipconcentration3yravg + age3yravg * age3yravg + age3yravg * MarketCapitalization3yravg + age3yravg * ownershipconcentration3yravg + MarketCapitalization3yravg * MarketCapitalization3yravg + MarketCapitalization3yravg * ownershipconcentration3yravg + ownershipconcentration3yravg * ownershipconcentration3yravg

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
1332.951	1	.000

a. Dependent variable: Dividends Paid - Cash - Total - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg

White Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
138.317	27	<.001

a. Dependent variable: Stock - Common - Repurchased/Retired - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg + NetMargin3yravg * NetMargin3yravg + NetMargin3yravg * PricetoBookValueperShareIssueSpecific3yravg + NetMargin3yravg * NetDebt3yravg + NetMargin3yravg * age3yravg + NetMargin3yravg * MarketCapitalization3yravg + NetMargin3yravg * ownershipconcentration3yravg + PricetoBookValueperShareIssueSpecific3yravg * PricetoBookValueperShareIssueSpecific3yravg + PricetoBookValueperShareIssueSpecific3yravg * NetDebt3yravg + PricetoBookValueperShareIssueSpecific3yravg * age3yravg + PricetoBookValueperShareIssueSpecific3yravg * MarketCapitalization3yravg + PricetoBookValueperShareIssueSpecific3yravg * ownershipconcentration3yravg + NetDebt3yravg * NetDebt3yravg + NetDebt3yravg * age3yravg + NetDebt3yravg * MarketCapitalization3yravg + NetDebt3yravg * ownershipconcentration3yravg + age3yravg * age3yravg + age3yravg * MarketCapitalization3yravg + age3yravg * ownershipconcentration3yravg + MarketCapitalization3yravg * MarketCapitalization3yravg + MarketCapitalization3yravg * ownershipconcentration3yravg + ownershipconcentration3yravg * ownershipconcentration3yravg

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
1382.818	1	.000

a. Dependent variable: Stock - Common - Repurchased/Retired - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg

Discretionary Sector:

White Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
662.718	27	.000

a. Dependent variable: Total payout correct (Dividends paid total + Common repurchased)

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg + NetMargin3yravg * NetMargin3yravg + NetMargin3yravg * PricetoBookValueperShareIssueSpecific3yravg + NetMargin3yravg * NetDebt3yravg + NetMargin3yravg * age3yravg + NetMargin3yravg * MarketCapitalization3yravg + NetMargin3yravg * ownershipconcentration3yravg + PricetoBookValueperShareIssueSpecific3yravg * PricetoBookValueperShareIssueSpecific3yravg + PricetoBookValueperShareIssueSpecific3yravg * NetDebt3yravg + PricetoBookValueperShareIssueSpecific3yravg * age3yravg + PricetoBookValueperShareIssueSpecific3yravg * MarketCapitalization3yravg + PricetoBookValueperShareIssueSpecific3yravg * ownershipconcentration3yravg + NetDebt3yravg * NetDebt3yravg + NetDebt3yravg * age3yravg + NetDebt3yravg * MarketCapitalization3yravg + NetDebt3yravg * ownershipconcentration3yravg + age3yravg * age3yravg + age3yravg * MarketCapitalization3yravg + age3yravg * ownershipconcentration3yravg + MarketCapitalization3yravg * MarketCapitalization3yravg + MarketCapitalization3yravg * ownershipconcentration3yravg + ownershipconcentration3yravg * ownershipconcentration3yravg

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
3811.967	1	.000

a. Dependent variable: Total payout correct (Dividends paid total + Common repurchased)

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg

White Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
297.368	27	.000

a. Dependent variable: Dividends Paid - Cash - Total - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg + NetMargin3yravg * NetMargin3yravg + NetMargin3yravg * PricetoBookValueperShareIssueSpecific3yravg + NetMargin3yravg * NetDebt3yravg + NetMargin3yravg * age3yravg + NetMargin3yravg * MarketCapitalization3yravg + NetMargin3yravg * ownershipconcentration3yravg + PricetoBookValueperShareIssueSpecific3yravg * PricetoBookValueperShareIssueSpecific3yravg + PricetoBookValueperShareIssueSpecific3yravg * NetDebt3yravg + PricetoBookValueperShareIssueSpecific3yravg * age3yravg + PricetoBookValueperShareIssueSpecific3yravg * MarketCapitalization3yravg + PricetoBookValueperShareIssueSpecific3yravg * ownershipconcentration3yravg + NetDebt3yravg * NetDebt3yravg + NetDebt3yravg * age3yravg + NetDebt3yravg * MarketCapitalization3yravg + NetDebt3yravg * ownershipconcentration3yravg + age3yravg * age3yravg + age3yravg * MarketCapitalization3yravg + age3yravg * ownershipconcentration3yravg + MarketCapitalization3yravg * MarketCapitalization3yravg + MarketCapitalization3yravg * ownershipconcentration3yravg + ownershipconcentration3yravg * ownershipconcentration3yravg

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
1069.781	1	.000

a. Dependent variable: Dividends Paid - Cash - Total - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg

White Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
506.550	27	.000

a. Dependent variable: Stock - Common - Repurchased/Retired - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg + NetMargin3yravg * NetMargin3yravg + NetMargin3yravg * PricetoBookValueperShareIssueSpecific3yravg + NetMargin3yravg * NetDebt3yravg + NetMargin3yravg * age3yravg + NetMargin3yravg * MarketCapitalization3yravg + NetMargin3yravg * ownershipconcentration3yravg + PricetoBookValueperShareIssueSpecific3yravg * PricetoBookValueperShareIssueSpecific3yravg + PricetoBookValueperShareIssueSpecific3yravg * NetDebt3yravg + PricetoBookValueperShareIssueSpecific3yravg * age3yravg + PricetoBookValueperShareIssueSpecific3yravg * MarketCapitalization3yravg + PricetoBookValueperShareIssueSpecific3yravg * ownershipconcentration3yravg + NetDebt3yravg * NetDebt3yravg + NetDebt3yravg * age3yravg + NetDebt3yravg * MarketCapitalization3yravg + NetDebt3yravg * ownershipconcentration3yravg + age3yravg * age3yravg + age3yravg * MarketCapitalization3yravg + age3yravg * ownershipconcentration3yravg + MarketCapitalization3yravg * MarketCapitalization3yravg + MarketCapitalization3yravg * ownershipconcentration3yravg + ownershipconcentration3yravg * ownershipconcentration3yravg

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
5656.803	1	.000

a. Dependent variable: Stock - Common - Repurchased/Retired - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg

White Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
138.317	27	<.001

a. Dependent variable: Stock - Common - Repurchased/Retired - Cash Flow

b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg + NetMargin3yravg * NetMargin3yravg + NetMargin3yravg * PricetoBookValueperShareIssueSpecific3yravg + NetMargin3yravg * NetDebt3yravg + NetMargin3yravg * age3yravg + NetMargin3yravg * MarketCapitalization3yravg + NetMargin3yravg * ownershipconcentration3yravg + PricetoBookValueperShareIssueSpecific3yravg * PricetoBookValueperShareIssueSpecific3yravg + PricetoBookValueperShareIssueSpecific3yravg * NetDebt3yravg + PricetoBookValueperShareIssueSpecific3yravg * age3yravg + PricetoBookValueperShareIssueSpecific3yravg * MarketCapitalization3yravg + PricetoBookValueperShareIssueSpecific3yravg * ownershipconcentration3yravg + NetDebt3yravg * NetDebt3yravg + NetDebt3yravg * age3yravg + NetDebt3yravg * MarketCapitalization3yravg + NetDebt3yravg * ownershipconcentration3yravg + age3yravg * age3yravg + age3yravg * MarketCapitalization3yravg + age3yravg * ownershipconcentration3yravg + MarketCapitalization3yravg * MarketCapitalization3yravg + MarketCapitalization3yravg * ownershipconcentration3yravg + ownershipconcentration3yravg * ownershipconcentration3yravg

Breusch-Pagan Test for Heteroskedasticity[a,b,c]

Chi-Square	df	Sig.
1382.818	1	.000

a. Dependent variable: Stock - Common - Repurchased/Retired - Cash Flow

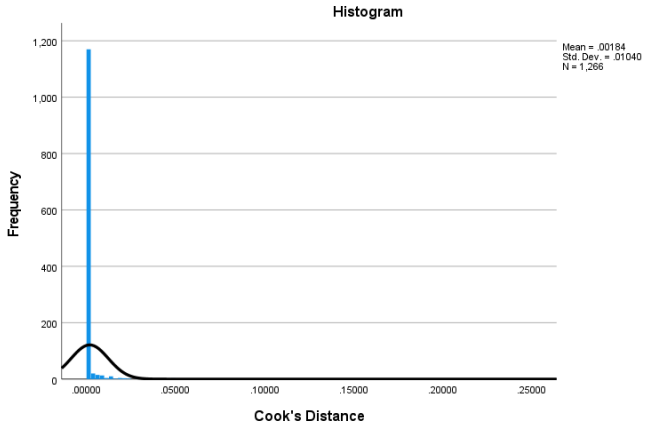
b. Tests the null hypothesis that the variance of the errors does not depend on the values of the independent variables.

c. Predicted values from design: Intercept + NetMargin3yravg + PricetoBookValueperShareIssueSpecific3yravg + NetDebt3yravg + age3yravg + MarketCapitalization3yravg + ownershipconcentration3yravg

Cooks Distance Tests:

Staples sector:

Cooks distance total payout:

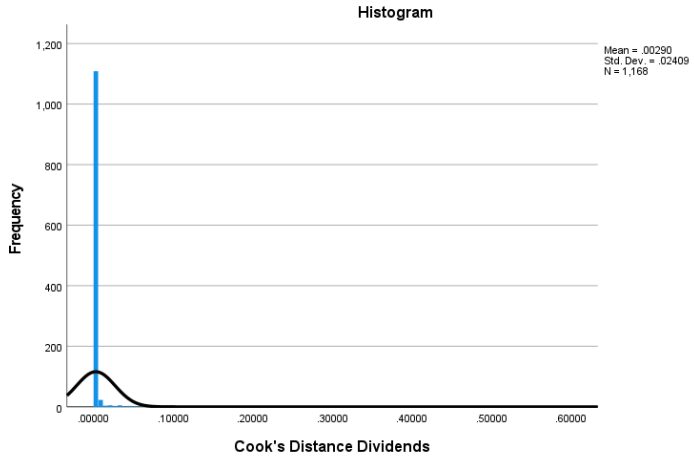


Statistics

Cook's Distance

N	Valid	1266
	Missing	405
Mean		.0018447
Median		.0000335
Std. Deviation		.01039887
Variance		.000
Skewness		10.644
Std. Error of Skewness		.069
Kurtosis		150.002
Std. Error of Kurtosis		.137
Minimum		.00000
Maximum		.20303

Cooks distance dividend payout:

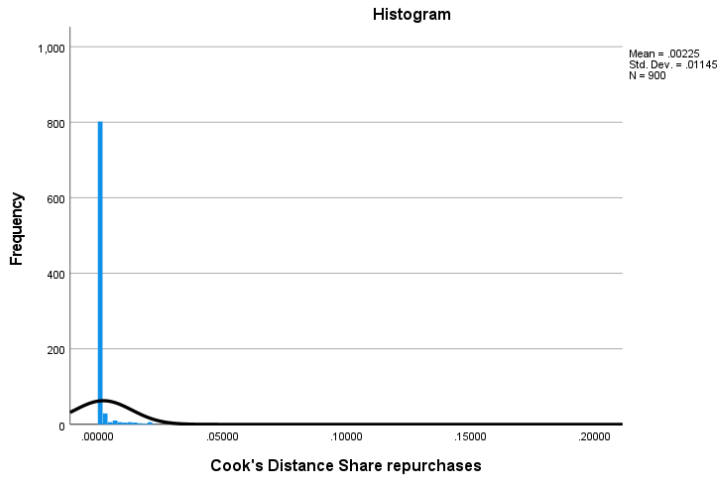


Statistics

Cook's Distance Dividends

N	Valid	1168
	Missing	503
Mean		.0029043
Median		.0000361
Std. Deviation		.02409165
Variance		.001
Skewness		15.955
Std. Error of Skewness		.072
Kurtosis		292.360
Std. Error of Kurtosis		.143
Minimum		.00000
Maximum		.50830

Cooks distance share repurchases:



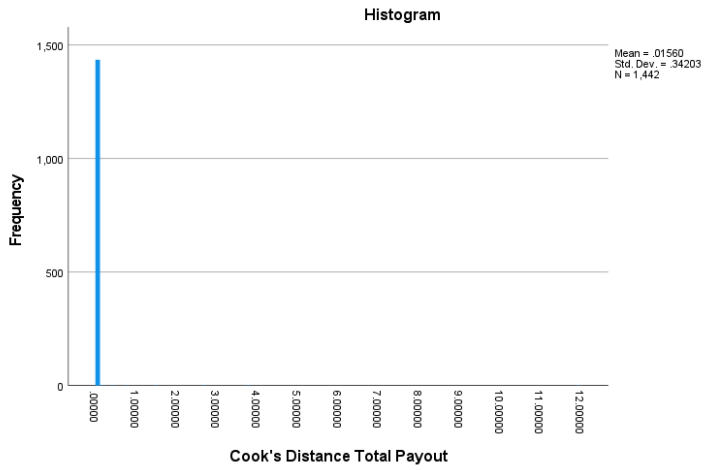
Statistics

Cook's Distance Share repurchases

N	Valid	900
	Missing	771
Mean		.0022541
Median		.0000233
Std. Deviation		.01144772
Variance		.000
Skewness		9.323
Std. Error of Skewness		.082
Kurtosis		102.847
Std. Error of Kurtosis		.163
Minimum		.00000
Maximum		.15338

Consumer Discretionary sector:

Cooks distance total payout:

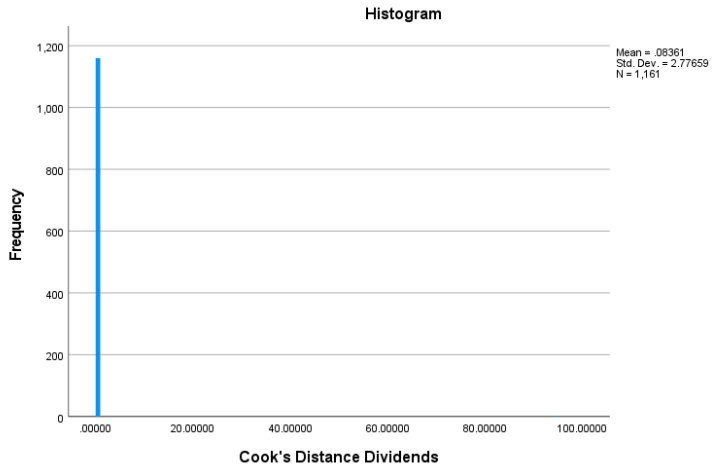


Statistics

Cook's Distance Total Payout

N	Valid	1442
	Missing	933
Mean		.0156047
Median		.0000252
Std. Deviation		.34203141
Variance		.117
Skewness		31.171
Std. Error of Skewness		.064
Kurtosis		1056.461
Std. Error of Kurtosis		.129
Minimum		.00000
Maximum		11.98650

Cooks distance dividends:

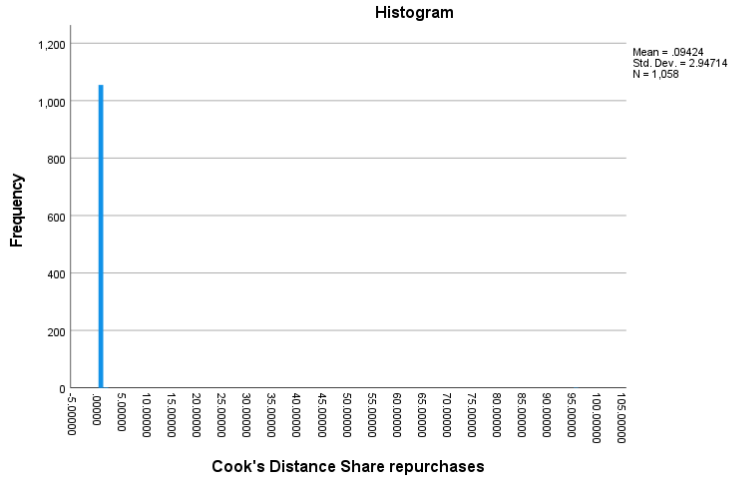


Statistics

Cook's Distance Dividends

N	Valid	1161
	Missing	1214
Mean		.0836120
Median		.0000253
Std. Deviation		2.77658979
Variance		7.709
Skewness		34.072
Std. Error of Skewness		.072
Kurtosis		1160.930
Std. Error of Kurtosis		.143
Minimum		.00000
Maximum		94.60869

Share repurchases:



Statistics

Cook's Distance Share repurchases

N	Valid	1058
	Missing	1317
Mean		.0942391
Median		.0000314
Std. Deviation		2.94714372
Variance		8.686
Skewness		32.508
Std. Error of Skewness		.075
Kurtosis		1057.176
Std. Error of Kurtosis		.150
Minimum		.00000
Maximum		95.84653