Dividend policies of privately held firms

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Acknowledgments

Čašu meda jošt niko ne popi, Što je čašom žuči ne zagrči; Čaša žuči ište čašu meda, Smiješane najlakše se piju.

No one has yet drunk a glass of honey, That a glass of bile doesn't choke; A glass of bile seeks a glass of honey, Mixed, they are easiest to drink.

(Petar II Petrović Njegoš)

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Nederlandstalige Samenvatting

DIVIDENDABELEID VAN NIET-BEURSGENOTEERDE ONDERNEMINGEN

In 1956 legde John Lintner de basis voor het huidige begrip van het dividendbeleid. Bijna zeven decennia later blijft het wetenschappers verbazen die proberen nog een stukje aan de puzzel toe te voegen (Black, 1976). Bedrijven heroverwegen jaarlijks hun dividendbeslissingen en beslissen of, hoeveel en in welke vorm ze dividenden moeten uitkeren (contant dividend, aandelendividend of aandeleninkoop) (Allen en Michaely, 2003). Het dividendbeleid is daarom een dynamisch proces dat niet willekeurig is.

Het dividendbeleid van particuliere bedrijven is nog steeds relatief minder begrepen dan dat van beursgenoteerde bedrijven, ondanks de enorme impact die ze hebben op de economie (Berzins, Bøhren en Stacescu, 2018, 2019; Michaely en Roberts, 2011; Rommens, Cuyvers en Deloof, 2012). Dit is jammer gezien het feit dat 99 procent van de bedrijven particulier eigendom zijn (Europese Commissie, 2023). Het dividendbeleid is een van de belangrijkste beslissingen van een bedrijf die in hoge mate interageert met andere financieringsbeslissingen (Farre-Mensa, Michaely en Schmalz, 2014), waardoor het cruciaal is in het algehele besluitvormingsproces binnen een bedrijf. De hoeveelheid geld die bedrijven aan hun aandeelhouders uitkeren en de methode die ze kiezen voor de gelduitkering, kunnen van invloed zijn op hun waardering, invloed hebben op investeringskeuzes, de belastingverplichtingen van investeerders beïnvloeden en informatie overdragen aan de markt over de relatieve prestaties van het bedrijf vergeleken met zijn concurrenten (Brav et al., 2005; Farre-Mensa, Michaely en Schmalz, 2014). Bedrijven heroverwegen hun kapitaalstructuur, financieringsopties en investeringsbeslissingen voordat ze hun dividendbeleid zouden wijzigen. Zo zouden ze soms winstgevende investeringsmogelijkheden laten liggen voordat ze

dividenden verlagen (Brav et al., 2005). Hun belang ligt dus in het feit dat eenmaal een dividendbeslissing is genomen, deze neiging heeft om stabiel te blijven, gekoppeld aan langetermijnwinsten en van jaar tot jaar wordt afgevlakt (Brav et al., 2005).

Na uitgebreid onderzoek naar het ontrafelen van het dividendraadsel, dat nog duidelijker naar voren komt in de context van particulier eigendom, is het primaire doel van dit proefschrift om aanzienlijk bij te dragen aan ons begrip van het dividendbeleid binnen het domein van particulier eigendom. Hun dividendbeleid, verborgen achter de sluier van vertrouwelijkheid en afwijkende eigendomsstructuren, heeft niet dezelfde mate van academische aandacht gekregen als hun beursgenoteerde tegenhangers. Dit proefschrift vult het hiaat in het begrip van het dividendbeleid van particuliere bedrijven. Allereerst lever ik bewijs dat het dividendbeleid van particuliere bedrijven een voorspelbaar patroon volgt van de levenscyclus. Vervolgens werp ik meer licht op de belangrijkste drijfveren van het dividendbeleid van MKB-bedrijven. Ten slotte identificeer en onderzoek ik de link tussen beschikbare middelen en het dividendbeleid van particuliere bedrijven.

De drie studies van dit proefschrift maken gebruik van een uitgebreide steekproef van Belgische particuliere bedrijven. België biedt een bijzonder interessante omgeving voor het bestuderen van particuliere bedrijven, omdat alle Belgische bedrijven elk jaar een gedetailleerde financiële verklaring moeten indienen bij de Nationale Bank van België (Paeleman, Fuss en Vanacker 2017). Daarom is er rijke longitudinale financiële gegevens beschikbaar voor alle Belgische particuliere bedrijven.

Studie 1: Volgt het dividendbeleid van particuliere bedrijven een levenscyclus?

In de eerste studie (Hoofdstuk 2) werp ik licht op een essentiële maar vaak over het hoofd geziene dimensie: de relatie tussen de levenscyclus van het bedrijf en zijn dividendbeleid. Ik geef antwoord op de vraag of het dividendbeleid van particuliere bedrijven een voorspelbaar patroon volgt dat parallel loopt met hun levenscyclus. Puttend uit een uitgebreide dataset van 113.599 Belgische particuliere bedrijven over een periode van 14 jaar, onthult dit onderzoek

een diepgaand levenscycluspatroon in het dividendbeleid, waarbij de overgang van jonge naar gevestigde stadia wordt gekoppeld aan een grotere kans op dividenduitkeringen en hogere dividenduitkeringen (DeAngelo, DeAngelo en Stulz, 2006; Brockman en Unlu, 2011). Bovendien wordt de robuustheid van de studie benadrukt door consistente resultaten bij verschillende maatstaven voor dividendbeleid, levenscyclus proxies en methodologieën. Opmerkelijk is dat het de betekenis van wettelijke solvabiliteitsdrempels bij het beïnvloeden van dividendbeslissingen ter discussie stelt, wat aanzet tot heroverweging van hun bruikbaarheid. Deze studie verbetert niet alleen het begrip van dividendbeleid in particuliere bedrijven, maar benadrukt ook dat naast belastingen, eigendom en agentschapsrelaties, de levenscyclus een belangrijke dimensie is in het vormgeven van het dividendbeleid van particuliere bedrijven.

Studie 2: Dividendbeleid van MKB-bedrijven: een benadering van variantieontleding

In de tweede studie (Hoofdstuk 3) neem ik een stap terug en onderzoek welke factoren de meeste variatie in het dividendbeleid van MKB-bedrijven sturen. Eerdere studies hebben voornamelijk gekeken naar factoren die dividendbeleid op bedrijfsniveau beïnvloeden, zoals winstgevendheid, leverage (schuldgraad), agentschapskosten en eigendomsstructuur, onder andere (Berzins et al., 2018, 2019; Brockman en Unlu, 2011; DeAngelo et al., 2006; Fama en French, 2001; Michaely en Roberts, 2012, Michiels et al., 2015). Deze studies houden echter vaak geen rekening met deze factoren tegelijkertijd of onderzoeken hun gelijktijdige betekenis niet, wat resulteert in een onvolledig beeld van dividendbepalers (Erkan, Fainshmidt en Judge, 2016). Door middel van een analyse van variantieontleding onderzoek ik in deze studie gelijktijdig de factoren van het dividendbeleid op drie niveaus: jaarlijks niveau, bedrijfsniveau en industrieniveau. Ik evalueer hun gezamenlijke invloed op het dividendbeleid van Belgische MKB-bedrijven gedurende een periode van 17 jaar. De bevindingen tonen aan dat de effecten op jaarlijks niveau en bedrijfsniveau de meest invloedrijke factoren zijn bij het bepalen van

dividenduitkeringen voor MKB-bedrijven, waarbij ze gezamenlijk verantwoordelijk zijn voor 47-64 procent en 34-53 procent van de variatie in dividenduitkeringen, respectievelijk. Effecten op industrieniveau, hoewel statistisch significant, spelen een kleinere rol en verklaren slechts 3 procent van de beslissing om dividenden uit te keren en 1 procent van de variatie in dividenduitkeringen. Deze studie benadrukt het uiterst belangrijke belang van factoren op jaarlijks niveau en bedrijfsniveau bij het sturen van dividendbeslissingen bij MKB-bedrijven. Deze bevindingen bieden waardevolle richtlijnen voor managers en eigenaren van MKB-bedrijven en benadrukken de noodzaak om deze factoren te begrijpen om het dividendbeleid te optimaliseren.

Studie 3: De relatie tussen overtollige middelen en dividendbeleid van particuliere bedrijven

In de derde en laatste studie van dit proefschrift (Hoofdstuk 4) werp ik meer licht op de impact van personele middelen (HR-slack) op dividenduitkeringen, waarbij ik benadruk hoe belangrijk het is om zowel HR-slack als financiële slack in overweging te nemen bij het begrijpen van dividendbeslissingen in particuliere bedrijven. Overtollige middelen zijn cruciaal voor bedrijven, omdat ze de flexibiliteit bieden om ondernemende activiteiten na te streven en dienen als buffer tegen interne en externe schokken (Bourgeois, 1981; Bradley, Shepherd en Wiklund, 2011; Daniel et al., 2004; Greenley en Oktemgil, 1998; Tan en Peng, 2003). HR-slack vertegenwoordigt onderbenutte vaardigheden en arbeidstijd van werknemers (Lefevbre, 2023a, 2023b; Mishina, Pollock en Porac, 2004; Vanacker et al., 2013), terwijl financiële slack betrekking heeft op overtollige kasreserves boven directe operationele behoeften (George, 2005; Mishina, Pollock en Porac, 2004). In particuliere bedrijven, waar beslissingen over middelenallocatie van cruciaal belang zijn, is het begrijpen van hoe deze beslissingen samenvallen met dividendbeleid essentieel. Dit onderzoek draagt bij aan de literatuur door de eerder onontdekte relatie tussen overtollige middelen en dividendbeleid te benadrukken.

Dit proefschrift draagt bij aan onze kennis van het dividendbeleid van particuliere bedrijven. Eerdere studies hebben zich voornamelijk gericht op beursgenoteerde bedrijven, waarbij het belang van de overgrote meerderheid van particuliere bedrijven in de economie over het hoofd is gezien. Aangezien beursgenoteerde bedrijven bekend staan om hun principaal-agentproblemen en er meer gedetailleerde informatie beschikbaar is over dit type bedrijven, boden ze een interessante setting voor het bestuderen van het dividendbeleid. Niettemin kunnen particuliere bedrijven, die de ruggengraat van de economie vormen, mogelijk grotere uitdagingen ondervinden bij het verkrijgen van kapitaal (Brav, 2009) en toegang tot arbeidsmarkten (Williamson, 2000), terwijl ze ook te maken hebben met verschillende vormen van principaal-agentproblemen en informatieasymmetrie. Daarom is het van groot belang om aanzienlijk meer aandacht te besteden aan de verkenning van het dividendbeleid binnen particuliere bedrijven. Het doel van dit proefschrift was dan ook om meer inzicht te bieden in het dividendbeleid van particuliere bedrijven. De afzonderlijke studies van dit proefschrift laten zien dat de factoren die het dividendbeleid sturen vergelijkbaar zijn met die van beursgenoteerde bedrijven, maar ze zijn niet beperkt tot de eerder geïdentificeerde factoren, zoals dit proefschrift suggereert. De resultaten zijn generaliseerbaar voor de steekproef van beursgenoteerde bedrijven, wat aangeeft dat er in de toekomst meer onderzoek nodig is om de drijfveren van het dividendbeleid binnen particuliere bedrijven te identificeren. Kortom, dit proefschrift biedt waardevolle inzichten in de nuances van het dividendbeleid binnen particuliere bedrijven en fungeert als een katalysator voor toekomstige onderzoeksinspanningen gericht op het aanpakken van de talrijke uitdagingen op dit gebied van bedrijfsfinanciering.

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Chapter 1

Introduction

Dividend policy of privately held firms are still relatively less understood than of listed firms, despite the massive impact they have on the economy (Berzins, Bøhren, and Stacescu, 2018, 2019; Michaely and Roberts, 2011; Rommens, Cuyvers, and Deloof, 2012). This is unfortunate given that 99 percent of the firms are privately held (European Commission, 2023). Moreover, there has been a strong decline in dividends paid by listed firms. For example in the US, the number fell from 66.5 percent in 1978 to 20.8 percent in 1999 (Fama and French 2021). In more recent years, the number of US listed firms overall fell by a half (Doidge, Karolyi, and Stulz 2017). Works of Rao and White (1994), Gugler (2003) and Michaely and Roberts (2007) were among the first to examine the dividend policy of privately held firms in US, Australia and UK, respectively. More recent works by Berzins, Bøhren, and Stacescu (2018, 2019) followed, and provided an evidence on the role of dividends within privately held firms in Norway. In this PhD dissertation, I provide an insight in the dividend policy of Belgian privately held firms from 2005 to 2021.

Dividend policy is one of the most important firm decisions that to a high degree interacts with other financing decisions (Farre-Mensa, Michaely, and Schmalz, 2014), making it crucial in the overall decision process within a firm. The amount firms distribute to their shareholders and the method they choose for cash distribution can influence their valuation, impact investment choices, affect the tax obligations of investors, and convey information to the market regarding the firm's relative performance compared to its peers (Brav et al., 2005; Farre-Mensa, Michaely, and Schmalz, 2014). Firms revaluate their capital structure, financing options, and investment decisions before they would change their dividend policy. For

example, they would sometimes forgo profitable investment opportunities before cutting dividends (Brav et al., 2005). Hence, their importance lies in the fact that once dividend decision is made they tend to be sticky, tied to long-term sustainable earnings, and smoothed from year to year (Brav et al., 2005). Further, dividends in privately held firms play a crucial role in attracting more investors, and as a conflict reducing tool between different shareholders (Berzins et al., 2018; 2019). Firms appear to establish trust successfully, with minority shareholders who have witnessed significant dividends from a high-conflict firm showing a greater inclination to invest more in the same firm at a later stage (Berzins et al., 2018; 2019). Moreover, privately held firms who have an interest in issuing equity in the future opt to pay dividends to cultivate a reputation for fair treatment of external shareholders (La Porta et al., 2000). Due to relatively weaker protection of external shareholders in privately held firms compared to their counterparts in listed firms, it is increasingly important for privately held firms to convey their quality through dividend payments (Rommens et al., 2012). In sum, a thorough examination of the important corporate finance phenomenon of dividend policy requires a comprehensive assessment of both the interests and requirements of investors, as well as the firm's ability to maintain a steady flow of dividends. This PhD dissertation fills the gap in the understanding of privately held firm dividend policy. Firstly, I provide an evidence that dividend policy of privately held firms follows a predictable pattern of the life cycle. Next, I shed more light on the most important drivers of dividend policy of SMEs. Finally, I identify and investigate the link between slack resources and dividend policy of privately held firms.

In the next section, the major theories on dividend policy are introduced.

1. Theories on dividend policy

Back in the 1956, John Lintner laid the cornerstone for the present understanding of dividend policy. Almost seven decades later, it keeps to amaze scholars who aim to fit yet another piece to a puzzle (Black, 1976). Firms re-evaluate their dividend decisions on an annual

basis, and decide whether, how much and in which form they should provide dividends (cash dividend, stock dividend or repurchase shares) (Allen and Michaely, 2003). Dividend policy is, therefore, a dynamic process which is not random and scholars developed several theories to understand the phenomenon.

In a world without transaction costs, the perfect world of Miller and Modigliani (1961), dividend policy do not affect firm value, and firm owners are indifferent between capital gains and dividend payouts. In reality this is not true, and firms pay substantial amounts of money in the form of dividends over the years (Allen and Michaely, 2003). Information asymmetry is one of the reasons why firms pay dividends. Firm managers that represent the insiders (agents) of the firm are the ones that possess the most of the information's about the firm prospects, and more than firm owners (principals), the outsiders. In that regard, according to a signalling theory, firms would signal state of the firm and its future prospects though their dividend policy (Bhattacharya, 1979; John and Williams, 1985; Miller and Rock, 1985). Furthermore, information asymmetries breed conflicts between insiders and outsiders. Proponents of the traditional agency theory rely their arguments on these conflicts when explaining why firms pay dividends. Namely, firm managers would pursue self-interest projects and extract private benefits at the expense of firm owners. Dividends, thus, help to align interests between the sides, and reduce conflicts by releasing the excess cash over which managers have control of.

In privately held context, typically, this discrepancy in information is less pronounced than in listed firms as there is little separation between the ownership and control (Michaely and Roberts, 2012). However, it does not mean the conflicts do not exist in privately held firms. For example, Michiels et al. (2015) argue that intra-familial principal-principal conflicts in privately held family firms are relevant agency problem. Authors show that dividend policy in these firms align interests between the active and passive family shareholders. Moreover, Berzins, Bøhren, and Stacescu (2018) propose that dividends serve as conflict reducing tool between majority (controlling) and minority shareholders in private Norwegian firms. Authors

provide the evidence the smaller the stake of the owner, the higher the conflict potential which is reduced with the help of dividends.

Nonetheless, dynamics of the firm changes through its lifetime. Life cycle theory proposes that dividends are paid by mature firms which exploited investment opportunities and have no use of cash as when they were younger (e.g. Brockman and Unlu 2011; DeAngelo et al. 2006). Therefore, according to a life cycle theory firm characteristics are the drivers of dividend policy. Evidences by Fama and French (2001) and Denis and Osobov (2008) support this notion and show that large, profitable firms with few growth opportunities, which are typically more mature firms, are more likely to pay dividends in compare to young and small firms with plenty growth opportunities. In addition, DeAngelo, DeAngelo and Stulz (2006) propose that firms' earned contributed capital mix is the valid proxy for firm lifecycle as it depicts the extent to which the firms is self-financing or reliant on external capital. Firms in their initial stages of development, possessing numerous lucrative investment prospects but limited earned equity, will choose to keep all available funds when internal funding is more cost-effective than seeking external financing. This preference may arise from factors such as flotation costs, personal tax implications, or informational imbalance. Over the firm lifecycle, the trade-off between retaining earnings and distributing them as dividends changes as a firm accumulates profits and investment opportunities become scarcer. As firms mature, the inclination to pay dividends grows, making it a more appealing option.

The dividend policy is likely influenced by either direct or indirect pressure from stockholders who are concerned that managers might misuse the significant discretion they have due to large cash reserves and minimal debt obligations, potentially harming stockholders (Jensen, 1986). Although agency costs are a clear explanation for retaining earnings, they are not the sole reason for substantial payouts by mature firms with ample free cash flow. These firms might simply aim to maximize shareholder wealth and recognize that the value of shares hinges on the eventual distribution of profits to stockholders (DeAngelo and DeAngelo, 2006).

From this perspective, the agency cost-inclusive life-cycle theory is most compelling in explaining the dividend decisions of the largest, well-established dividend-paying firms, as they consistently choose to distribute significant dividends over extended timeframes (DeAngelo et al., 2006).

Taxes are also one of the traditional drivers of dividend policy, and firms change their dividend policy in response to tax changes. For example, a study by Hanlon and Hoopes (2014) shows that listed firms change the timing of dividends in advance to tax regulatory changes. Moreover, the impact of taxes depends on the severity of agency costs. Listed firms would be more likely to pay special dividends or shift regular dividends when insiders hold a larger stake of the firm (Hanlon and Hoopes, 2014). Furthermore, it is expected that when dividend taxes increase, privately held firms with higher conflict potential and agency problems would be less inclined to cut dividends despite tax savings. Berzins et al., (2018; 2019) who specifically draw the attention on horizontal agency problems (between majority and minority shareholders) argue that controlling shareholders trade off the positive effect of reduced taxes against the negative effects of higher shareholder conflicts, which increases the smaller the controlling stake. Authors found that tax shock reduces the average payout ratio, and the drop is smaller with the higher potential shareholder conflict. Nevertheless, the impact of taxes depends also on the investor country's level of protection (Alzahrani and Lasfer, 2012), and differences in taxation across different groups of investors (e.g. Allen et al. 2000; Dahlquist et al. 2014). Finally, behavioural theory offers another interesting explanations on firm dividend policy in privately held firms. Namely, in privately held family firms non-financial objectives might prevail over the rational ones, where the preservation of family control in particular is a priority. Vandemaele and Vancauteren (2015) argue that low dividend payout is a choice that enable private family firms to stay focused on the family goals which are not necessarily aligned with financial ones. Therefore, a preservation of socioeconomic wealth is an important motive to be taken into an account.

2. Evidence on dividend policy in privately held firms

Following the extensive work on untangling the dividend puzzle which is even more pronounced in privately held context, the primary objective of this PhD thesis is to contribute significantly to our comprehension of dividend policy within the realm of privately held firms. Their dividend policies, hidden behind the veil of confidentiality and distinct ownership structures have not garnered the same level of academic scrutiny as their listed counterparts. Privately held firms usually have limited or no access to traditional capital markets (Sirmon and Hitt, 2003), which makes internal financial resources very important for these firms (Lopez-Gracia and Sanchez-Andujar, 2007). Consequently, paying dividends is discouraged when profitable investment opportunities arise. The disadvantage of privately held firms compared to listed firms is reflected through information and agency problems between current shareholders and potential new investors that create a wedge between the cost of internal and external finance (Michaely and Roberts, 2012). External finance is more costly for privately held firms, as these frictions are more pronounced. Because market prices of listed firms are publicly available, potential new investors of shares of listed firms have an important piece of information that private firms cannot provide. This implies more costly access to external capital for privately held firm, and as such less costly internal funds may be rather retained than distributed in the form of dividends. Yet, the first study of this Phd dissertation shows, on average, 17% of Belgian privately held firms pay a dividend in a given year. This finding is comparable to the earlier evidence of Rommens, Cuyvers, and Deloof (2012) in which 19% of the Belgian privately held firms in their sample were dividend payers. In other countries, the percentage is higher. For example, Berzins, Bøhren, and Stacescu (2018) find that 27% of the Norwegian privately held firms in their sample paid dividends, while Michaely and Roberts (2012) find that 41% of the UK privately held firms pay dividends.

This PhD thesis aims to fill the gap in the knowledge about the incentives and driving forces behind the dividend policy of privately held firms. I do so by providing an empirical evidence on three important, yet overlooked aspects of dividend policy. Primarily, in Chapter 2 *Do dividend policy of privately held firms follow a life cycle?* I identify the life cycle pattern that is inherently built in firm dividend decisions (DeAngelo et al., 2006; Brockman and Unlu, 2011). Secondly, in Chapter 3 *Dividend policy of SMEs: a variance decomposition approach* I take a holistic approach and disentangle which factors (Short et al., 2007; Misangyi et al., 2006) are the most important in dividend policy of privately held firms. And, in Chapter 4 *The relationship between slack resources and dividend policy of privately held firms* I examine if and how slack resources (Mishina, Pollock and Porac, 2004; Vanacker et al., 2013) are a significant determinant of dividend policy of privately held firms.

3. The Belgian context and samples used in the dissertation

The three studies of this PhD rely on an extensive sample of Belgian privately held firms. Belgium provides a particularly interesting setting for studying privately held firms because all Belgian firms have to file a detailed financial statement with the National Bank of Belgium each year (Paeleman, Fuss, and Vanacker 2017). Hence, rich longitudinal financial statement data is available for all Belgian privately held firms. This statement encompasses data regarding dividend policies, which is publicly accessible, enabling us to analyse the dividend policy of all Belgian privately held firms. Moreover, privately held firms hold a significant position in the Belgian economy, particularly since the presence of listed firms is quite scarce. Consequently, Belgium mirrors the situation in other continental European countries.

I collect data from the Bel-First database maintained by Bureau van Dijk (BvD) which provides electronic access to the detailed yearly financial statements of all Belgian firms. The database has several advantages. Firstly, firms are active in 550 different four-digit NACEBEL code industries, which enables us to capture variation in industry environments. Second,

exceptionally focusing on Belgian privately held firms reduces the unobserved heterogeneity. Lastly, the sample includes both firms established within the time period observed, and firms disappearing from the database, because they failed or were taken over. Thereby, survivorship bias is limited.

In addition to its advantages, this database also presents a disadvantage. Not all firms are obligated to submit complete financial statements. Small and medium-sized enterprises (SMEs), in particular, are permitted to provide abbreviated financial statements, which still lack some key information. A significant distinction between abbreviated and complete financial statements is that only complete financial statements require the disclosure of sales levels. In addition to complete and abbreviated financial statements, the database includes data from micro format filed by micro firms. The information on sales levels are also not required to be disclosed by this type of firms.[1]

This dissertation focuses on independent, privately held firms from 2005 to 2018 in the first study, and 2005-2021 in the second and third study. I exclude financial and utility firms as those are subject to different government regulations (e.g., Allen and Michaely, 2003; Berzins, Bøhren, and Stacescu 2018; DeAngelo, DeAngelo, and Stulz 2006; Grullon and Michaely 2002). I focus on stand alone firms, thus I exclude firms which are not independently owned, that is, those firms with an ultimate owner holding at least 50% of the shares, except those held by named individuals, employees, or family members. Further, I select firms with a minimum of one employee to eliminate "ghost" firms. Next, I consider only those firms with positive total equity (e.g., DeAngelo, DeAngelo, and Stulz 2006; Hasan and Cheung 2018;

[1] A large firm must use the complete model of financial statements. A firm is considered to be large if it exceeds either 2 or 3 of the thresholds: (1) employ 50 full time employees, or (2) has a turnover of 9,000,000 EUR; or (3) balance sheet total 4,500,000 EUR, or is listed on the stock exchange. Small (unlisted) firm may use the abbreviated format. A firm is small if it exceeds no more than 1 of the above-mentioned thresholds. The micro firm is a sub-category of small firms. A firm is micro if it exceeds maximum 1 of the thresholds mentioned below. Thresholds for micro firms are: (1) employ 10 full time employees, or (2) has a turnover of 700.000 EUR; or (3) balance sheet total 350.000 EUR. (source: https://www.nbb.be/en/central-balance-sheet-office/drawing/size-criteria/size-criteria-companies).

Owen and Yawson 2010). The sampling procedure results in 1,161,395 observations. I exclude firm-years when the firm is not legally allowed to pay a dividend according to Belgian legislation (221,268 observations were excluded). Belgian firms should not pay a dividend when their "net assets", which equal the total assets minus liabilities and intangible assets, are lower than the "unavailable equity" which is the sum of issued capital (less the sum of uncalled capital and called amounts of unreleased capital), share premiums, revaluation surpluses, legal reserves, unavailable reserves, and investment grants (De Backer et al., 2014). Further, I exclude firms-years with negative dividend to cash flow ratio, dividend to assets ratio and dividend to earnings ratio (7,921 observations were excluded). This procedure resulted in an unbalanced panel of 932,206 observations.

In the first and third study I focus on the sample of privately held firms, while in the second study the focus is on the sample of SMEs. 99 percent of the sample of privately held firms are essentially SMEs, thus results of the first and third study are generalizable and robust as well on the sample of SMEs. The first study started in 2019, thus the sample includes data over the period 2005-2018[2]. The sample of non missing values for variables used in the study resulted in the sample size of 666,135 firm-year observations. In the second study, I focus on the sample of SMEs to better position the study in the management and finance literature. The majority of firms in our initial sample of 932,206 observations are actually privately held SMEs, 99 percent. Thus I exclude firms that do not comply with the EU definition of SMEs, firms that employ less than 250 full time employees and that report annual turnover of less than 50 million euros (and/or annual balance sheet total less than 43 million euros) (European Commission, 2015) (12,047 observations were excluded). Finally, I deleted firms with less than three firm-year observations, to enable a reliable variance decomposition estimation (Erkan et al., 2016; Goldszmidt, Brito and Vasconcelos, 2010) (46,696 observations were excluded). The sampling

[2] I collected data from 2004 to calculate the variables in 2005.

procedure results in an unbalanced panel of 873,463 observations. In the third study, the sample of non missing values for variables used over the sample period 2005-2021 resulted in 726,165 firm-year observations.

4. Overview of the three studies in this Phd dissertation

In this section, I present an overview of the main findings and contributions of each study individually. I refer to the last chapter for broader theoretical conclusions and implications.

4.1 Study 1: Do dividend policies of privately held firms follow a life cycle?

In the first study (*Chapter 2*), I shed light on an essential yet overlooked dimension: the relationship between the firm's life cycle and its dividend policy. I provide an answer to a question on whether the dividend policy of privately held firms follows a predictable pattern that parallels their life cycle. Drawing upon an extensive dataset of 113,599 Belgian privately held firms over a 14-year period, this research unveils a profound life cycle pattern in dividend policy, corroborating the notion that the progression from young to established stages is linked to a higher likelihood of dividend payment and higher dividend payouts (DeAngelo et al., 2006; Brockman and Unlu, 2011). Furthermore, the study's robustness is underscored by consistent results across various divided policy measures, life cycle proxies, and methodologies. Notably, it challenges the significance of legal solvency thresholds in influencing dividend decisions, prompting a reconsideration of their utility. This study not only enhances a comprehension of dividend policies in privately held firms but also emphasizes that besides taxation, ownership, and agency relations, the life cycle is an important dimension in shaping dividend policy of privately held firms.

4.2 Study 2: Dividend policy of SMEs: a variance decomposition approach

In the second study (*Chapter 3*), I take a step back and question which factors drive the most of the variation in dividend policy of SMEs. The past studies have examined factors driving

dividend policies predominantly at the firm level, such as profitability, leverage, agency costs, and ownership structure, among others (Berzins et al., 2018, 2019; Brockman and Unlu, 2011; DeAngelo, DeAngelo and Stulz, 2006; 2006; Fama and French, 2001; Michaely and Roberts, 2012, Michiels et al., 2015). However, these studies often do not consider these factors simultaneously or explore their simultaneous significance, creating an incomplete picture of dividend determinants (Erkan, Fainshmidt and Judge, 2016). Drawing on a variance decomposition analysis, in this study I simultaneously analyse the dividend policy factors at three levels: firm-year, firm, and industry. I assess their collective impact on Belgian SMEs' dividend policy over a 17-year period. The findings reveal that firm-year and firm-level effects are the most influential factors in determining dividend payouts for SMEs, collectively accounting for 47–64 percent and 34-53 of the variance in dividend payouts, respectively. Industry-level effects, while statistically significant, have a minor role, explaining only 3 percent of the decision to pay dividends and 1 percent in dividend payout variation. This study underscores the paramount importance of firm-year and firms level factors in driving dividend decisions among SMEs. These findings offer valuable guidance to managers and owners of SMEs, emphasizing the need to focus on understanding these factors to optimize dividend policy.

4.3 Study 3: The relationship between slack resources and dividend policy of privately held firms.

In the third and final study of this PhD thesis (*Chapter 4*), I shed more light on the impact of human resource (HR) slack on dividend payouts, while underscoring the importance of considering both HR and financial slack in understanding dividend decisions in privately held firms. Slack resources are crucial for firms, as they provide the flexibility to pursue entrepreneurial activities and act as a buffer against internal and external shocks (Bourgeois, 1981; Bradley, Shepherd and Wiklund, 2011; Daniel et al., 2004; Greenley and Oktemgil, 1998; Tan and Peng, 2003). HR slack represents underutilized employee skills and work time

(Lefevbre, 2023a, 2023b; Mishina, Pollock and Porac, 2004; Vanacker et al., 2013), while financial slack pertains to excess cash resources beyond immediate operational needs (George, 2005; Mishina, Pollock and Porac, 2004). In privately held firms, where decisions regarding resource allocation are pivotal, understanding how these decisions intersect with dividend policy is essential. This research contributes to the literature by highlighting the previously unexplored connection between slack resources and dividend policy.

The remainder of this dissertation is organized as follows. ***Chapter 2*** presents the first study: *"Do dividend policies of privately held firms follow a life cycle?"* This study provides an evidence on the dividend life cycle theory among privately held firms. ***Chapter 3*** presents the second study: *"Dividend policy of SMEs: a variance decomposition approach"*. In this study I provide more insights on different factors that drive the dividend policy of privately held firms. ***Chapter 4*** presents the third study: *"The relationship between slack resources and dividend policy of privately held firms"*. In this study I investigate the impact of slack resources, particularly HR slack, on dividend policy of privately held firms. Finally, ***Chapter 5*** concludes with the theoretical and practical implications and suggestions for future research.

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Chapter 2

Do dividend policies of privately held firms follow a life cycle?*

Joint work with Marc Deloof and Ine Paeleman

Abstract

We investigate whether the dividend policies of privately held firms follow a predictable pattern that parallels their life cycles. Our analyses are based on a large sample of 113,599 Belgian privately held firms with 666,135 firm-year observations that cover the period from 2005 to 2018. We find that as the retained earnings of privately held firms increase, they are more likely to pay dividends and to pay higher amounts. We find a significant effect of retained earnings on dividend policy in a subsample of established firms, but not in a subsample of young firms. Firms are also more likely to initiate (omit) a dividend as their retained earnings increase (decrease) over time. Overall, our results support the life cycle theory in the context of privately held firms.

JEL Classifications: G35, G38

Keywords: Dividend policy, Life cycle, Privately held firms, Legal restriction on dividend payouts, Belgium

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1. Introduction

A dividend policy plays a crucial role in the investment and finance decisions of firms and their valuations (e.g., Allen and Michaely 2003; Farre-Mensa, Michaely, and Schmalz 2014). Many studies have investigated the dividend policies of listed firms (Habib and Hasan 2019). However, we still know relatively little about the dividend policies of privately held firms, even though they represent a majority of the economy (Berzins, Bøhren, and Stacescu 2018, 2019; Hernández-Cánovas and Koëter-Kant 2011; Michaely and Roberts 2011; Rommens, Cuyvers, and Deloof 2012). Furthermore, there has been a strong decline in the number of listed firms, especially in the US (e.g., Doidge, Karolyi, and Stulz 2017) but also in other developed countries.[3]

Typically, privately held firms pay dividends less frequently and for less than listed firms (Michaely and Roberts 2012; Rommens, Cuyvers, and Deloof 2012). However, many of them do pay dividends regularly (see, e.g., Berzins, Bøhren, and Stacescu 2018, 2019; Michiels et al. 2015; Poza 2009). This is remarkable since taxes make it costly for firms to pay dividends. Furthermore, the dividends of listed firms can be a signal that mitigates asymmetric information with outside investors. Firms can also use them as a tool to reduce agency conflicts between insiders and outside investors. However, privately held firms typically have few or no outside investors. Asymmetric information and agency problems between insiders and outsiders are, therefore, less likely to affect their dividends.

In this paper, we contribute to the scarce literature on the dividend policies of privately held firms and contribute in general to the literature on the dividend puzzle (Black 1976), which keeps attracting research attention from scholars. According to Fisher Black, "the harder we look at the dividends picture, the more it seems like a puzzle, with pieces that just do not fit

[3] The number of listed domestic firms in the US has declined from a peak of 8,090 n 1996 to 4,397 in 2018. For all OECD countries, it declined from 26,458 companies in 2007 to 22,702 in 2018 (source: https://data.worldbank.org).

together" (Black 1976, 5). This puzzle is still unsolved and even more so in the context of privately held firms. Recent work has shown that dividends are an important source of cash for the investors of privately held firms (Berzins, Bøhren, and Stacescu 2019; Michiels et al. 2015; Rommens, Cuyvers, and Deloof 2012). Shares of privately held firms are, arguably, less liquid than shares of listed firms (Berzins, Bøhren, and Stacescu 2018, 2019; Michaely and Roberts 2012). Due to illiquidity, investors of privately held firms prefer dividends over capital gains, especially when holding a lower equity stake (Berzins, Bøhren, and Stacescu 2018, 2019). This preference highlights the increased importance of paying dividends to attract minority investors and to build a "reputation of fairness" among investors of privately held firms (Berzins, Bøhren, and Stacescu 2018; 2019). Empirical studies have shown that dividends are not irrelevant but count as a complex financing decision for firms, which is in contrast to the argument of Modigliani and Miller's (1958) dividend irrelevance theorem.

The life cycle theory generally refers to the changes in firms' financial policies as they progress from young (start-up) to more established stages (Dickinson 2011; Faff et al. 2016). More established firms are expected to be more likely to pay dividends compared to young firms that face more investment opportunities under resource constraints. As such, more established firms often have greater possibilities of paying dividends due to higher profitability and fewer investment projects. DeAngelo, DeAngelo, and Stulz (2006) test the dividend life cycle for listed firms in the US by using retained earnings as a proxy for age. Their results show that mature and declining firms hold more earned equity but lack the investment opportunities to grow, which makes them better candidates to pay dividends. They find that the likelihood that listed firms pay out dividends is higher when retained earnings represent a larger part of total equity (total assets). These findings are confirmed by Brockman and Unlu (2011) for a multi-country sample of listed firms. However, it is not clear to what extent the dividend policy of a privately held firm follows its life cycle.

We investigate the dividend life cycle for a sample of 113,599 Belgian privately held firms with 666,135 firm-year observations for the period from 2005 to 2018. Belgium provides a particularly interesting setting for studying privately held firms because all Belgian firms have to file a detailed financial statement with the National Bank of Belgium each year (Paeleman, Fuss, and Vanacker 2017). This statement includes information on the dividend policy and is publicly available, which allows us to investigate the dividend policies of the universe of Belgian privately held firms. In addition, privately held firms play a pivotal role in the Belgian economy, as the number of listed firms is very limited.[4] As such, Belgium closely resembles other continental European countries.

To measure the firm's life cycle, we rely on measures used in the literature (e.g., DeAngelo, DeAngelo, and Stulz 2006; Brockman and Unlu 2011): the amount of earned equity (retained earnings) relative to common equity (RE/TE), and the amount of earned equity (retained earnings) relative to total assets (RE/TA). In a robustness check, we use firm age (number of years since founding). Other scholars have argued that retained earnings are a proxy for the firm's life cycle with the advantage that it does not assume linearity in the progression through life cycle stages (Habib and Hasan 2017). Moreover, some scholars prefer retained earnings over age as it does not account for industry differences in the time needed to move through the life cycle stages (Dickinson 2011; Faff et al. 2016). Retained earnings measures to what degree privately held firms are self-funded or rely on external sources over their lifetime (DeAngelo, DeAngelo, and Stulz 2006).[5] Consistent with the life cycle relationship, our results show that retained earnings have a significant and positive effect on the likelihood of privately held firms paying a dividend and on its level after controlling for other determinants of the dividend policy. We find similar results when we use alternative measures for dividend policies, namely

[4] At the end of 2018, there were only 111 Belgian firms listed (source: https://data.worldbank.org).

[5] A disadvantage of using a firm's age, based on the date of its incorporation, is that the date of incorporation does not necessarily reflect the true date of its founding. For instance, a new legal entity might be created after an acquisition, leading to a new date of incorporation, despite the fact that both the acquiring firm and the acquired one already existed.

the dividend to EBITDA ratio and the dividend to earnings ratio. Our results also support the life cycle theory when splitting our sample into young (or new) firms and more established firms. Our results are similar when we use subsamples of small versus large privately held firms. Further, the relationship of retained earnings with the dividend policy is also confirmed by our finding that retained earnings significantly increase (decline) five years before a privately held firm initiates (omits) a dividend. We also find that the life cycle relationship exists independently of the legal threshold for solvency that Belgian firms have to pass before regulators will allow them to pay a dividend. Our results are robust when using alternative estimation techniques; a firm's age as an alternative proxy for its life cycle; and an alternative dependent variable, that is, paying dividends in t + 1. Robustness of Inference to Replacement (RIR) tests (Busendbark, Gamache and withers 2022) show that it is very unlikely that endogeneity drives our results.

This paper makes several contributions. First, it provides new insights into the dividend policies of privately held firms that are still poorly understood despite the enormous economic importance of these firms. While studies have found that the dividend policies of privately held firms are affected by taxes (Berzins, Bøhren, and Stacescu 2018), ownership (Michiels et al. 2015; Rommens, Cuyvers, and Deloof 2012), and conflicts of interest between shareholders (Berzins, Bøhren, and Stacescu 2019; Michaely and Roberts 2011); we show that the dividends of these privately held firms follow a pattern in line with their life cycles. Second, our study contributes to the literature on financing policies of SMEs and privately held firms by demonstrating that there is not only a life cycle in the capital structure of these firms (La Rocca, La Rocca, and Cariola 2011; Reid 2003; Serrasqueiro and Maçãs Nunes 2012) but also in their dividend policy. Finally, we draw attention to legal constraints that may affect the dividend payout policy. In Belgium, firms are not allowed to pay dividends when they fail to meet the legal threshold for solvency. Our results show that this threshold by itself does not affect dividend payouts, which raises questions about the usefulness of such thresholds.

Our study continues as follows: In Section 2, we discuss our hypothesis. Section 3 presents the data and the measurements of the variables. Section 4 presents the results for the dividend life cycle of privately held firms. Section 5 concludes.

2. Hypothesis development

Different stages of the life cycle may play an important role in determining the financial decisions and behaviours of firms (La Rocca, La Rocca, and Cariola 2011). Similarly, whether to distribute excess cash in the form of dividends or retain it in the firm may also depend on the stage of a firm's life cycle. Since firms do not progress monotonically from birth to mature stages, this transition may be nonlinear, and firms often move back and forth from one stage to another (Dickinson 2011; Habib and Hasan 2019). This movement raises the question of whether there is a life cycle effect on the dividend policies of firms. DeAngelo, DeAngelo, and Stulz (2006) and Brockman and Unlu (2011) find evidence of a dividend life cycle effect for listed firms in the US, but what about privately held firms?

Privately held firms are different from listed firms in several ways. First, privately held firms face less external pressure to pay dividends when they have excess cash available because information problems and agency conflicts between insiders and outsiders generally play a much smaller role in privately held firms (Michaely and Roberts 2012). Second, the owners of privately held firms often have limited access to external financing and may therefore refrain from paying dividends (Vermoesen, Deloof and Laveren 2013; McNamara, O'Donohoe, and Murro 2020), especially in the early stages of the firm's life cycle when money is scarce and growth opportunities are present. Outside equity financing might be very costly for privately held firms due to asymmetric information that can dilute the control of the owners (Brav 2009). Access to debt financing may also be more limited for privately held firms due to bankruptcy costs. As a result, the owners of privately held firms may prefer to keep high cash reserves instead of paying dividends to reduce their risk (Anderson and Hamadi, 2016). Nevertheless,

the life cycle could influence the dividend policy of privately held firms. Privately held firms are less likely to have self-interested managers who can restrict dividends and keep the free cash flow in the firm at the owners' expense (Rommens, Cuyvers, and Deloof 2012). This manipulation could result in higher dividends to support the cash needs of under-diversified owners, especially in the later stages of the firm's life cycle when there is ample excess cash and few growth opportunities. Further, firms rebalance their capital structure over the life cycle and rely less on debt to sustain their businesses when they reach more mature stages (La Rocca, La Rocca, and Cariola 2011), but they can also distribute the excess cash to the firm's owners. Thus, we expect that mature privately held firms are more likely to pay higher dividends than young privately held firms. Therefore, we propose the following hypothesis:

Hypothesis 1. The dividend policies of privately held firms follow a life cycle pattern.

Hypothesis 1A. The likelihood of paying dividends increases over the life cycles of privately held firms.

Hypothesis 1B. The total dividend payout increases over the life cycles of privately held firms.

3. Data and measurement of variables

We collect data from the Bel-First database maintained by Bureau van Dijk (BvD) which offers electronic access to the detailed yearly financial statements of all Belgian firms. We focus on independent, privately held firms from 2005 to 2018. We exclude financial and utility firms as those are subject to different government regulations (e.g., Allen and Michaely 2003; Berzins, Bøhren, and Stacescu 2018; DeAngelo, DeAngelo, and Stulz 2006; Grullon and Michaely 2002). We also exclude firms which are not independently owned, that is, those firms with an ultimate owner holding at least 50% of the shares, except those held by named individuals, employees, or family members. Further, we select firms with a minimum of one employee to

eliminate "ghost" firms, and we consider only those firms with positive total equity (e.g., DeAngelo, DeAngelo, and Stulz 2006; Hasan and Cheung 2018; Owen and Yawson 2010). Finally, we exclude firm-years when the firm is not legally allowed to pay a dividend according to Belgian legislation. Belgian firms cannot pay a dividend when their "net assets", which equal the total assets minus liabilities and intangible assets, are lower than the "unavailable equity" which is the sum of issued capital (less the sum of uncalled capital and called amounts of unreleased capital), share premiums, revaluation surpluses, legal reserves, unavailable reserves, and investment grants (De Backer et al. 2014). Our sampling procedure results in 113,599 Belgian, independent, privately held firms with 666,135 firm-year observations over the sample period.[6]

All variables used in this study are based on unconsolidated financial statements. Consistent with prior research on dividends (Brockman and Unlu 2011; DeAngelo, DeAngelo, and Stulz 2006; Fama and French 2001; Michiels et al. 2015; Rommens, Cuyvers, and Deloof 2012), our main dividend measures are *DIV* that is a dummy equal to one if the firm pays dividends in year t and zero otherwise, and *DIV/EBITDA*[7] that is the dividends paid in year t scaled by the cash flow in year t-1. As a robustness check, we also consider *Div/E* that is the dividends paid in year t over net income in year t-1 (La Porta et al. 2000; Rommens, Cuyvers, and Deloof 2012). Net income represents a year's gain (or loss), profit after tax, but before dividends.

Our independent variable is the firm's life cycle. First, following the literature, we measure the life cycle relationship using retained earnings scaled by total equity and retained earnings scaled by total assets, respectively, in year t-1 (*RE/TE* and *RE/TA*) (Brockman and Unlu 2011; DeAngelo, DeAngelo, and Stulz 2006; Faff et al. 2016; Habib and Hasan 2017; Hasan et al. 2015; Owen and Yawson 2010). As a robustness check, we also measure the life cycle relationship with the natural logarithm of the number of years since the firm's founding, namely

[6] We collected 2004 data to calculate the lagged variables for the initial year 2005 in our data.
[7] EBITDA is essentially a proxy for cash flow.

Ln_Age (La Rocca, La Rocca, and Cariola 2011). To account for the possible effect of nonlinearities in the firm's life cycle on the dividend policies, we add the squared terms of the proxies, $(RE/TE)^2$ and $(RE/TA)^2$, to our analyses. And as a second robustness check, we check if our results are stable when we add *AGE* and AGE^2.

We also add a number of control variables that studies have shown to affect dividend payouts. We control for leverage by adding the ratio of total equity to total assets in year t-1 (*TE/TA*). Firms moving from the introduction stage towards the more mature stages of their life cycle tend to increase their debt issuance (DeAngelo, DeAngelo, and Stulz 2006; Brockman and Unlu 2011; Michaely and Roberts 2012; Michiels et al. 2015; Rommens, Cuyvers, and Deloof 2012). The TE/TA is a complement to the total debt over total assets (DeAngelo, DeAngelo, and Stulz 2006) that serves as a good measure of leverage considering the restrictions to dividends which debtholders impose on highly indebted, privately held firms (Cassar 2004). As a robustness check, we also measure leverage by the ratio of total debt to total assets in year t-1 (*TD/TA*) (Brockman and Unlu 2011; Michaely and Roberts 2012; Rommens, Cuyvers, and Deloof 2012). We take cash and cash equivalents relative to total assets in year t-1 (*CASH/TA*) as a measure for cash holdings (Brockman and Unlu 2011; Bulan, Subramanian, and Tanlu 2007; DeAngelo, DeAngelo, and Stulz 2006; Michiels et al. 2015). An increase in cash is likely to increase the propensity to pay a dividend. We control for last year's dividend payout by taking the lagged dividend dummy (*L_DIV*) (Fama and French 2001; DeAngelo, DeAngelo, and Stulz 2006). We also add the lagged profitability as more profitable firms have a higher propensity to pay dividends in the following years. We measure profitability by scaling earnings before interest, taxes, depreciation and amortization in year t to total assets in year t-1 (*EBITDA/TA*) (Bulan, Subramanian, and Tanlu 2007; Fenn and Liang 2001; Michiels et al. 2015). We also add the lagged profitability *L_EBITDA/TA* since firms may slowly adapt their dividend policy to new profit information (Lintner 1956). We add the assets growth rate (*AGR*) that is measured as (total assets in year t) – (total assets in year t-1)

over total assets in year t-1 as a measure for firms' growth opportunities (DeAngelo, DeAngelo, and Stulz 2006; Fama and French 2001; Michiels et al. 2015). As a firm matures and growth opportunities decrease, more earnings will be available for paying out dividends (Loderer, Stulz and Waelchli 2017). Finally, we control for the *SIZE* of the firm by taking the natural logarithm of total assets in year t-1 (Bulan, Subramanian, and Tanlu 2007; Brockman and Unlu 2011; Faccio, Lang and Young 2001; Koh et al. 2015; Michaely and Roberts 2012). All variables, except the lagged dividend dummy, are winsorized at the 1% and 99% tails. Table 1 provides an overview of all variables used in this study.

*** Insert Table 1 here ***

4. Results

4.1 Descriptive statistics

Table 2 presents the summary statistics for the dividend payers and nonpayers in our sample. In addition, we also include t-statistics which show significant differences in the variables between dividend payers and nonpayers. For the dividend to EBITDA ratio and the dividend to earnings ratio, we remove negative values (Rommens et al., 2012). On average, 17% of firms pay a dividend in a given year, which is comparable to the earlier findings of Rommens, Cuyvers, and Deloof (2012) in which 19% of the Belgian privately held firms in their sample were dividend payers. Berzins, Bøhren, and Stacescu (2018) find that 27% of the Norwegian privately held firms in their sample paid dividends, while Michaely and Roberts (2012) find that 41% of the UK privately held firms in their sample paid dividends.

*** Insert Table 2 here ***

Table 2 further shows that the proxy RE/TE equals on average 0.28 for dividend payers while it is 0.23 for dividend nonpayers. This difference is statistically significant. Also, the proxy RE/TA equals on average 0.13 for dividend payers while it is 0.10 for dividend nonpayers. This difference is also statistically significant. These statistics provide the first

support for the argument that firms with more retained earnings are more likely to pay a dividend. Table 2 also shows that dividend payers are statistically and significantly older than dividend nonpayers. Dividend payers have less leverage, as shown by the higher TE/TA; are more profitable as measured by EBITDA/TA; and have a lower growth rate for assets, AGR. Furthermore, dividend payers hold more cash and have a larger size than dividend nonpayers. All these findings align with the dividend life cycle theory, as it suggests that firms pay dividends when profits are increasing, and investment opportunities are decreasing.

Error! Reference source not found.3 presents the pairwise correlations between the v ariables used in our analyses. There is a positive correlation between our dividend measures (DIV, DIV/EBITDA, Div/E) and the life cycle proxies (RE/TE, RE/TA, Age), and all correlations are statistically significant at the 0.1% level. The possibility of multicollinearity is low because all variance inflation factors are well below 10.

*** Insert Table 3 here ***

To better understand the sample's distribution of firms in light of the prevailing life cycle, we split our sample on the basis of their age. We use a 6-year age threshold which is generally accepted in the entrepreneurship literature as a measure of new ventures (e.g. Zahra et al., 2000). We measure young (or new) privately held firms as firms that are six years old or younger and more established privately held firms as firms that are more than six years old. Of the firm-year observations in our full sample, 87% belong to more established firms, while 13% belong to young firms. Among the firm-year observations representing dividend payers, 10% are young firms and 90% are more established firms. Or alternatively, among the young firms, 19% pay dividends; and among the more established firms, 37% pay dividends. In terms of firm-year observations (Fig A. 1 and Table A. 1 in the appendix) for young firms; 13% are dividend payers; and for more established firms, 18% are dividend payers (Fig A. 1 in the appendix).

Table A.1 (in the appendix) presents the summary statistics of the dividend policy measures for both subsamples. On average, young firms pay significantly smaller dividends compared to more established firms. The amount of the dividends paid, measured as dividends to cash flow ratio (DIV/EBITDA) and dividend to earnings ratio (Div/E), is significantly larger for more established firms. The mean difference between the two subsamples is statistically significant.

4.2 Hypothesis testing: The life cycle relationship

Using a procedure similar to that of DeAngelo, DeAngelo, and Stulz (2006), we run a separate logit regression for each year of the period from 2005 to 2018 to obtain a times series of fitted logit coefficients for which we report the mean coefficients and t-statistics (unadjusted for serial correlation). The Fama and MacBeth (1973) approach of averaging the time series of annual coefficients allows for a correlation of regression residuals across firms (Fama and French 2001). The method is convenient for addressing a time effect and for providing robust, unbiased standard errors (see, Petersen 2009). Moreover, the Fama-Macbeth (1973) approach weights each time period equally, in contrast to a panel regression that will effectively give greater weight to periods with more observations or greater variation in right hand side variable Ferson and Harvey, 1999). In Table 4, the dependent variable is the DIV dummy, and the life cycle is represented by either RE/TE (models 1, 3, 5, 7 and 9) or RE/TA (models 2, 4, 6, 8 and 10). Table 4 presents the mean coefficients and t-statistics from a logit regression for each year of the sample period. All models contain the EBITDA/TA, AGR, and SIZE as control variables. Moreover, we gradually add TE/TA, CASH/TA, L_DIV, and L_EBITDA/TA to the models as control variables.

*** Insert Table 4 here ***

Table 4 clearly shows a life cycle effect in the dividend policies of privately held firms, as higher retained earnings increase a firm's propensity to pay a dividend (DIV), while controlling

for other factors that influence the dividend policy. All models show highly and statistically significant and positive mean coefficients for RE/TE and RE/TA (with the lowest t-statistics of 6.14 and 3.49, respectively).[8,9] In line with earlier research (Bulan, Subramanian, and Tanlu 2007; Fama and French 2001), the coefficients for our control variables are also highly and statistically significant. A higher TE/TA (or a lower leverage)[10], cash holdings, lagged profitability, profitability, and size increase the likelihood of privately held firms paying a dividend. If a firm paid dividends in the previous year, it also increases the likelihood of paying dividends. A higher growth rate decreases the likelihood of privately held firms paying a dividend.

In Table 5, the dependent variable is the dividend to EBITDA ratio, and the life cycle is represented by either RE/TE (models 1, 3, 5, 7 and 9) or RE/TA (models 2, 4, 6, 8 and 10). Table 5 presents the mean coefficients and t-statistics from OLS tests for each year from 2005 to 2018. All models contain the EBITDA/TA, AGR, and SIZE as control variables. In addition, we gradually add TE/TA, CASH/TA, L_DIV, and L_EBITDA/TA to the models as control variables.

*** Insert Table 5 here ***

Table 5 also shows a life cycle effect on the dividend policies of privately held firms as higher retained earnings increase a firm's dividends (DIV/EBITDA), while controlling for other factors that influence the dividend policy. All models show highly significant and positive mean coefficients for RE/TE and RE/TA (with the lowest t-statistics of 5.55 and 4.20,

[8] Logit analyses for each year are reported separately in the supplementary online material (Table S. 1). The results present positive and significant coefficients for RE/TE in all years, except in year 2013 (Panel A). The results present positive and significant coefficients for RE/TA in all years except in year 2013 (Panel B).

[9] Belgian firms that pay a dividend to individual shareholders deduct a withholding tax of 25% (until 2017) or 30% (from 2017 onwards) and the received dividend is not subjected to further income tax. When the beneficiary is another firm holding at least 25% of the capital of the paying firm, no withholding tax is deducted by the paying firm and the receiving firm is exempted from corporate tax on the dividend. The change in withholding tax does not alter our results. As shown in the Table S. 1 in the supplementary online material, RE/TE (Panel A) and RE/TA (Panel B) are positive and highly statistically significant before and after the change in 2017.

[10] When we measure leverage as a ratio of total debt to total assets (TD/TA), the results are consistent. Increasing leverage decreases the likelihood of paying dividends (Table S. 2 in the supplementary online material).

respectively). The coefficients for our control variables are statistically significant. Models 1 to 6, present positive and statistically significant coefficients for profitability, while models 9 to 10 present negative and statistically significant coefficients. A higher TE/TA (or a lower leverage), cash holdings, lagged profitability, and size increase the dividends (DIV/EBITDA) of privately held firms. If firms paid dividends in the previous year, it also increases their dividends (DIV/EBITDA). A higher growth rate decreases the dividends (DIV/EBITDA) of privately held firms. [11,12,13]

We also test whether the relationship between retained earnings and dividend policy is curvilinear. The results in Table A. 2 of the appendix show a curvilinear relationship between the life cycle and the likelihood of paying dividends. In models 1, 2, 3, and 4, we find negative and statistically significant estimates of $(RE/TE)^2$ and $(RE/TA)^2$. The odds ratio of RE/TE in model 1 equals 1.78 but is 0.52 for $(RE/TE)^2$ that means that for every unit of increase in the RE/TE, a privately held firm is more likely to issue dividends by a factor of 1.78. However, due to negative $(RE/TE)^2$ after reaching the turning point, the likelihood decreases by a factor of 0.52. Similarly, in model 2, the odds ratio of RE/TA indicates that the likelihood of issuing dividends increases by a factor of 3.2; while after reaching the extremum point, the likelihood decreases by a factor 0.15. We conduct an "U-test" that was developed by Lind and Mehlum (2010) to identify whether the relationship increases at the lower ages, and then decreases at the higher ages within the range of our data. The U-test confirms the presence of a local extremum point of an inverse U shape within the range of our data in models 1 and 2. Similar conclusions are found in models 3 and 4 (OLS tests instead of logit regressions). However, in

[11] Measuring firm size as an inflation adjusted measure does not change our main results when using the dependent variable DIV and DIV/EBITDA (Table S. 3 (Panel A) in the supplementary online material).
[12] When we add the ratio intangible assets relative to total assets (IA/TA) as a proxy for growth opportunities (Paeleman and Vanacker 2015) to our models (with dependent variable DIV and DIV/EBITDA), the results remain stable (Table S. 3 (Panel B) in Supplementary online material).
[13] When we add a measure for firm creditworthiness (using a default risk indicator of Graydon, based on the Ooghe-Joos-De Vos (OJD) score that is similar to the Altman's Z score, but adapted to a Belgian context (e.g., Heyman, Deloof and Ooghe 2008) to our models (with dependent variable DIV and DIV/EBITDA), the results remain stable (Table S. 3 (Panel C) in the supplementary online material).

models 5 and 6 in which the dependent variable is DIV/EBITDA, we find a positive and statistically significant estimate of $(RE/TE)^2$ and a nonsignificant estimate for $(RE/TA)^2$. The U-test shows that the extremum point lies outside our data range in models 5 and 6. Based on these models, our results show that there is a positive, but diminishing, relationship between a firm's life cycle and paying dividends.

Overall, our results support our Hypothesis 1 and confirm the dividend life cycle theory as they show that the decisions of privately held firms to pay dividends depends on the earned equity versus contributed capital mix as measured by either RE/TE or RE/TA. While DeAngelo, DeAngelo, and Stulz (2006) do not include industry affiliation in their regressions, the dividend policies of privately held firms are likely to be affected by the industry in which they operate (e.g., Berzins, Bøhren, and Stacescu 2018; Brockman and Unlu 2011). Therefore, we rerun all logit and OLS regressions while adding dummies for the two-digit NACE-BEL 2008 industry codes. The results in Tables A. 3 and A. 4 of the appendix are fully consistent with the ones reported in Tables 4 and 5, respectively. As an additional robustness test, we measure a dividend policy with the dividend to earnings ratio (Div/E) (Berzins, Bøhren, and Stacescu 2018; 2019; Rommens, Cuyvers, and Deloof 2012). The results in Tables A. 5 and A. 6 of the appendix again show significant coefficients for RE/TA and RE/TA.

4.3 Post-hoc analyses

4.3.1 Subsamples: young firms versus more established firms

Table 2 shows that dividend payers are older than nonpayers. In a first post-hoc analysis, we test if our multivariate results are different for two subsamples of firms: young (or new) privately held firms (measured as firms that are six years old or younger) and more established privately held firms (measured as more than six years old). Table 6 (models 1 to 4) presents the logit results for the dependent variable DIV. Models 1 and 2 show the results for the

subsample of young firms while models 3 and 4 show the results for the subsample of more established firms. Our results show that RE/TE is positive and statistically more significant (significant at 1% level) in model 3 compared to model 1 (significant at 5% level). The RE/TA is positive and statistically significant in model 4 while not significant in model 2.

Table 6 (models 5 to 8) presents the OLS results for DIV/EBITDA as the dependent variable. Models 5 and 6 show the results for the subsample of young firms, while models 7 and 8 show the results for the subsample of more established firms. Our results show that RE/TE and RE/TA are positive and statistically significant in models 7 and 8 while not significant in models 5 and 6. These results further support the concept of the life cycle theory that predicts that young firms are less likely to pay dividends while more established firms are more likely to pay dividends.

*** Insert Table 6 here***

4.3.2 Subsamples: small firms versus large firms

Table 2 also shows that the privately held firms that pay a dividend are larger than nonpayers, which is consistent with the findings of Fama and French (2001) for listed firms. Fama and French (2001) argue that the decrease in the number of listed firms that pay dividends is due to many new listed firms which are small, unprofitable, and have high growth opportunities. In a second post-hoc analysis, we investigate whether size matters for our results by splitting our sample into two subsamples: small firms (size < the median size in our sample) and large firms (size > the median size in our sample). Table 7 presents the results for the dependent variables DIV and DIV/EBITDA. Models 1 to 4 show the logit regressions in which the dependent variable is the dummy variable DIV. Models 5 to 8 show the OLS results when the dependent variable is DIV/EBITDA. We add the same independent variables as in Tables 4 and 5 (models 9 and 10). We find strong evidence for a life cycle effect on the dividend policies of both large

and small privately held firms: the RE/TE and RE/TA remain highly and statistically significant as well as positive.

*** Insert Table 7 here ***

4.3.3 Dividend initiators and omitters

So far, we have analysed the cross-sectional variation in dividend policies. In this post-hoc analysis, we examine the evolution of RE/TE and RE/TA in the five years before the decision to initiate or omit a dividend. The dividend life cycle predicts that RE/TE and RE/TA will show an upward trend in the years before initiating a dividend (Brockman and Unlu 2011; DeAngelo, DeAngelo, and Stulz 2006). Correspondingly, these variables should assume the opposite trend in the years before omitting a dividend.

We define a dividend initiator as a firm that pays a dividend after having not paid them for five or more consecutive years. A dividend omitter is a firm that omitted dividends after having paid dividends for at least five consecutive years. We identified 11,406 dividend initiators from 2005 to 2018. Of those firms, 67 had initiated dividends twice. Analogously, we identified 3,343 dividend omitters of which 21 had omitted dividends twice during the sample period.

Figure 1 depicts the trends in median values of RE/TE and RE/TA for dividend initiators and dividend omitters from year -5 until year 0, which is the year of the dividend initiation or omission. For the firms with more than one dividend initiation, we only use the first one, and for firms with more than one dividend omission we only use the last one.

*** Insert Figure 1 here ***

For dividend omitters, the trend in the median RE/TE in Figure 1 is as expected. It consistently trends downward in the five years before the omission, with a 73% decline in the median from year -5 to year 0. For the dividend initiators, we find a 76% increase in the median RE/TE from year -5 until year -2, but no increase in years -1 and 0. We observe very similar

trends in the median RE/TA. Figure 1 confirms the idea that decisions to initiate or omit dividends depend on firm's earned capital measured by retained earnings.[14]

4.3.4 The implication of a legal threshold for solvency to pay dividends

As noted earlier, Belgian firms must pass a legal threshold for solvency before they can pay a dividend. All our analyses are based on a sample that excludes the 218,407 firm-year observations of firms that were not allowed to pay dividends as they were below that legal threshold. To ascertain that this restriction, which considerably reduces our sample size, does not affect our results, we reestimate all the models in Table 4 by using a sample which also includes firm-year observations of firms that do not meet the threshold. The results (in Table A. 7 of the appendix) confirm the life cycle relationship. This confirmation indicates that the decision to pay out a dividend is driven by the underlying financial situation of the firm, irrespective of the legal threshold for solvency dictated by Belgium.

To further confirm this argument, we investigate how the *distance* between a firm's solvency position and the legal threshold affects its dividend policy. If a firm's dividend decision is driven by its financial situation irrespective of the legal threshold, we expect that the closer a firm gets to this legal threshold, the less likely that it will pay dividends since a closer distance reflects a deteriorating solvency. This relationship is not obvious, as it could be argued that the shareholders of a firm getting closer to the legal threshold for paying a dividend may want to "milk" the firm at the expense of the debtholders who will have priority payment in case of insolvency. In that case, there could actually be an *increase* in the likelihood that the shareholders will push the firm to pay dividends as its solvency position gets closer to the legal threshold to be able to pay out dividends. To investigate the relationship between the solvency distance to the legal threshold and dividend policy, we estimate OLS tests in which we add

[14] The finding that dividend omissions follow after a consistent decline in retained earnings suggests that future research could explore how quickly dividends of privately held firms rebound to their initial dividend level after reductions or omissions. To what extent privately held firms substitute dividends with repurchases is unknown.

ln_Age as our life cycle measure and the control variables TE/TA, CASH/TA, EBITDA/TA, AGR, and SIZE; and we add five dummy variables depending on the degree to which the firm's solvency is above the legal threshold. D_0_5 is a dummy variable that equals one if the firm's solvency exceeds the legal threshold by 0% to 5%, and zero otherwise; d_5_10 is a dummy variable that equals one if the firm's solvency exceeds the legal threshold by 5% to 10%, and zero otherwise; d_10_20 is a dummy variable that equals one if the firm's solvency exceeds the legal threshold by 10% to 20%, and zero otherwise; d_20_30 is a dummy variable that equals one if the firm's solvency exceeds the legal threshold by 20% to 30%, and zero otherwise; and d_30_40 is a dummy variable that equals one if the firm's solvency exceeds the legal threshold by 30% to 40%, and zero otherwise. In line with the argument that deteriorating solvency reduces the likelihood of paying dividends, Table 8 shows that firms which are legally allowed to pay dividends are less likely to pay them as they are getting closer to the legal threshold. In model 1, where the dependent variable is DIV, firms exceeding the threshold by 30% to 40% are 5% less likely to pay dividends when controlling for age, leverage, cash holdings, cash flow, growth, size, industry, and year fixed effects. The likelihood of paying dividends gradually reduces further as the firm gets closer to the legal threshold, going up to 9% when a firm is within the 5% range of the legal threshold. Our results are very similar when we measure the dividend policy with DIV/EBITDA in model 2. So, we find no confirmation of "milking" a dividend policy.

*** Insert Table 8 here ***

4.4 Robustness tests

4.4.1 Alternative estimation techniques

Our findings in Table 4 are robust when we apply alternative estimation techniques. First, we ran panel logit regressions that had industry and year fixed effects and the dependent variable DIV (Table S. 4 in the supplementary online material). Second, we ran panel OLS tests that

had industry and year fixed effects and the dependent variable DIV/EBITDA (Table S. 5 in the supplementary online material). Third, we ran fixed effects regressions that had firm and year fixed effects and the dependent variable DIV/EBITDA (Table S. 6 in the supplementary online material). Fourth, we ran panel logit regressions that had firm and year fixed effects and the dependent variable DIV (Table S. 7 in the supplementary online material). In all these models, our results show significant and positive relations between the life cycle proxies and dividend policies of privately held firms.

4.4.2 Firm age as an alternative proxy for the life cycle

We check the robustness of our results by using age as an alternative proxy of the firms' life cycle. The results are shown in Table 9. In models 1 and 4, we use ln_Age that is measured as the natural logarithm of years since the firm's incorporation. In models 2 and 5, we use Age. In models 3 and 6, we use Age and Age^2. In models 1 to 3, we run logit regressions with the probability of paying dividends as the dependent variable. In models 4 to 6, we run OLS tests with the level of dividend payouts (DIV/EBITDA) as the dependent variable. In all models, we control for TE/TA, cash, profitability, growth, size, industry, and year fixed effects.

*** Insert Table 9 here ***

The results for the control variables are consistent with our previous findings. We find positive and statistically significant coefficients for TE/TA, cash, profitability, and size; and negative and statistically significant coefficients for the asset growth rate. In models 1 and 2, we find positive and statistically significant coefficients for ln_Age and Age, respectively. As firms mature, they are more likely to pay dividends. In models 4 and 5, we also find positive and statistically significant coefficients for ln_Age and Age, respectively. Thus, as firms mature, the amount of the dividends they pay increases.

In model 3, we find a positive and statistically significant coefficient for Age, and a negative and statistically significant coefficient for Age^2. In model 6, we find no significant

coefficients for Age and Age². For model 3, we conduct the U-test to identify whether the relationship is indeed stronger for lower ages and then weakens for higher ages within the range of our data. This test confirms the presence of the extremum point within the range of data and confirms an inverse U-shaped relationship. However, due to the small coefficient for Age², we conclude that the relationship is positive but at a diminishing rate. These results are in line with our main findings.

4.4.3 Alternative dependent variables: paying dividends in t+1

We use two alternative dependent variables to test if retained earnings (as a proxy for the firm's life cycle) is a good predictor of whether firms will pay out dividends in the next year. First, we use a dummy variable equal to one if a firm paid a dividend in year t+1. Second, we use DIV/EBITDA in year t+1. The results (Tables S. 8 and S. 9 in the supplementary online material) are consistent with the life cycle theory. Increasing retained earnings over the total equity, or total assets, increases the probability of privately held firms paying dividends in year t+1 (Table S. 8 in the supplementary online material). Increasing retained earnings over the total equity, or total assets, increases the amounts of dividends paid out in year t+1, specifically, the DIV/EBITDA_t+1 (Table S. 9).

4.5 Endogeneity

As recently used by other scholars (e.g., Campbell et al. 2021; Rieger, Wilken, and Engelen 2022; Roccapriore and Pollock 2022), we examine the possibility of endogeneity by using the robustness of inference to replacement (RIR) approach (Busenbark, Gamache and Withers 2022). This approach makes counterfactual changes to the data and "provides insight into the percentage of a parameter estimate that would need to be biased in order to invalidate causal inference..." (Busenbark, Gamache and Withers 2022, 23). Specifically, "the RIR can indicate how much of a given effect size must be biased in order to overturn an otherwise statistically significant parameter estimate" (Busenbark, Gamache and Withers 2022, 44). This approach

checks all sources of bias from endogeneity. It is not limited to omitted variables only (Frank et al. 2013). We use the *konfound* command in STATA in our panel logit models with DIV as the dependent variable (models 9 and 10, Table S. 4 in the supplementary online material) and panel OLS models with DIV/EBITDA as the dependent variable (models 9 and 10 in Table S. 6 in the supplementary online material) and our life cycle proxies (RE/TE and RE/TA). The RIR results show that the bias resulting from endogeneity has to be very sizeable to overturn our results.

For the model with DIV as the dependent variable (model 9 of Table S. 4 in the supplementary online material), 88.86% of the estimate (RE/TE) would have to be biased to invalidate the inference. That percentage represents 473,556 cases that would have to be replaced with the cases for which there is zero effect. For the model with DIV as the dependent variable (model 10 of Table S. 4 in the supplementary online material,), 86.17% of the estimate (RE/TA) would have to be biased to invalidate the inference. That percentage represents 459,221 cases that would have to be replaced with the cases for which there is zero effect.

For the model with DIV/EBITDA as the dependent variable (model 9 of Table S. 6 in the supplementary online material), 85.31% of the estimate (RE/TE) would have to be biased to invalidate the inference. That percentage represents 453,923 cases that would have to be replaced with the cases for which there is zero effect. For the model with DIV/EBITDA as the dependent variable (model 10 of Table S. 6 in the supplementary online material), 82.93% of the estimate (RE/TA) would have to be biased to invalidate the inference. That percentage represents 441,260 cases that would have to be replaced with the cases for which there is zero effect. Therefore, it is very unlikely that endogeneity drives our results.

4.6 Limitations and avenues for future research

This study has some limitations that suggest avenues for future research. First, we use a sample of privately held firms who are independent, that is, do not have a firm as a shareholder with an equity stake of more than 50%. However, research has found that conflicts between

shareholders may affect firms' dividend policies (Berzins, Bøhren, and Stacescu 2018, 2019). We encourage future scholars to explore how different shareholder types (family investors, founders, managers, private equity firms, single investors,…), ownership structures, and different qualities of corporate governance can influence the life cycle theory of dividends in privately held firms. Second, there exists a well-established connection between metrics quantifying the complexity of ownership networks and the extent to which dividend and control rights are separated. This relationship has been extensively examined and analyzed (see e.g. La Porta et al. 1999, 2002; Bebchuk et al. 2000; Claessens et al. 2000; Faccio et al. 2001; Faccio and Lang 2002). Future research could further explore how different business group affiliations, and the distance between different shareholders influences dividend policy over the course of privately held firm life. Third, a firm's dividend policy is also affected by the presence and characteristics of managers, and specifically by CEOs (Bertrand and Schoar 2003). Different demographic characteristics, such as a CEO's marital status or political views, can influence the dividend policies of listed firms (Nicolosi 2013). Whether a firm will be more likely to pay dividends also depends on the power (Sheikh 2020), ownership, tenure, and turnover of CEOs (Onali et al. 2016). It raises questions about to what extent these characteristics affect the dividend policies of privately held firms over the course of their life cycles. Fourth, study does not identify different life cycle stages of privately held firms. Future research could provide more granular identification of different stages within the pattern of life cycle. Finally, our results are based on a database of privately held firms in Belgium. Most research on the dividend policies of privately held firms rely on country specific databases; this limitation calls for more research in an international setting.

5. Conclusion

Despite the fact that most firms around the world are privately held, we still know little about what determines the dividend policy of these firms. In this study, we contribute to a better understanding of the dividend policies of privately held firms by showing that there is a life

cycle to their dividends. Some scholars have found evidence of a life cycle relationship among the dividend policies of listed firms (DeAngelo, DeAngelo, and Stulz 2006); but the incentives to pay dividends are fundamentally different in listed firms, and we do not know whether such a relationship also exists for privately held firms. Exploiting the fact that all privately held firms in Belgium are required to publicly disclose their financial statements each year, we find that privately held firms are more likely to pay higher dividends as they mature and have more retained earnings. Year-by-year regressions indicate that the life cycle relationship persists over the entire sample period. The results are confirmed when using alternative measures for dividend policies, alternative proxies for life cycles, and different methods of analysis. Taken together, our results are in line with the theory of a dividend life cycle. The life cycle theory is also confirmed when splitting our sample into young (or new) and more established firms. We also find similar relationships among small and large privately held firms. Our findings are not influenced by the implication of a legal threshold for solvency to be able to pay dividends. Firms stop paying a dividend as their solvency position worsens, even if they are still above the legal threshold to be able to do so. For policymakers, this ability raises the question of whether such legal restrictions are actually useful. Furthermore, our results are also confirmed when using alternative estimation techniques that use the firm's age as an alternative proxy for its life cycle and measuring our dependent variables in year t+1. Overall, our study contributes to both the finance and management literatures by identifying the life cycle as a significant determinant of the dividend policies of privately held firms in addition to taxation, ownership, and agency relations that should also be considered when evaluating the dividend policies of privately held firms.

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Tables and Figure

Table 1 Variable definition

Dependent variables	**Definition**
Measures of dividend policies	
DIV	Dummy equal to 1 if a firm paid a dividend in year t, zero otherwise
DIV/EBITDA	Total dividends paid in year t over the cash flow in year t-1
Div/E	Total dividends paid in year t over net income in year t-1
Independent variables	
Measures of dividend life cycle	
RE/TE	Retained earnings over the total equity in year t-1
RE/TA	Retained earnings over the total assets in year t-1
Age	Number of years since the founding of the firm in year t
Control variables	
TE/TA	Total equity over the total assets in year t-1
CASH/TA	Cash and cash equivalents over the total assets in year t-1
L_DIV	Dummy equal to 1 if the firm paid dividend in year t-1, zero otherwise
EBITDA/TA	Earnings before interest, taxes, depreciation and amortisation in year t over the total assets in year t-1
L_EBITDA/TA	Earnings before interest, taxes, depreciation and amortisation in year t-1 over the total assets in year t-2
AGR	(Total assets in year t) – (total assets in year t-1) over total assets in year t-1
SIZE	Natural log of (total assets) in year t-1
d_0_5	Dummy equal to 1 if firms exceeds the legal threshold for paying a dividend by 0% to 5%, zero otherwise
d_5_10	Dummy equal to 1 if firms exceeds the legal threshold for paying a dividend by 5% to 10%, zero otherwise wise
d_10_20	Dummy equal to 1 if firms exceeds the legal threshold for paying a dividend by 10% to 20%, zero otherwise
d_20_30	Dummy equal to 1 if firms exceeds the legal threshold for paying a dividend by 20% to 30%, zero otherwise
d_30_40	Dummy equal to 1 if firms exceeds the legal threshold for paying a dividend by 30% to 40%, zero otherwise

Table 1 Summary Statistics

This table reports summary statistics for dividend payers and dividend nonpayers in our sample of Belgian, independent, privately held firms for the period 2005-2018. T-statistics show the statistical significance of the difference between the dividend payers and nonpayers for all the variables. All variables are defined and calculated as shown in Table 1. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

	Dividend payers				Dividend nonpayers				t-statistics
Variables	N	Mean	SE	p50	N	Mean	SE	p50	(mean)
Sample	113,306	17%	-	-	552,829	83%	-	-	-
Measures of dividend policy									
DIV/EBITDA	113,259	0.65	0.77	0.36	551,791	-	-	-	-
Div/E	112,797	1.67	2.25	0.81	543,320	-	-	-	-
Measures of dividend life cycle									
RE/TE	113,306	0.28	0.34	0.06	552,829	0.23	0.36	0.04	-42.51***
RE/TA	113,306	0.13	0.19	0.02	552,829	0.10	0.18	0.01	-50.65***
ln_Age	113,306	2.93	0.68	3.00	552,829	2.81	0.69	2.89	-57.01***
Age	113,306	22.16	15.02	19	552,829	19.47	13.11	17	-61.19***
Control variables									
TE/TA	113,306	0.46	0.24	0.44	552,829	0.42	0.24	0.38	-58.50***
CASH/TA	113,306	0.25	0.21	0.19	552,829	0.19	0.19	0.11	-93.56***
L_EBITDA/TA	95,751	0.21	0.13	0.18	437,181	0.16	0.12	0.14	-110.37***
EBITDA/TA	113,306	0.21	0.14	0.18	552,829	0.16	0.12	0.14	-129.40***
AGR	113,306	0.06	0.25	0.03	552,829	0.08	0.27	0.02	13.61***
SIZE	113,306	7.18	1.45	7.03	552,829	6.61	1.35	6.49	-129.33***

Table 2 Pairwise correlations
All variables are defined and calculated as in Table 1. All correlation coefficients are significant at the 0.1% level.

	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	DIV	1													
2	DIV/EBITDA	0.608	1												
3	Div/E	0.559	0.819	1											
4	RE/TE	0.052	0.043	0.032	1										
5	RE/TA	0.062	0.076	0.052	0.842	1									
6	ln_Age	0.070	0.060	0.050	-0.101	0.006	1								
7	Age	0.075	0.059	0.047	-0.094	-0.004	0.906	1							
8	TE/TA	0.071	0.124	0.081	0.066	0.355	0.267	0.229	1						
9	CASH/TA	0.114	0.115	0.073	0.067	0.183	-0.010	-0.006	0.421	1					
10	L_DIV	0.529	0.179	0.151	0.021	0.013	0.081	0.083	0.010	0.119	1				
11	L_EBITDA/TA	0.149	0.056	0.041	0.101	0.103	-0.289	-0.241	0.035	0.185	0.161	1			
12	EBITDA/TA	0.157	0.026	0.011	0.106	0.101	-0.286	-0.239	0.024	0.191	0.185	0.629	1		
13	AGR	-0.017	-0.023	-0.025	0.034	0.035	-0.165	-0.121	0.027	0.021	-0.039	0.118	0.173	1	
14	SIZE	0.157	0.083	0.069	0.015	-0.018	0.357	0.351	-0.053	-0.171	0.160	-0.194	-0.218	-0.099	1

Table 3 Retained earnings and the likelihood of paying a dividend

The dependent variable in all models is the dividend dummy DIV. The life cycle relationship is measured by RE/TE and RE/TA. All variables are calculated as in Table 1. Following the Fama and Macbeth (1973) approach, the table reports mean coefficients and t-statistics from logit regressions for each year in the period 2005-2018. The average pseudo R^2 is calculated from the time series of pseudo R^2. T-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

	Mean coefficients from 2005 to 2018, and t-statistics									
Model:	1	2	3	4	5	6	7	8	9	10
RE/TE	0.25***		0.22***		0.20***		0.29***		0.27***	
	(10.33)		(7.40)		(6.14)		(8.22)		(6.29)	
RE/TA		0.64***		0.31**		0.29**		0.48***		0.42**
		(13.92)		(4.27)		(3.49)		(5.86)		(4.52)
TE/TA			0.77***	0.70***	0.31**	0.25*	0.79***	0.68***	0.79***	0.69***
			(9.13)	(7.25)	(4.18)	(2.81)	(9.99)	(7.20)	(9.42)	(6.77)
CASH/TA					1.27***	1.28***	0.58***	0.59***	0.52***	0.52***
					(24.73)	(25.05)	(10.99)	(11.14)	(8.63)	(8.78)
L_DIV							2.88***	2.88***	2.80***	2.80***
							(21.91)	(21.96)	(20.72)	(20.77)
L_EBITDA/TA									1.20***	1.21***
									(17.86)	(17.93)
EBITDA/TA	4.37***	4.35***	4.35***	4.37***	4.04***	4.05***	2.20***	2.21***	1.68***	1.69***
	(50.22)	(48.90)	(56.36)	(56.66)	(52.12)	(52.42)	(23.08)	(23.53)	(15.88)	(16.11)
AGR	-0.37***	-0.38***	-0.41***	-0.40***	-0.37***	-0.36***	-0.03	-0.03	-0.09*	-0.09*
	(-14.99)	(-14.93)	(-14.74)	(-14.67)	(-12.96)	(-12.89)	(-0.95)	(-0.86)	(-2.31)	(-2.24)
SIZE	0.39***	0.39***	0.39***	0.40***	0.42***	0.42***	0.26***	0.26***	0.26***	0.26***
	(31.35)	(30.91)	(29.63)	(29.51)	(32.11)	(32.04)	(25.14)	(25.21)	(24.59)	(24.67)
Constant	-5.17***	-5.18***	-5.51***	-5.48***	-5.70***	-5.67***	-5.19***	-5.14***	-5.27***	-5.22***
	(-36.21)	(-36.71)	(-43.85)	(-43.86)	(-46.23)	(-46.16)	(-42.86)	(-43.72)	(-43.42)	(-44.67)
Observations	666,135	666,137	666,135	666,137	666,135	666,137	666,135	666,137	532,932	532,933
Average pseudo R^2	7%	7%	8%	8%	9%	9%	29%	29%	29%	29%

Table 4 Retained earnings and the dividend to EBITDA ratio

The dependent variable in all models is the dividend to EBITDA ratio DIV/EBITDA. The life cycle relationship is measured by RE/TE and RE/TA. All variables are calculated as in Table 1. Following the Fama and Macbeth (1973) approach, the table reports mean coefficients and t-statistics from OLS regressions for each year in the period 2005-2018. The average R^2 is calculated from the time series of R^2. T-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

	Mean coefficients from 2005 to 2018, and t-statistics									
Model:	1	2	3	4	5	6	7	8	9	10
RE/TE	0.04***		0.03***		0.02***		0.02***		0.02***	
	(16.07)		(7.57)		(6.20)		(7.22)		(5.55)	
RE/TA		0.14***		0.06***		0.06***		0.06***		0.05***
		(8.64)		(5.45)		(4.64)		(5.37)		(4.20)
TE/TA			0.18**	0.17**	0.13**	0.11	0.13**	0.12*	0.15**	0.13*
			(3.65)	(3.24)	(3.20)	(2.73)	(3.43)	(2.94)	(3.38)	(2.93)
CASH/TA					0.16***	0.16***	0.12***	0.12***	0.12**	0.12**
					(5.46)	(5.47)	(4.10)	(4.10)	(3.65)	(3.66)
L_DIV							0.18***	0.18***	0.17***	0.17***
							(16.22)	(16.33)	(14.17)	(14.27)
L_EBITDA/TA									0.16***	0.16***
									(12.48)	(12.43)
EBITDA/TA	0.16***	0.15***	0.16***	0.16***	0.12***	0.12***	0.01	0.01	-0.07**	-0.07**
	(11.09)	(9.57)	(12.11)	(12.45)	(6.64)	(6.79)	(0.30)	(0.30)	(-3.55)	(-3.57)
AGR	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***	-0.01	-0.01	-0.03**	-0.03**
	(-4.94)	(-4.84)	(-4.33)	(-4.32)	(-4.28)	(-4.26)	(-2.15)	(-2.12)	(-3.70)	(-3.69)
SIZE	0.03***	0.03***	0.03***	0.03***	0.03***	0.03***	0.02***	0.02***	0.02***	0.02***
	(22.65)	(23.67)	(19.32)	(19.82)	(17.16)	(17.55)	(10.52)	(10.74)	(10.91)	(11.12)
Constant	-0.10***	-0.11***	-0.19***	-0.18***	-0.21***	-0.20***	-0.14***	-0.14***	-0.17***	-0.17***
	(-6.90)	(-7.96)	(-15.76)	(-14.82)	(-13.93)	(-13.17)	(-9.00)	(-8.52)	(-9.55)	(-9.03)
Observations	665,050	665,051	665,050	665,051	665,050	665,051	665,050	665,051	532,086	532,087
Average R^2	2%	2%	3%	3%	4%	3%	7%	7%	7%	7%

Table 5 Retained earnings and dividend policy of young and more established firms

We split the sample according to the firm age. Young firms are 6 years old, or younger. More established firms are older than 6 years. The dependent variable is the dividend dummy DIV in models 1-4 and the dividend to EBITDA ratio DIV/EBITDA in models 5-8. The life cycle relationship is measured by RE/TE and RE/TA. All variables are calculated as in Table 1. Following the Fama and Macbeth (1973) approach, the table reports mean coefficients and t-statistics from logit and OLS regressions for each year in the period 2005-2018. The average (pseudo) R^2 is calculated from the time series of (pseudo) R^2. T-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

Sample	Young firms		More established firms		Young firms		More established firms	
Estimation method:	Year by year logit regressions				Year by year OLS regressions			
Dependent variable:	DIV	DIV	DIV	DIV	DIV/EBITDA	DIV/EBITDA	DIV/EBITDA	DIV/EBITDA
Model:	1	2	3	4	5	6	7	8
RE/TE	0.13*		0.28***		0.01		0.03***	
	(2.37)		(6.18)		(1.77)		(6.09)	
RE/TA		0.27		0.44***		0.03		0.06***
		(1.81)		(4.43)		(1.83)		(4.46)
TE/TA	0.71***	0.63***	0.79***	0.70***	0.11***	0.10**	0.15**	0.14*
	(4.99)	(4.03)	(9.63)	(6.86)	(4.18)	(3.46)	(3.44)	(2.99)
CASH/TA	0.61***	0.61***	0.51***	0.51***	0.09***	0.09***	0.12**	0.12**
	(6.41)	(6.44)	(7.70)	(7.83)	(6.57)	(6.57)	(3.42)	(3.43)
L_DIV	2.78***	2.78***	2.80***	2.80***	0.17***	0.17***	0.17***	0.17***
	(20.46)	(20.49)	(19.54)	(19.58)	(15.50)	(15.50)	(13.54)	(13.63)
L_EBITDA/TA	1.06***	1.06***	1.26***	1.26***	0.13***	0.13***	0.17***	0.17***
	(7.10)	(7.05)	(17.60)	(17.72)	(6.70)	(6.71)	(11.86)	(11.81)
EBITDA/TA	1.54)***	1.54***	1.71***	1.72***	-0.07*	-0.07*	-0.07**	-0.07**
	(11.60)	(11.42)	(14.68)	(14.88)	(-2.81)	(-2.81)	(-3.80)	(-3.81)
AGR	-0.01	-0.01	-0.10	-0.10	0.01*	0.01*	-0.04***	-0.04***
	(-0.21)	(-0.19)	(-2.17)	(-2.12)	(2.50)	(2.52)	(-4.15)	(-4.14)
SIZE	0.30***	0.30***	0.26***	0.26***	0.02***	0.02***	0.02***	0.02***
	(16.56)	(17.27)	(22.94)	(22.99)	(6.91)	(7.32)	(10.48)	(10.68)
Constant	-5.42***	-5.41***	-5.25***	-5.21***	-0.13***	-0.13***	-0.18***	-0.17***
	(-34.76)	(-35.42)	(-40.19)	(-41.31)	(-6.99)	(-6.81)	(-9.03)	(-8.60)
Observations	52,708	52,708	480,224	480,225	52,619	52,619	479,467	479,468
Average pseudo R^2	26%	26%	29%	29%				
Average R^2					8%	8%	7%	7%

Table 6 Retained earnings and dividend policy of large and small firms

We split the sample according to the median SIZE. Firms with a size above the median are classified as large firms, and firms below the median are classified as small firms. The dependent variable is the dividend dummy DIV in models 1-4 and the dividend to EBITDA ratio DIV/EBITDA in models 5-8. The life cycle relationship is measured by RE/TE and RE/TA. All variables are calculated as in Table 1. Following the Fama and Macbeth (1973) approach, the table reports mean coefficients and t-statistics from logit and OLS regressions for each year in the period 2005-2018. The average (pseudo) R^2 is calculated from the time series of (pseudo) R^2. T-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

Sample	Small firms		Large firms		Small firms		Large firms	
Estimation method:	Year by year logit regressions				Year by year OLS regressions			
Dependent variable:	DIV	DIV	DIV	DIV	DIV/EBITDA	DIV/EBITDA	DIV/EBITDA	DIV/EBITDA
Model:	1	2	3	4	5	6	7	8
RE/TE	0.22***		0.29***		0.02**		0.03***	
	(4.83)		(5.44)		(4.01)		(6.72)	
RE/TA		0.37**		0.44**		0.04**		0.07***
		(3.65)		(4.22)		(3.55)		(4.53)
TE/TA	1.02***	0.93***	0.69***	0.58***	0.15*	0.14*	0.15**	0.13*
	(7.44)	(6.14)	(10.47)	(6.83)	(2.96)	(2.70)	(3.34)	(2.79)
CASH/TA	0.52***	0.52***	0.50***	0.51***	0.10**	0.10**	0.14**	0.14**
	(8.17)	(8.22)	(6.82)	(7.04)	(3.82)	(3.82)	(3.58)	(3.61)
L_DIV	2.80***	2.80***	2.81***	2.81***	0.17***	0.17***	0.17***	0.17***
	(18.96)	(19.06)	(21.67)	(21.65)	(13.16)	(13.28)	(13.70)	(13.73)
L_EBITDA/TA	1.24***	1.25***	1.26***	1.26***	0.13***	0.13***	0.21***	0.21***
	(29.76)	(29.40)	(9.55)	(9.59)	(10.71)	(10.65)	(8.43)	(8.39)
EBITDA/TA	1.61***	1.62***	1.85***	1.86***	-0.05*	-0.05*	-0.13**	-0.13**
	(13.28)	(13.44)	(13.73)	(13.83)	(-2.80)	(-2.81)	(-3.75)	(-3.78)
AGR	0.12	0.12	-0.25**	-0.24**	-0.01	-0.01	-0.03*	-0.03*
	(1.62)	(1.67)	(-5.41)	(-5.33)	(-1.70)	(-1.69)	(-2.47)	(-2.46)
SIZE	0.42***	0.43***	0.19***	0.20***	0.03*	0.03*	0.02**	0.02**
	(10.60)	(10.78)	(9.01)	(9.09)	(2.53)	(2.55)	(3.63)	(3.67)
Constant	-6.35***	-6.31***	-4.71***	-4.66***	-0.24*	-0.24*	-0.17**	-0.16**
	(-27.72)	(-27.18)	(-20.17)	(-20.67)	(-2.65)	(-2.61)	(-4.00)	(-3.96)
Observations	251,694	251,694	281,238	281,238	250,910	250,910	281,176	281,176
Average pseudo R^2	30%	30%	30%	30%				
Average R^2					6%	6%	8%	8%

Table 7 Dividend policy and the relationship with legal threshold for paying a dividend
The dependent variable is the dividend dummy DIV in model 1 and is the dividend to EBITDA ratio DIV/EBITDA in model 2. The life cycle relationship is measured by ln Age. All variables are calculated as in Table 1. All models are estimated with OLS and include industry and year fixed effects. T-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

Model:	1	2
Estimation method:	OLS	OLS
Dependent variable:	DIV	DIV/EBITDA
ln_Age	0.03***	0.005***
	(19.07)	(5.19)
TE/TA	0.03***	0.14***
	(8.44)	(45.68)
CASH/TA	0.18***	0.17***
	(39.10)	(42.83)
EBITDA/TA	0.60***	0.11***
	(88.29)	(22.25)
AGR	-0.04***	-0.03***
	(-22.26)	(-14.15)
SIZE	0.05***	0.03***
	(67.96)	(52.71)
d_0_5	-0.09***	-0.09***
	(-23.80)	(-35.75)
d_5_10	-0.08***	-0.07***
	(-21.45)	(-29.97)
d_10_20	-0.06***	-0.06***
	(-20.58)	(-34.83)
d_20_30	-0.05***	-0.06***
	(-17.51)	(-31.86)
d_30_40	-0.05***	-0.05***
	(-16.80)	(-25.61)
Constant	-0.48***	-0.28***
	(-61.14)	(-53.11)
Industry FE	YES	YES
Year FE	YES	YES
Observations	666,137	665,051
R^2	9%	6%

Table 8 Firm age and dividend policy

The dependent variable is the dividend dummy DIV in model 1-3 and is the dividend to EBITDA ratio DIV/EBITDA in model 4-6. The life cycle relationship is measured by ln_Age, Age and Age squared. All variables are calculated as in Table 1. Models 1-3 are estimated with logit regression, and models 4-6 with OLS. All models include industry and year fixed effects. T-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels respectively.

Model:	1	2	3	4	5	6
Estimation method:	Logit	Logit	Logit	OLS	OLS	OLS
Dependent variable:	DIV	DIV	DIV	DIV/EBITDA	DIV/EBITDA	DIV/EBITDA
ln_Age	0.22***			0.01***		
	(20.42)			(6.59)		
Age		0.01***	0.02***		0.0003***	0.00
		(16.24)	(11.71)		(6.14)	(0.58)
Age^2			-0.0001***			0.00
			(-5.18)			(1.80)
TE/TA	0.23***	0.29***	0.26***	0.14***	0.14***	0.15***
	(7.96)	(9.98)	(8.92)	(46.21)	(47.17)	(46.77)
CASH/TA	1.28***	1.27***	1.28***	0.17***	0.17***	0.17***
	(41.22)	(40.84)	(41.00)	(44.36)	(44.34)	(44.22)
EBITDA/TA	4.38***	4.29***	4.33***	0.13***	0.13***	0.13***
	(100.98)	(100.84)	(100.31)	(26.62)	(26.81)	(26.17)
AGR	-0.33***	-0.36***	-0.35***	-0.03***	-0.03***	-0.03***
	(-21.60)	(-23.41)	(-22.74)	(-13.70)	(-14.01)	(-14.23)
SIZE	0.38***	0.38***	0.38***	0.03***	0.03***	0.03***
	(71.13)	(72.39)	(71.76)	(52.94)	(53.30)	(53.13)
Constant	-6.71***	-6.29***	-6.35***	-0.29***	-0.28***	-0.28***
	(-90.93)	(-88.05)	(-88.15)	(-56.87)	(-55.93)	(-55.07)
Industry FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES
Observations	666,127	666,127	666,127	665,051	665,051	665,051
Pseudo R^2	10%	10%	10%			
R^2				6%	6%	6%

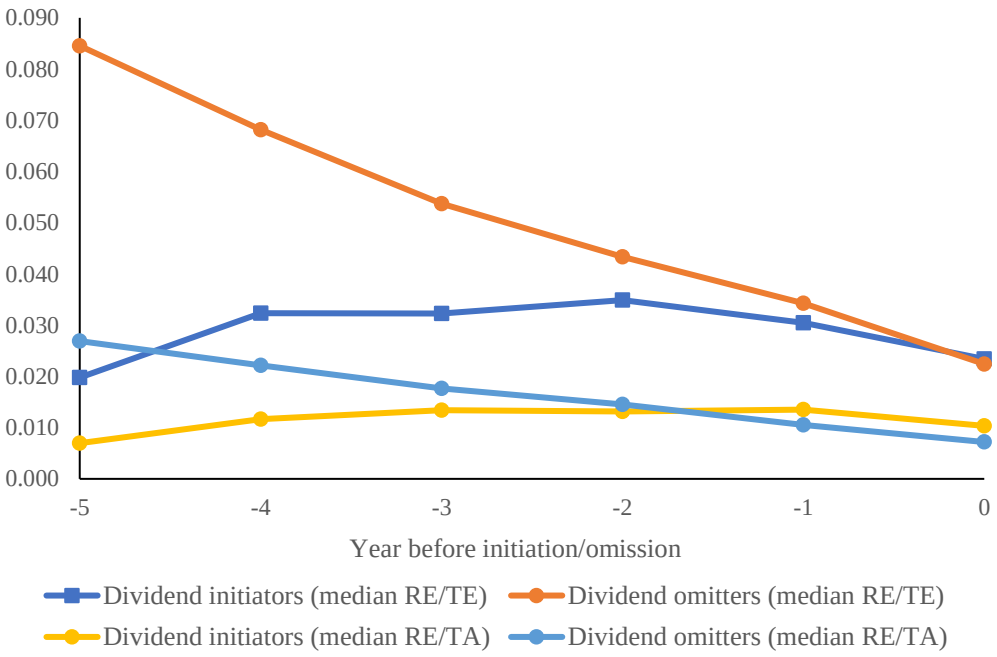

Fig. 1
Median retained earnings relative to total equity (RE/TE) and median retained earnings relative to total assets (RE/TA) over the five years before initiation (omission) for a sample of dividend initiators (omitters). We define a dividend initiator as a firm that paid a dividend after having not paid them for at least five consecutive years. We define a dividend omitter as a firm that omitted dividends after paying them for at least five consecutive years. We identified 11,406 dividend initiators and 3,343 dividend omitters in the period 2005-2018**.**

Appendix

This Appendix contains the following tables and figure:

Table A. 1 Summary Statistics of two subsamples: young firms and more established firms

This table reports summary statistics of our dividend policy measures for the full sample (Panel A), the subsample of young firms (6 years old or younger), (Panel B), and the subsample of more established firms (older than 6 years) (Panel C). ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

	Panel A All firms			Panel B Young firms			Panel C More established firms			t-statistics
	N	Mean	SD	N	Mean	SD	N	Mean	SD	(mean)
DIV	666,135	0.18	0.37	89,561	0.13	0.34	576,574	0.18	0.38	33.56***
DIV/EBITDA	665,050	0.11	0.39	89,426	0.07	0.28	575,624	0.12	0.41	31.88***
Div/E	656,117	0.28	1.11	87,871	0.18	0.80	568,246	0.30	1.15	29.34***

Table A. 2 Nonlinear relationship of retained earnings and dividend policy

Logit and OLS analyses of the relationship between the life cycle proxies (RE/TE and RE/TA) and dividends (the likelihood of paying out a dividend (DIV) and the amount of dividend paid (DIV/EBITDA), respectively) including the squared terms of the life cycle proxies. T-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively.

Model:	1	2	3	4
Estimation method:	Logit	Logit	OLS	OLS
Dependent variable:	DIV	DIV	DIV/EBITDA	DIV/EBITDA
RE/TE	0.58***		0.02***	
	(16.32)		(15.06)	
$(RE/TE)^2$	-0.65***		0.01**	
	(-14.86)		(3.66)	
RE/TA		1.16***		0.05***
		(16.30)		(10.04)
$(RE/TA)^2$		-1.91***		0.00
		(-15.69)		(0.15)
TE/TA	0.39***	0.43***	0.15***	0.14***
	(13.88)	(14.38)	(51.00)	(43.98)
CASH/TA	4.12***	4.09***	0.12***	0.12***
	(97.37)	(96.65)	(24.50)	(24.25)
EBITDA/TA	-0.39***	-0.39***	-0.03***	-0.03***
	(-25.62)	(-25.55)	(-14.87)	(-14.83)
AGR	0.40***	0.40***	0.03***	0.03***
	(78.95)	(79.04)	(56.49)	(56.59)
SIZE	1.25***	1.27***	0.17***	0.17***
	(40.30)	(40.73)	(43.86)	(43.85)
Constant	-6.33***	-6.36***	-0.28***	-0.28***
	(-88.51)	(-88.96)	(-55.97)	(-55.40)
Industry FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES
Observations	666,125	666,127	665,050	665,051
R^2	10%	10%	6%	6%

Table A. 3 Retained earnings and the likelihood to pay a dividend with industry FE included

Year by year logit regressions and Fama and Macbeth (1973) methodology on the fourteen annual coefficients measuring the relationship of RE/TE and RE/TA and DIV with industry FE included. Table reports mean coefficients and t-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively. The average pseudo R^2 is calculated from the time series of pseudo R^2.

	Mean coefficients from 2005 to 2018, and t-statistics									
Model:	1	2	3	4	5	6	7	8	9	10
RE/TE	0.21***		0.18***		0.17**		0.27***		0.25***	
	(9.38)		(6.42)		(5.34)		(7.97)		(6.03)	
RE/TA		0.57***		0.24**		0.23*		0.44**		0.38**
		(13.15)		(3.43)		(2.82)		(5.56)		(4.24)
TE/TA			0.76***	0.71***	0.32**	0.27**	0.81***	0.71***	0.82***	0.73***
			(8.81)	(7.18)	(4.26)	(3.07)	(10.34)	(7.65)	(9.71)	(7.16)
CASH/TA					1.22***	1.23***	0.54***	0.55***	0.48***	0.48***
					(22.48)	(22.78)	(9.74)	(9.87)	(7.66)	(7.79)
L_DIV							2.87***	2.87***	0.49***	2.79***
							(21.80)	(21.85)	(20.60)	(20.64)
L_EBITDA/TA									1.26***	1.26***
									(19.85)	(19.91)
EBITDA/TA	4.53***	4.50***	4.50***	4.52***	4.20***	4.21***	2.28***	2.29***	1.74***	1.74***
	(52.17)	(50.67)	(58.34)	(58.70)	(53.62)	(54.04)	(24.47)	(25.01)	(16.02)	(16.27)
AGR	-0.39***	-0.40***	-0.43***	-0.43***	-0.39***	-0.39***	-0.05	-0.05	-0.11*	-0.10*
	(-15.26)	(-15.22)	(-15.14)	(-15.10)	(-13.46)	(-13.41)	(-1.44)	(-1.37)	(-2.69)	(-2.64)
SIZE	0.38***	0.38***	0.39***	0.39***	0.41***	0.41***	0.26***	0.26***	0.26***	0.26***
	(35.58)	(35.23)	(33.72)	(33.58)	(36.26)	(36.20)	(27.77)	(27.87)	(27.99)	(28.11)
Constant	-5.89***	-5.90***	-6.22***	-6.20***	-6.34***	-6.33***	-5.62***	-5.58***	-5.72***	-5.68***
	(-33.48)	(-33.76)	(-41.49)	(-42.11)	(-43.22)	(-43.91)	(-38.50)	(-39.42)	(-35.73)	(-36.70)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	666,135	666,137	666,135	666,137	666,135	666,137	666,135	666,137	532,932	532,933
Average pseudo R^2	8%	8%	9%	9%	9%	9%	30%	30%	30%	30%

Table A. 4 Retained earnings and the dividend to EBITDA ratio with industry FE included

Year by year OLS regressions and Fama and Macbeth (1973) methodology on the fourteen annual coefficients measuring the relationship of RE/TE and RE/TA and DIV/EBITDA with industry FE included. Table reports mean coefficients and t-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively. The average R^2 is calculated from the time series of R^2.

	Mean coefficients from 2005 to 2018, and t-statistics									
Model:	1	2	3	4	5	6	7	8	9	10
RE/TE	0.03***		0.02***		0.02***		0.02***		0.02***	
	(15.33)		(6.52)		(5.45)		(6.55)		(4.99)	
RE/TA		0.13***		0.06***		0.05***		0.06***		0.05**
		(8.26)		(4.89)		(4.23)		(5.04)		(3.88)
TE/TA			0.18**	0.17**	0.13**	0.12*	0.14**	0.12*	0.15**	0.14*
			(3.61)	(3.24)	(3.20)	(2.76)	(3.43)	(2.97)	(3.37)	(2.95)
CASH/TA					0.15***	0.15***	0.11**	0.11**	0.11**	0.11**
					(5.21)	(5.22)	(3.93)	(3.93)	(3.52)	(3.53)
L_DIV							0.17***	0.17***	0.17***	0.17***
							(15.93)	(16.04)	(13.90)	(13.99)
L_EBITDA/TA									0.16***	0.16***
									(12.53)	(12.44)
EBITDA/TA	0.17***	0.16***	0.17***	0.17***	0.13***	0.13***	0.01	0.01	-0.07**	-0.07**
	(13.01)	(11.18)	(13.73)	(14.09)	(7.68)	(7.86)	(0.59)	(0.60)	(-3.32)	(-3.34)
AGR	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***	-0.03***	-0.02*	-0.01*	-0.03**	-0.03**
	(-5.41)	(-5.30)	(-4.71)	(-4.70)	(-4.73)	(-4.72)	(-2.52)	(-2.51)	(-3.97)	(-3.97)
SIZE	0.02***	0.02***	0.03***	0.03***	0.03***	0.03***	0.02***	0.02***	0.02***	0.02***
	(20.04)	(20.85)	(16.40)	(16.76)	(14.36)	(14.64)	(8.98)	(9.15)	(9.21)	(9.36)
Constant	-0.15***	-0.15***	-0.23***	-0.22***	-0.24***	-0.23***	-0.16***	-0.16***	-0.19***	-0.19***
	(-10.62)	(-11.45)	(-21.68)	(-20.24)	(-19.12)	(-17.92)	(-12.44)	(-11.70)	(-12.80)	(-12.04)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	665,050	665,051	665,050	665,051	665,050	665,051	665,050	665,051	532,086	532,087
Average R^2	2%	2%	3%	3%	4%	4%	8%	8%	8%	8%

Table A. 5 Retained earnings and the dividend to earnings ratio

Year by year OLS regressions and Fama and Macbeth (1973) methodology on the fourteen annual coefficients measuring the relationship of RE/TE and RE/TA and Div/E. Table reports mean coefficients and t-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively. The average R^2 is calculated from the time series of R^2.

	Mean coefficients from 2005 to 2018, and t-statistics									
Model:	1	2	3	4	5	6	7	8	9	10
RE/TE	0.08***		0.06***		0.06***		0.06***		0.05***	
	(14.39)		(7.67)		(6.50)		(7.68)		(5.52)	
RE/TA		0.26***		0.13***		0.12***		0.13***		0.11**
		(7.34)		(4.73)		(4.12)		(4.79)		(3.45)
TE/TA			0.32*	0.30*	0.22*	0.20	0.25*	0.22*	0.26*	0.24*
			(2.86)	(2.51)	(2.46)	(2.06)	(2.72)	(2.30)	(2.65)	(2.28)
CASH/TA					0.29***	0.29***	0.19*	0.19*	0.19*	0.19*
					(4.53)	(4.54)	(2.99)	(3.00)	(2.57)	(2.58)
L_DIV							0.43***	0.43***	0.42***	0.42***
							(15.18)	(15.24)	(13.15)	(13.19)
L_EBITDA/TA									0.37***	0.37***
									(12.70)	(12.70)
EBITDA/TA	0.28***	0.27***	0.28***	0.29***	0.21***	0.22***	-0.07	-0.07	-0.25***	-0.24***
	(8.62)	(7.51)	(9.30)	(9.58)	(5.29)	(5.47)	(-1.65)	(-1.64)	(-5.68)	(-5.67)
AGR	-0.07***	-0.07***	-0.08***	-0.08***	-0.07***	-0.07***	-0.04*	-0.04*	-0.07**	-0.07**
	(-5.01)	(-4.90)	(-4.46)	(-4.44)	(-4.49)	(-4.47)	(-2.51)	(-2.48)	(-3.63)	(-3.61)
SIZE	0.06***	0.06***	0.06***	0.06***	0.07***	0.07***	0.04***	0.04***	0.04***	0.04***
	(19.11)	(19.70)	(16.93)	(17.26)	(15.10)	(15.37)	(8.54)	(8.70)	(8.94)	(9.10)
Constant	-0.19***	-0.20***	-0.34***	-0.33***	-0.37***	-0.37***	-0.22***	-0.21***	-0.27***	-0.26***
	(-4.95)	(-5.63)	(-12.65)	(-11.83)	(-11.46)	(-10.77)	(-6.27)	(-5.85)	(-7.21)	(-6.72)
Observations	656,117	656,118	656,117	656,118	656,117	656,118	656,117	656,118	525,178	525,179
Average R^2	1%	1%	2%	2%	2%	2%	5%	5%	5%	5%

Table A. 6 Retained earnings and the dividend to earnings ratio with industry FE included

Year by year OLS regressions and Fama and Macbeth (1973) methodology on the fourteen annual coefficients measuring the relationship of RE/TE and RE/TA and Div/E with industry FE included. Table reports mean coefficients and t-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively. The average R^2 is calculated from the time series of R^2.

	Mean coefficients from 2005 to 2018, and t-statistics									
Model:	1	2	3	4	5	6	7	8	9	10
RE/TE	0.07***		0.06***		0.05***		0.05***		0.05***	
	(14.01)		(7.01)		(6.07)		(7.40)		(5.31)	
RE/TA		0.25***		0.12***		0.11**		0.12***		0.10**
		(7.00)		(4.40)		(3.89)		(4.68)		(3.34)
TE/TA			0.32*	0.30*	0.23*	0.20	0.25*	0.23*	0.27*	0.25*
			(2.82)	(2.50)	(2.47)	(2.09)	(2.73)	(2.32)	(2.66)	(2.30)
CASH/TA					0.28***	0.28***	0.18*	0.19*	0.18*	0.18*
					(4.27)	(4.29)	(2.84)	(2.85)	(2.44)	(2.45)
L_DIV							0.43***	0.43***	0.42***	0.42***
							(14.96)	(15.02)	(12.96)	(13.00)
L_EBITDA/TA									0.36***	0.37***
									(13.18)	(13.10)
EBITDA/TA	0.29***	0.27***	0.29***	0.29***	0.22***	0.22***	-0.07	-0.07	-0.24***	-0.24***
	(9.77)	(8.48)	(10.21)	(10.46)	(5.95)	(6.14)	(-1.79)	(-1.78)	(-5.52)	(-5.51)
AGR	-0.08***	-0.08***	-0.08***	-0.08***	-0.08***	-0.08***	-0.04*	-0.04*	-0.07**	-0.07**
	(-5.33)	(-5.22)	(-4.72)	(-4.71)	(-4.81)	(-4.79)	(-2.73)	(-2.71)	(-3.79)	(-3.77)
SIZE	0.06***	0.06***	0.06***	0.06***	0.06***	0.06***	0.04***	0.04***	0.04***	0.04***
	(16.59)	(17.04)	(14.17)	(14.40)	(12.60)	(12.79)	(7.43)	(7.55)	(7.61)	(7.73)
Constant	-0.28***	-0.29***	-0.43***	-0.42***	-0.45***	-0.44***	-0.27***	-0.26***	-0.32***	-0.31***
	(-6.40)	(-6.81)	(-24.58)	(-22.86)	(-22.42)	(-20.67)	(-12.51)	(-11.52)	(-14.47)	(-13.24)
Industry FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	656,117	656,118	656,117	656,118	656,117	656,118	656,117	656,118	525,178	525,179
Average R^2	1%	1%	2%	2%	2%	2%	5%	5%	5%	5%

Table A. 7 Logit analyses: retained earnings and the likelihood to pay a dividend for the full sample of privately held firms

Year by year logit analysis and Fama and Macbeth (1973) methodology on the fourteen annual coefficients measuring the relationship of RE/TE and RE/TA and DIV for the full sample of privately held firms, including the firms that are not legally allowed to pay dividends. Table reports mean coefficients and t-statistics in parenthesis, based on robust standard errors clustered by firms. ***, **, and * denote statistical significance at the 0.1%, 1% and 5% levels, respectively. The average pseudo R^2 is calculated from the time series of pseudo R^2.

	Mean coefficients from 2005 to 2018, and t-statistics									
Model:	1	2	3	4	5	6	7	8	9	10
RE/TE	0.60***		0.54***		0.52***		0.45***		0.44***	
	(37.19)		(33.23)		(32.64)	0.91***	(19.93)		(17.08)	
RE/TA		1.37***		0.95***		(15.69)		0.91***		0.80***
		(38.24)		(18.84)				(13.60)		(10.59)
TE/TA			0.93***	0.87***	0.46***	0.40**	0.87***	0.77***	0.87***	0.77***
			(10.86)	(9.02)	(5.99)	(4.53)	(10.40)	(8.02)	(9.56)	(7.33)
CASH/TA						1.37***	0.66***		0.60***	0.60***
						(27.88)	(12.58)		(10.20)	(10.30)
L_DIV							2.93***		2.86***	2.88***
							(22.94)		(22.08)	(22.34)
L_EBITDA/TA									1.24***	1.26***
									(16.68)	(16.97)
EBITDA/TA	4.43***	4.47***	4.39***	4.47***	4.07***	4.16***	2.26***	2.31***	1.68***	1.74***
	(53.29)	(54.12)	(60.74)	(62.73)	(56.58)	(58.65)	(24.64)	(26.04)	(17.09)	(18.07)
AGR	-0.28***	-0.28***	-0.32***	-0.31***	-0.28***	-0.28***	0.04	0.04	-0.01	0.00
	(-13.99)	(-13.70)	(-14.14)	(-13.74)	(-12.29)	(-11.97)	(1.20)	(1.34)	(-0.23)	(-0.10)
SIZE	0.40***	0.41***	0.40***	0.41***	0.43***	0.44***	0.26***	0.27***	0.27***	0.27***
	(34.48)	(34.07)	(31.60)	(31.59)	(34.76)	(34.72)	(27.74)	(28.45)	(27.02)	(27.60)
Constant	0.50***	-5.55***	-5.80***	-5.86***	-6.01***	-6.08***	-5.42***	-5.46***	-5.50***	-5.52***
	(-40.81)	(-41.51)	(-48.15)	(-47.62)	(-51.24)	(-50.58)	(-49.40)	(-50.08)	(-51.29)	(-52.23)
Observations	841,557	842,797	841,557	842,797	841,557	842,797	841,557	842,797	677,738	678,229
Average pseudo R^2	10%	9%	10%	10%	11%	11%	31%	31%	31%	31%

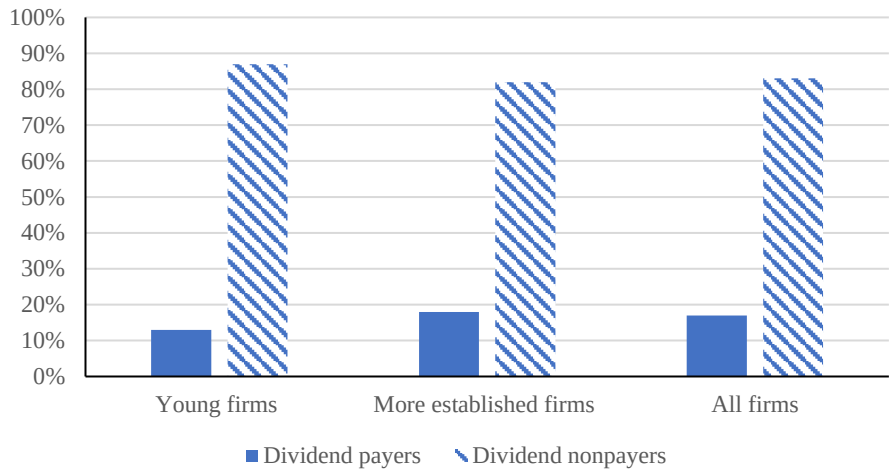

Fig. A. 1 Fraction of privately held firms paying dividends versus those not paying dividends (two subsamples: young firms and more established firms).

Chapter 3

Dividend policy of SMEs: a variance decomposition approach

Joint work with Ine Paeleman and Marc Deloof

Abstract:

Previous research on dividend policies in privately held firms has been largely focused on the determinants of dividend policies which are identified at the firm-year, firm, and industry levels. Studying these effects in isolation would, however, provide an incomplete picture of the overall drivers of dividend policy. In this study we go a step further by analysing these effects simultaneously by applying a variance decomposition method to explore how much each level of the analysis contributes to dividend policy of Small and Medium Sized Enterprises (SMEs). Based on a sample of 117,524 Belgian SMEs, our data reveal that firm-year and firm-level differences contribute to the most of the variance of dividend policies. Industry-level differences and region differences matter very little for dividend policy of SMEs.

Keywords: Dividend policy, SMEs, Variance decomposition

1. Introduction

Factors which drive dividend decisions keeps puzzling scholars even more as they are a phenomenon also common among SMEs. However, there is still relatively little known about the dividend decisions of SMEs, which are the most important firms in the economy, and globally the most dominant type of a firm (Gao, Hsu and Li, 2018). For example, in Belgium they account for 99.9 percent of all firms, employing 65 percent of working population and producing almost 60 percent of national GDP[15]. Despite their importance, little is known about their dividend policies. Dividends are mainly regarded as a financial decision of a large, mature, profitable and listed firms (Brockman and Unlu, 2011; DeAngelo, DeAngelo and Stultz, 2006; Fama and French, 2001). However, many SMEs pay out dividends as they are a source of cash for their shareholders who don't have a liquid market for the shares (Berzins, Bøhren and Stacescu, 2018, 2019). Dividend payouts of private firms are more erratic, less smoothed and lower than in listed firms (Michaely and Roberts, 2012; Rommens, Cuyvers and Deloof, 2012). Nevertheless, they account for the meaningful amount of cash distributed over the years and understanding their variation is of the crucial importance in the finance literature.

Existing studies have mostly focused on the drivers of dividend policy at the firm level. Drivers of dividend policy are, for instance, profitability, leverage, earned-contributed capital mix, agency costs, ownership structure (Berzins et al., 2018, 2019; Brockman and Unlu, 2011; DeAngelo, DeAngelo and Stulz, 2006; 2006; Fama and French, 2001; Michaely and Roberts, 2012, Michiels et al., 2015). Literature also acknowledges other specific factors of dividend policy of listed firms at the country, industry and firm-year levels (e.g., La Porta et al., 2000; Shao, Kwok and Guedhami, 2010; Jensen, 1986; DeAngelo and DeAngelo, 2006; Baker and Wurgler, 2004a, 2004b). These studies, however do not provide answers on questions whether these factors are: (1) significant, and (2) to what extent they matter for dividend policy when

[15] Data are for the year 2019, retrieved from Eurostat (https://ec.europa.eu/eurostat/web/structural-business-statistics/small-and-medium-sized-enterprises)

examined simultaneously. As Erkan, Fainshmidt and Judge (2016) emphasizes, untangling the dividend phenomenon by observing only one or few factors in isolation provides an incomplete picture of the underlying mechanisms that contribute to the differences in firm's dividend decisions. In their variance decomposition analysis of firm performance spanning various levels such as firm, strategic group, and industry, Short, Ketchen, Palmer and Hult (2007) highlighted the necessity of considering the collective significance of all levels. Neglecting this simultaneous effect could lead research to emphasize factors at a specific analytical level that may not hold primary or substantial importance. This further creates empirical problems, for instance when a study focuses only on firm-level factors and ignores industry level factors that have a significant effect on dividend policy it violates the assumption of independence of observations which traditional statistical techniques rely on (Short et al., 2007). Since Schmalensee (1985) pioneered with his study on the variance decomposition of firms profitability into components associated with year, industry, the corporate-parent, and business-specific effects, this method found a wide application in strategic management (Fitza, 2014; McGahan and Porter, 2002; Rumelt, 1991) and international business studies (McGahan and Victer, 2010). These studies drove the attention on the importance of looking into factors inherent to industry and country levels where firms operate and interact. Over the years, in addition to these other relevant effect levels were identified, such as accelerators (Chan, Patel and Phan, 2020), a CEO (Withers and Fitza, 2017), business models (Sohl, Vroom and Fitza, 2020), an ownership (Fitza and Tihanyi, 2017) and others.

In this study we follow a variance decomposition approach and observe previously identified effects on dividend policy through three different levels. We decompose the variance of dividend policy on firm-year, firm and industry level effects, and we argue that they account for the meaningful variation among dividend policy of SMEs while we also observe the magnitude of their importance. Fama and French (2001) find that dynamic firm characteristics best explain dynamics of dividend policy. This is further confirmed with the life cycle theory

that proposes that changing firm characteristics drives the propensity to pay dividends (Cadenovic, Deloof and Paeleman, 2023; DeAngelo, DeAngelo and Stulz, 2006). On the other hand, more stable firm characteristic such as ownership structure is a foundation of many agency-based explanations of dividend policy. In addition to these two level effects, industry level factors have also been shown to affect dividend policy. Firms operating within a particular industry tend to follow analogous patterns in strategic resource-allocation decisions (Erkan et al, 2016, Spender, 1989). Whether these general findings hold when considering these three levels of analysis simultaneously, and to what extent, is the subject of this of this study.

Although dividends and their significant factors have been studied quite thoroughly, no one has yet studied the contribution of each effect to dividend policy of SMEs. To do so we apply a variance decomposition methodology, specifically Hierarchical linear modelling (HLM). We simultaneously decompose the variance of the dividend policy of 117,524 Belgian SMEs during 17-year period between 2005 and 2021, at each level of the analysis. We observe alternative measures of dividend policy, namely, whether SMEs decides to pay a dividend, dividend dummy, dividend to assets ratios, dividend to EBITDA and dividend to earnings ratio. We find that not all levels are important for dividend decisions of SMEs. The most important are the firm-year and firm effects, while the industry and region level effects were less important in our data. Specifically, firm-year level effects account for 47–64 percent, and firm effects account for 34-53 percent of the variance in dividend payouts. Industry play only a minor role as a determinants of the dividend policy of SMEs, and accounts for only 2 percent of variation in the decision to pay dividends, and 1 percent in dividend payout. Although small in percentages these effects are statistically significant. In addition to these effects we find that regions account for a almost no variation in dividend policy of SMEs. Finally, we analyse whether there are differences in the relative contribution of these three levels for different types of firms. Our results stay consistent for the sample of small and micro firms, new and more established firms.

This study provides valuable insights into the scarce literature on dividend policy of SMEs by breaking down the variance in three different levels. This study contributes to a more clear understanding of drivers of dividend policy of SMEs. SMEs are the most important type of the firm in the economy, and a key driver for economic growth, innovation, and employment (Vermoesen, Deloof and Laveren, 2012). Belgian SMEs generated 59% of the value added, above the EU average of 51.8% (European Commission, 2023). This study is crucial to identify the dividend policy antecedents of these firms by taking into an account the interdependence of firms and industries that together form a lager and more complex system. Only through the analysis of each level in the context of the others can the role of each level be identified (Short et al., 2007). Next, we shed more light on the factors driving the dividend decisions of SMEs by showing that the most important factors are firm-year and firm level effects, while the role of industry level factors is negligible. In an additional analysis we show that region level factors account for little to no variation in dividend policy of SMEs. We further contribute to variance decomposition literature by exploring the variation of dividend policy. Current variance decomposition literature has been focused on decomposing the variance of firm performance. From the practical standpoint, pinpointing the key factors that exert the greatest influence on dividend policy of SMEs would provide managers and owners with the means to more efficiently channel their focus. The consistent predominance of firm-year and firm effects indicate that managers of SMEs should pay a great deal of attention to understanding of these factors. Although Lintner (1956) has suggested the dividend policy of firms within the same industry might be positively correlated, the negligible industry level effects indicate that investors should rely less on industry classifications when evaluating SMEs' dividend policies.

The remainder of the paper is organized as follows. In Section 2 we summarize dividend literature and derive our hypotheses. Section 3 describes the data, methodology and variables. Section 4 discusses the results and we conclude in Section 5.

2. Theoretical framework

2.1 Firm year effect

Privately held SMEs have more erratic dividend policies than large listed firms, whereby they are less reluctant to cut dividends and smooth dividends significantly less (Michaely and Roberts, 2006). Listed firms smooth dividends when they target a long term payout ratio to provide a consistent stream of dividends from year to year. Dividend smoothing helps to avoid the negative reactions by market participants or shareholders (Cejnek, Randl and Zechner, 2021; Leary and Michaely, 2011; Wu, 2017). However, SMEs with few external investors have less motives to signal the state of the firm (Michaely and Roberts, 2006; Rommens et al., 2012). On the other hand, dividends are a costly signal which only healthy firms could afford, and Falavigna and Ippoliti (2022) argue that SMEs might send out a positive signal to bolster their ability to enter the capital market, and alleviate their financial limitations in a poor legal environment. The higher the information asymmetry, the higher importance of divided payouts of SMEs. In spite of this, reducing or cutting dividend payments in times of a crisis such as during the recent pandemic could ensure SMEs an additional source of liquidity and a cushion in times of uncertainty (Krieger, Mauck and Pruitt, 2021).

Recent work shows that the life cycle of privately held firms (of which mostly are essentially SMEs) significantly affects their propensity to pay dividends, and the amounts paid (Cadenovic, Deloof and Paeleman, 2023). As privately held firms mature, grow and retain more of their profits, they are more likely to initiate and provide a dividend payout. Previous scholars on dividend policies acknowledge that dividend payers are more likely to be larger and mature firms, while dividend nonpayers are often young and growing firms with abundance of profitable investment opportunities to exploit (Brockman and Unlu, 2011; DeAngelo et al., 2006; Fama and French, 2001; Grullon, Michaely and Swaminathan, 2002). Contrary to the negative effect of growth on dividend policy, reputation building theory proposes arguments on a positive effect whereby relatively higher growth firms pay higher dividends (Flavin and

O'Connor, 2017). Paying dividends now enhances rising more equity from minority investors when investment opportunity emerges (Berzins, Bohren and Sracescu, 2018). Taken together, the heterogeneity in dividend policy is highly driven by the changing firm growth prospects over time.

Besides growth opportunities, financing policies such as cash, profitability and debt are found to be both statistically significant and economically important for dividend policy in listed firms (Brockman and Unlu, 2011; DeAngelo, DeAngelo and Stultz, 2006; Fama and French, 2001) and in privately held firms (Cadenovic, Deloof and Paeleman, 2023; Michiels et al., 2015). Privately held firm's cash, profitability, size and age increase the likelihood of paying out dividends, while debt and investment opportunities discourage paying out dividends (Cadenovic et al., 2023). Managers are in control over the future free cash flow and they are often pressured by firm shareholders "not to sit on the cash" but distribute it in the form of dividends. Free cash flow theory suggests that excess cash directs managers toward the low return projects, and proposes debt as a complement to dividends to prevent managers in wasting cash (Jensen, 1986). Nevertheless, more debt will incur higher bankruptcy risk and higher interest rates. Private firms must pay higher borrowing costs than listed firms (Campello et al., 2011; Saunders and Steffen, 2011). For SMEs that excessively rely on debt as a source of funding (Berger and Udell, 1998; Deloof et al., 2015; Hanssens et al., 2016; La Rocca et al., 2010) this implies they will give the priority in servicing loans and refrain from paying out dividends while in the same time creditor contracts restrict distribution of dividends (Borckman an Unlu, 2009). SME's debt policy thus significantly determine their dividend policy.

Therefore, multiple perspectives expect that dividend payouts vary over time within the same firm and we expect that firm-year level factors may explain meaningful variance in the dividend policies of privately held SMEs. Thus,:

Hypothesis 1: A significant portion of variation in dividend payout policies of SMEs is attributable to firm-year specific effects.

2.2 Firm effects

Firm effects, the percentage of dividend policy difference between firms that can be attributed to the firms themselves, captures the degree to which firms differ from one another. Firm resources and capabilities as well as strategies make firms different from one another (Fitz and Tihanyi, 2017; Barney, 1991). Existing literature mostly focuses on how different firm characteristics individually impact dividend policy. Scholars have shown that they are the most important determinant of dividend variation among listed firms (Erkan et al., 2016), while there is a lack of evidence to what degree dividends of SMEs vary due to firm specific factors. Firm's features, attributes, resources, and actions are the fundamental forces guiding its strategies, performance, and ability to innovate (Short et al., 2009). Variance decomposition literature identifies firm level effects as predominant in explaining the variation of firm performance, up to 44% (Misangyi et al., 2006).

In the dividend literature, the ownership structure that has been the foundation of different theories such as agency and rent extraction theory leads to different dividend policies between firms. Traditionally, scholars view dividends as a tool to limit the rent extraction by controlling shareholders, where they commit to pay the dividends to all shareholders (Faccio, Lang and Young, 2001; La Porta et al., 2000; Rommmens et al., 2012). In privately held firms with a few or no outside shareholders, where the roles of owner and manager are often not separated, dividends can serve as a conflict-reducing tool between controlling and minority shareholders, and a tool to attract minority investments (Berzins, Bøhren and Stacescu, 2018). Controlling shareholders of privately held firms could use dividends intentionally to build the trust and "reputation for fairness". Higher equity stakes represent a higher potential for conflicts which, in contrast to opportunistic theory, will induce firms to pay higher dividends. Eventually, this will attract more minority investments in the firm (Berzins et al., 2018). In addition, privately

held firms with less shareholders cut dividends more often than those with more dispersed ownership (Michaely and Robert, 2006). Similarly, fully owned firms, without minority shareholders, pay fewer dividends, while privately held firms that are part of the group pay more dividends than independently owned firms (Rommens, Cuyvers and Deloof, 2012). Scholars also showed that intra-familial, principal–principal conflicts within privately held family firms lead to a higher likelihood of paying out dividends (Michiels et al., 2015). These findings strongly suggest that a considerable variation among dividend policy is due to the specific firm level ownership structure. Based on the previous findings and theory, we expect that firm level factors may explain meaningful variance in the dividend policies of privately held SMEs.

Moreover, different shareholder types (family investors, founders, managers, private equity firms, single investors,…), ownership structures, and different qualities of corporate governance are a unique firm level factors contributing to the variance between dividend policies of different SMEs. Firm's dividend policy is affected by the presence and characteristics of managers, and specifically those of CEOs (Bertrand and Schoar, 2003). Manager fixed effects play a substantial role in shaping various aspects of corporate decision-making, among which dividend decisions. Bertrand and Schoar (2003) show that dividend policy is substantially affected by the CEOs more than by the CFOs or other C level executives. Furthermore, different demographic characteristics, such as a CEO's marital status or political views, influence the dividend policies of listed firms (Nicolosi 2013). For example, managerial optimism tends to be more common in individuals with specific traits, leading to overly optimistic predictions of future performance. This, in turn, leads to misguided increases in dividend payouts. Nicolosi (2013) reveals that firms led by married, Republican, Christian CEOs with children tend to maintain higher dividend yields, are more inclined to make substantial dividend hikes but experience declining performance following such increases. Therefore, SMEs lead by a CEO with more traditional personal views may issue higher

dividend payouts. Whether a firm will be more likely to pay dividends also depends on the power (Sheikh, 2020), tenure, and turnover of CEOs (Onali et al., 2016). Finally, the ultimate decision maker of dividend policy, the board of directors and its composition vary substantially between firms. Board gender composition and gender diversity that shows higher ratio of female directors within the firm boards increases dividend payouts (Chen, Leung and Goergen, 2017; Ye et al., 2019). Thus, this stream of literature provides the evidence that firm level managerial attributes are an important determinant of dividend policy, and that these attributes vary across firms. This further raises a question to what extent these unique firm level characteristics observed simultaneously are important for the dividend policy of SMEs.

Thus, :

Hypothesis 2: A significant portion of variation in dividend payout policies of SMEs is attributable to firm specific effects.

2.3 Industry effects

Firms tend to strategically cluster within industries to improve their competitive advantage and performance (McNamara, Aimeand and Vaaler, 2005). Firms are economically bounded at the industry level as they serve the same customers and compete for the financial and human capital (Grennan, 2019). In a dividend context, firms tend to behave similarly, whereby peer effects are reflected through variations in firms' behaviour as a response to industry behaviour (Grennan, 2019). Industry players 'execute' a shared reality regarding strategic decision-making processes (Van Caneghem and Aerts, 2011).

The growth potential of a firm depends on the growth prospects of the industry in which it is operating. Early work of Baker (1988) and Michel (1979) show there is a significant variation in dividend payouts of listed firms operating in different industries. Dempsey, Mlaber and Rozeff (1993) build on their findings and argue whether industry effect persist over time. Authors found the effect, however only in few industries was persistent over time. Firms

operating in a capital intensive industry are expected to provide less dividends than in a labour intensive industry, such as services (Manneh and Naser, 2015). Since more funds are needed for capital investments than for paying employees, those firms would refrain from paying dividends. Moreover, a niche market or a dominant position in a smaller part of the market can be appealing to private firms (Ebben and Johnson, 2005) which further could reduce the industry effect due to lower competition.

Firms often make dividend decisions by replicating direct competitors within an industry, which Van Caneghem and Aerts (2011) call intra-industry conformance effect in dividend policies. These authors argue that the firms in their sample of US large, listed firms are more likely to pay dividends if they are active in an industry with a high density of dividend paying peers, where individual dividend payout levels closely follow the industry average payout. However, current empirical work is lacking onto what extent industry effects matter for dividend policy of SMEs. We expect that "shared reality" in a specific industry, thus, shared systematic risk significantly contributes to the overall variation in dividend policies. For example, due to a trade-off between persistent dividends and exploitable investment opportunities, we could expect that a SME would change its dividend policy as investment opportunities change in a particular industry. For example, the fast growing technology sector induced many firms to forgo dividends and pursue investment opportunities (see: DeAngelo, DeAngelo and Skinner, 2004; Denis and Osobov, 2008). As industry matures overall it further increases the chances of all its firms to opt for distribution. Furthermore, SMEs could compete for outside investors by providing regular dividends. Using a large international sample of listed firms, Javakhadze, Ferris and Sen (2014) find a strong positive effect of industry competitiveness and dividend smoothing. These authors argue that as competitiveness in an industry declines, firms smooth dividends less, suggesting that firms use dividends to distinguish from the peers when attracting new investors. The same effect could be incorporated in an overall industry level effect driving the variation in dividend policy of SMEs

due to their more limited access to external capital in compare to listed firms. Javakhadze et al, (2014) also find that industry opacity is inversely related to dividend smoothing, which means that increased information asymmetry in an industry decreases dividend smoothing. Overall, based on these arguments, industry level effects are found to be relevant in explaining the variation of dividend policy and we aim to measure its proportion for dividend payout policies of SMEs. Finally, variation in dividend policy of listed firms created by industry peers (Massa, Rehman and Vermaelen, 2007) is known as a payout wave (Farre-Mensa, Michaely and Schmalz, 2014). However, this evidence does not explain whether the phenomena could be found among dividend policy of SMEs, and we lack the knowledge whether they conform or dilute with the industry average. Nevertheless, we expect that industry level factors may explain meaningful variance in dividend policies of privately held SMEs. Thus, :

Hypothesis 3: A significant portion of variation in dividend payout policies of SMEs is attributable to industry specific effects.

3. Data, Variables and Methods

3.1 Sample

We test our hypotheses on a sample of independent, privately held Belgian SMEs between 2005 and 2021. We collect data from the Bel-First database maintained by Bureau van Dijk (BvD), a Moody's Analytics company, and one of Europe's leading electronic publishers of business information, which offers electronic access to detailed yearly financial statements of all Belgian firms (Paeleman, Fuss and Vanacker, 2017). First, we selected Belgian privately held SMEs. Following the EU definition, SMEs are those that employ less than 250 full time employees and that report annual turnover of less than 50 million euros (and/or annual balance sheet total less than 43 million euros) (European Commission, 2015). Second, we excluded

financial and utility firms as those are subject to different government regulations (e.g., Allen and Michaely, 2003; Berzins et al., 2018; DeAngelo et al., 2006; Grullon and Michaely, 2002). Third, we also excluded firms which are not independently owned, i.e. those firms with an ultimate owner holding at least 50% of the shares, except those held by named individuals, employees or family members. Fourth, we selected firms with minimum one employee to eliminate "ghost" firms and we considered only those firms with positive total equity (e.g., DeAngelo et al., 2006; Hasan and Cheung, 2018; Owen and Yawson, 2010). Fifth, we exclude firm-years when the firm is not legally allowed to pay a dividend according to Belgian legislation. Belgian firms cannot pay a dividend when their "net assets", i.e. total assets minus liabilities and intangible assets, are lower than the "unavailable equity", i.e. the sum of issued capital (less the sum of uncalled capital and called amounts of unreleased capital), share premiums, revaluation surpluses, legal reserves, unavailable reserves and investment grants (De Backer et al., 2014). Finally, we deleted firms with less than three firm-year observations, to enable us a reliable variance decomposition estimation (Erkan et al., 2016; Goldszmidt, Brito and Vasconcelos, 2010). Our sampling procedure results in an unbalanced panel of 873,463 firm-year observations nested in 117,524 Belgian, independent SMEs, allowed to pay dividends, operating in 539 different 4-digit NACEBEL industry codes (76 different 2-digit NACEBEL industry codes) and located in three regions for the period between 2005 and 2021.[16] All variables used in this study are based on unconsolidated financial statements.

3.2 The Belgian context

In this paper we focus on dividend policy of Belgian SMEs. 714,980 SMEs and 995 large enterprises (European Commission, 2023) operate in Belgium which makes SMEs' financial decisions important to investigate. Belgium consists of three different regions the Flemish Region, the Walloon Region and the Brussels-Capital region in which these SMEs are nested

[16] We collected 2004 data to calculate the lagged variables for the initial year 2005 in our data.

and operate. These regions are to a large extent administratively independent. These three independent regions have their own government and legislation and independent decision making upon matters such as culture, education, language etc. Therefore, these three groups, with different language and independent decision making form a diverse setting in Belgium which allows us to investigate the effect of region effects (and as such different formal and informal institutions) on the dividend policy of differently located SMEs.

3.3 Variables

To decompose the variance of dividend policy of SMEs, we use different measures of dividend policy. Consistent with the prior literature we firstly observe a decision to pay a dividend by using a dummy *DIV*, which is equal to one if the firm pays dividends in year t and zero otherwise research (Brockman and Unlu, 2011; DeAngelo et al., 2006; Erkan et al., 2006; Fama and French, 2001; Michiels et al., 2015; Rommens et al., 2012; Shao et al., 2010). Second, we measure dividend payout as dividend to total assets ratio, *Div/TA*, which is equal to total dividends paid in year t over the total assets in year t (Rommens et al., 2012; Shao et al., 2010). Third, we use the dividend to EBITDA ratio, *DIV/EBITDA*, which is dividends paid in year t scaled by EBITDA in year t-1 (Faccio et al., 2001; La Porta et al., 2000; Rommens et al., 2012). Fourth, we use the dividend to earnings ratio, *Div/E* which is dividends paid in year t over net income in year t-1 (Berzins et al., 2018, 2019; Faccio et al., 2001). Definitions of all variables are summarized in the Table 1.

Insert Table 1 here

We include four independent variables to examine the heterogeneity in dividend policy. The *Firm-year* effect accounts for the amount of variation across the 17-year period studied between 2005 and 2021 of dividend policy of SMEs. The *Firm* effect denotes the portion of the variance in dividend policy that can be attributed to the differences among different SMEs themselves. We use a unique ID code for each firm. The *Industry* effect denotes the portion of

the variance in dividend policy attributable to the differences among 4-digit NACEBEL industries in which the SMEs operate. In addition, we use 2-digit NACEBEL industry codes in the robustness analysis. Finally, in an additional analysis we consider the *Region* effect, the portion of variance in dividend policy attributable to differently located SMEs between Flemish Region, Walloon Region and Brussels-Capital region.

3.4 Variance decomposition analysis

Several techniques have been used throughout the literature in decomposing the variance of firm financial policies, for example: standard errors (SE), nested analysis of variance (ANOVA) or variance components analysis (VCA) (i.e. McGahan and Porter, 2002; McGahan and Victer, 2010; Schmalensee, 1985; Short et al., 2007). However, research found several drawbacks of these methods (see Misangyi et al., 2006, for a detailed overview). For example, ANOVA does not account for an order in which effects are analyzed, and which in turn can affect the results. In addition, it has difficulties in estimating the size of effects. Hierarchical linear modelling (HLM) technique, on the other hand, enables us to directly and simultaneously estimate the portion of the variance accounted for each level of nesting in the data (Chan et al., 2010; Erkan et al., 2016). HLM estimates how much each level of analysis contributes to the overall variance in dividend policy of SMEs. The main advantage is that it addresses the lack of the independence between the effects (Misangyi et al., 2006). We hypothesise that the dividend policy of SMEs vary significantly at four different levels, namely, firm-year, firm, industry and region levels. Therefore, these levels in sum account for the total variance of dividend policy. It is important to note that the model we apply is an empty, intercept-only model, which does not incorporate any explanatory variable within levels. In this study, we simply break down the variance without specifying any of the variables that explain it.

Multilevel models, unlike standard linear models, assume that intercepts and slopes of the units of analysis (in our case SMEs) vary across levels (in our case firm-year, firm, industry or region). This means that intercept for dividend policy is different for different SMEs, across

different years or different industries. Therefore, these coefficients are random which the HLM model aims to explain (Erkan et al., 2016). Varying intercepts will move the average value for the entire level of analysis, while different slopes indicate that the relationship between the dependent and independent variable is not the same across the level (Hox, Moerbeek and Schoot, 2018). This arises from the assumption that the units from the same group will be more similar to each other than to units in another group. This assumption is valid because, for instance, firms operating in the same industry are more similar to each other, than to firms from another industry. As a result, the average correlation (the so-called intraclass correlation) between variables measured in SMEs from the same industry will be higher than the average correlation between variables measured in SMEs from different industries. Standard statistical tests that rely on the assumption of independent observations will, thus, not hold, and that is always the case for nested data (Hox et al., 2018). Therefore, in this study we assume that dividend policy of SMEs operating in the same industry will be more similar to one another than to dividend policy of SMEs from another industry. This is the main advantage of the multilevel model which allows modelling the random effect on the outcome variable for each level of the data hierarchy (Hough, 2006), i.e., dividend policy differences within the firms across the years, dividend policy differences between firms, differences between firms within industries and differences between firms within same regions.

In Tables 3-8 we decompose the variance of the intercept only model, namely the variance of the averages of dividend measures while imposing no explanatory variable to observe whether they explain that variation. In Tables 3-6 we decompose the variance of dividend policy on three levels, and in Tables 7 and 8 we introduce the fourth, region level. We acknowledge that the average dividend policy differs from firm to firm, industry to industry, and from region to region. By specifying a simple OLS regression equation with the one effect in isolation we would ignore this heterogeneity. Following the previous literature on variance

decomposition methods (e.g. Chan et al., 2010; Erkan et al., 2016; Short et al., 2007) we define four different levels, decomposed as follows:

Level 1 model:

$$Dividend\ policy_{ijkl} = \alpha_{0jkl} + e_{ijkl}$$

Level 2 model:

$$\alpha_{0jkl} = \beta_{00kl} + r_{0jkl}$$

Level 3 model:

$$\beta_{00kl} = \gamma_{000l} + u_{00kl}$$

Level 4 model:

$$\gamma_{000l} = \delta_{0000} + v_{000l}$$

where Dividend policy$_{ijkl}$ represents a dividend measure of *i*th firm-year in the *j*th firm, operating in the *k*th industry and located in the *l*th region. α_{0jkl} is the dividend policy average for the firm j in which firm-year ijkl is nested, while e_{ijkl} is a level 1 error term, which denotes the deviation of dividend policy of firm-year ijkl from the firm's average. Furthermore, firm's average dividend policy is explained by the kth industry average dividend policy, β_{00kl} nested in the region l, summed with the deviation of firm's jkl dividend policy from the industry average, r_{0jkl}. Similarly, industry average dividend policy in level 3 is explained by the average regional dividend policy k, $\gamma_{000l,}$ and an error term u_{00kl}. Finally, a region's average dividend policy is explained by the average dividend policy of all regions δ_{0000} and the error term which measures the deviation of the dividend policy of a region l from the global mean, v_{000l}. When combined into mixed model, we estimate the following equation:

$$Dividend\ policy_{ijkl} = \delta_{0000} + v_{000l} + u_{00kl} + r_{0jkl} + e_{ijkl}$$

We use MIXED command in STATA to analyse this model, which we estimate with the maximum likelihood method.

4. Variance Decomposition Results

4.1 Summary statistics

Table 2 provides summary statistics, based on all firm–year observations that pay dividends for the period considered. For the dividend to total assets ratio, dividend to EBITDA ratio and the dividend to earnings ratio, the highest 1% of outliers were removed, as well as negative values for the dividend to EBITDA ratio and the dividend to earnings ratio (Rommens et al., 2012). We include both dividend payers and dividend nonpayers in the analysis of dividend dummy. We use nonmissing values for the dividend payout measures, Div/TA, Div/EBITDA and Div/E. The sample results in nonequal number of observations for different dividend measures.

Our sample mainly consists of dividend nonpayers. Out of 873,463 observations, 18% are paying dividend, and remaining 82% are dividend nonpayers. Table 2, Panel A reveals that on average dividends are 11% of total assets, 59% of cash flow and 172% of earnings. Earnings are lagged since the last year earnings will affect dividend decisions more than earnings in the same year. These statistics reveal that dividends are economically important for SMEs. Next, in Panel B we observe the summary statistics for the three industries where the most of dividend payers are concentrated. The majority of dividend payers operate in the wholesale trade 17%, the specialised construction activities 16%, and the retail trade 15%. Finally, in Panel C we observe the subsamples of dividend payers located in three different Belgian regions. The most of dividend payers are located in the Flemish Region, 62%; 29% are located in the Walloon Region, and 9% are located in the Brussels-Capital region.

Insert Table 2 here

4.2 Relative contribution of firm-year, firm and industry effects to dividend policy of SMEs

Table 3 provide the variance component estimates for three independent effects, firm-year, firm and industry effects. Next to the estimates we report percentages that show the relative importance of each of the levels. We decompose the variance of different dividend policy measures, i.e., dividend dummy (Model 1), dividend to total assets ratio (Model 2), dividend to EBITDA ratio (Model 3), and dividend to earnings ratio (Model 4). All variables are defined as in Table 1. In Table 3 we treat firms-years as nested within firms and firms within industries (Ma, Yong and Fitza, 2013; Chan et al., 2010). In Model 1, where our dependent variable is dividend dummy (DIV) we apply the HLM method on the whole sample of SMEs, both which pay and do not pay dividends. In Models 2-4 we select only those observations from our sample which pay dividends. Our results show that firm-year and firm levels are the most relevant levels of the analysis for dividend policy of SMEs. In Model 1, the variance of whether SME will pay out a dividend accounts for 64% on the firm-year level. Firm level accounts for 34% and the remaining 2% is driven by industry specific factors. Model 2 shows almost equal importance of firm-year and firm level factors in the variation of dividend to total assets ratio (Div/TA), 47% and 53% respectively. While industry does not account for any of the variation in Div/TA. In model 3, firm-year effects account for a significant 56% of the variation in DIV/EBITDA. The next most important driver are firm level effects with 43% stake in the total variance. Industry level effects account for negligible 1% in the variation of DIV/EBITDA. Finally, in Model 4 we find similar pattern with 64% of variation in Div/E attributable to firm-year effects, 35% to firm level effects, and only 1% attributable to industry effects. These results support our Hypothesis 1 and 2. While, the negligible importance of industry, although statistically significant, do not provide support for Hypothesis 3. Chi-square test shows that all of the independent effect variables are statistically significant at 1%. We repeat the same analysis to check whether 2-digit industry codes would affect our results. The results are similar

(available in appendix, Table A.1). Furthermore, we repeat our analysis using restricted maximum likelihood method which should provide consistent estimates when the level has more limited number of groups. We obtain similar results (available in appendix, Table A.2).

Insert Table 3 here

Additionally, we analyse the relative importance of our three-level model over time. We want to analyse whether effects stay stable or show a trend over time. Effect sizes are reported in Table 4 over the observed period from 2005 to 2021. Firm level effect remain the most important and the largest effect driving dividend policy of SMEs over time. There are no large fluctuations in firm level effects over the years. 75%-100% of variation in DIV/TA is due to firm level effects, indicating that firm effects are largely stable over the years. We observe a drop in 2008 when more of the variation in DIV/EBITDA is in the error term which is likely due to financial crises. Results are fairly consistent and stable also in the variation of DIV/E.

Insert Table 4 here

4.3 Additional analyses

4.3.1 Young versus mature firms

Firms are more likely to pay dividends the more mature they become and more established firms have been the primary focus in the literature on firm dividends. Also in the variance decomposition literature most studies have focused on large, multinationals (an exception is Short, McKelvie, Ketchen and Chandler, 2009). In this analysis, we check to what extent dividend policy determinants can differ between new firms and more established ones. While young firms will opt for exploiting investment opportunities rather than provide a payout, more established firms are more likely to have the excess cash for payout while they exhausted all

the investment opportunities (Brockman and Unlu, 2011, DeAngelo et al., 2006). New firms are also facing a strong competition from their more established peers and they also face a liability of newness (Stinchcombe, 1965). Industry specific characteristics such as barriers to entry and fierce competition could lead to their failure (Shepherd, Douglas and Shanley, 2000; Short et al., 2009). These firms could be more affected by industry effects than their peers as they face barriers of entry, they lack market legitimacy, especially form customers, financiers and suppliers (Short et al., 2009). New firms have to develop brand awareness and market acceptance while learning new tasks (McDougall, Oviatt and Shrader, 2003). Moreover, new firms are likely to be short on cash and less likely to provide a dividend (DeAngelo et al., 2006). Alternatively, new firms are affected less by industry factors than are more established firms. New firms tend to adopt niche strategies or restrict their operations to local markets, thereby reducing their susceptibility to broad industry trends and external disruptions (Short et al., 2009). Moreover, new firms are more flexible and agile, and they do not have the same level of core rigidities or sunk costs as established firms in adjusting their strategies or customer segments in response to adverse market conditions. Existing theories on strategic resources, specifically the resource-based view, and strategic decision-making indicate that these behaviors, including overcoming the challenges associated with being a new entrant in the market, can be primarily influenced by firm-level characteristics, such as the strategic assets and capabilities of the new firm, which encompass the knowledge and skills possessed by its founders (Barney, 1991; Short et al., 2009). We, therefore, investigate to what extent firm-year, firm, and industry levels play a different role in dividend decisions of new SMEs and more established SMEs. We use the age threshold of six years (e.g., Brush, 1995; Zahra, Ireland and Hitt, 2000) to create two subsamples in our data. We also check for the threshold of ten years as a robustness analysis.

Results are shown in Table 5. In Panel A, Models 1-4 we compare the results of variance decomposition between new firms, i.e., firms six years old or younger, and established firms,

i.e., firms more than six years old. In Panel B, Models 5-8 we compare the results of variance decomposition using the 10 years threshold between new and established firms. The most of the differences between dividend polices of both new and established firms, in both Panel A and B, is due to firm-year effects, except for DIV/TA, models 2 and 6, where firm effects play more important role. We observe little difference between panels in terms of firm year and firm effects for both new and established firms. Industry effects become more important the younger the firm is. In Panel A, Model 2 industry accounts for 6% for the variation in DIV/TA of young firms, and play no role for established firms. In Model 3, industry account for 3% in DIV/EBITDA. In Panel B, the highest industry effects of 2% is on DIV of young firms, Model 5. There is an evident difference in the number of observations which could affect our results. We observe almost no difference between new and established firms in the relative importance of the effects for DIV/E. We also observe less difference in the results between new and established firms when we apply the higher threshold of 10 years. Thus, results show that industry level effects play some limited role among the dividend policy of younger firms which indicates the importance of the breakthrough in the market for the variation in their dividend policy. However, the moment we impose higher threshold between new and established firms, the industry effect vanishes.

Insert Table 5 here

4.3.2 Medium, Small and Micro firms

Firm size is an inevitable factor observed in the studies of dividend policies, and it was always found to significantly affect dividend policy. It is thus important to account for difference in firm size while we decompose the variance of dividend policy. We decompose the variance of dividend policy of medium, small and micro firms. We use the definition of European Commission and split our sample in three different subsamples according to firm size measured by the total number of employees. Namely, micro firms have less than 10

employees, small firms employ between 50 and 10 employees, while medium firms employ between 250 and 50 employees. Results are presented in Table 6. Most of the firm year observations in our sample belongs to micro firms, 603,258. Our findings show that firm-year effects are the most important factors driving the differences between dividend policies among all three subsamples. Model 1 shows 59% of variation in likelihood to pay dividends of medium firms is du to firm-year level factors. Comparably, 57% in small firms and 67% in micro firms is attributable to time variant firm level factors. Next, the most important are firm level factors, that account for 40% of the variation in DIV for medium firms, 42% for small firms and 31% for micro firms. Industry accounts for maximum 2% of the variation of DIV measured for samples of medium and small firms, and 1% in a sample of micro firms. Results are similar for dividend payout measures. Model 2 shows firm-year level factors account for 46% of the variation in DIV/TA for medium firms, 58% of the variation for small firms and 53% for micro firms. Industry level factors have no importance in variation in DIV/TA. Model 3 shows variation in DIV/CF is by far due to firm-year level factors, 56% for medium firms, 57% for small and micro firms. 43%, 41% and 42% of variation is due to stable firm level effects in medium, small and micro firms, respectively. Industry accounts for negligible 1% in variation of DIV/CF for all types of firms. Finally, Model 4 shows the variance breakdown of DIV/E on 63%, 72% and 65% due to firm-year level factors of medium, small and micro firms, respectively. Stable firm level effects account for 36%, 27% and 34% of medium, small and micro firms, respectively. Industry plays no role in the variation of DIV/E in all three subsamples.

Insert Table 6 here

4.3.3. Relative contribution of firm-year, firm, industry and region effects to dividend policy of SMEs

Different regional development within one country significantly matter for firm financial policies (see e.g. Chan, Makino and Isobe, 2010; Deloof and La Rocca, 2015; Guiso, Sapienza, Zigales, 2004), survival of SMEs (Arcuri and Levratto, 2020), capital structure (La Rocca, La Rocca and Cariola, 2010). Culture also plays an important role in firms' dividend strategies and significantly affect the levels of dividends paid (Bae, Chang and Kang, 2012; Erkan et al., 2016; Fidrmuc and Jacob, 2010). Heterogeneous macroeconomic environment in Belgium is reflected through three culturally different regions: Flemish Region, Walloon Region and Brussels-Capital region that could lead to different decisions among differently located SMEs. Therefore, we further investigate to what extent dividend policy of SMEs varies across different regions in Belgium where SMEs operate in three culturally and administratively diverse regions with their own government, legislation and independent decision making. Regions are territorially and institutionally bounded and those boundaries have the autonomous power to shape their development (Chan, Makino and Isobe, 2010). A within country local financial system is found to significantly affect the financial policies of privately held firms (Deloof et al., 2019; Deloof and La Rocca, 2015; La Rocca et al., 2010). Different regions within one country significantly affect SMEs' access to debt, determine their use of trade credit (Deloof and La Rocca, 2015; La Rocca et al., 2010), and cash holdings (Fasano and Deloof, 2019). Local financial development decreases bankruptcy chances of medium-sized firms and increases access to credit for small firms (Arcuri and Levratto, 2020).

Previous scholars found that country-specific regulations such as tax policies (see: Berzins, Bøhren, and Stacescu, 2018; 2019) significantly affect dividend policy of privately held firms. Institutions not only vary substantially between countries, but also within them (Chan et al., 2010). Firms tend to concentrate in the locations where institutional and financial development is favourable and create investment opportunities. In a less developed financial environment

with limited access to debt, privately held firms will have to keep more precautionary cash (Fasano and Deloof, 2021) which could have as a consequence a decreased ability to provide dividends. Persistent influence of regions on firm performance found among listed firms (Chan et al., 2010) evokes the question to what extent regions affect SMEs.

Besides formal institutions, national culture plays an important role in firms financial decisions and economic outcomes (Guiso, Sapienza and Zingales, 2006). National culture effect is widespread, from its effect on the protection of creditor's rights (Stulz and Williamson, 2003), corporate governance (Licht et al., 2005), investor's risk aversion (Frijs, Gilbert, Lehnert et al., 2013; Hilary and Hui, 2009). National culture shapes the manager's perception of agency and information asymmetry problems within a firm (Javakhadze et al., 2014), while shareholders shape their preferences according to their cultural values. Their perception, thus, transfers on firm's dividend decisions and creates a significant effect of national culture on dividend policy (Javakhadze et al., 2014; Shao, Kwok and Guedhami, 2010). Indeed, Shao et al. (2010) suggest that pronounced social trait such as conservatism, where investors value more family security and the harmonious relationships with managers and choose low risk assets, positively affect dividend payouts. On the contrary, a mastery, treat depicting more independent societies where managers and shareholders favour investing cash in future growing opportunities, lowers dividend payouts (Shao et al., 2010). Similarly, cultural individualism and masculinity increase dividend smoothing (Javakhadze et al., 2014).

To account for the region effect in the variance decomposition of dividend policy of SMEs, we firstly assume industries are nested within regions. Table 7 presents results of the four-level HLM. Despite region level effects, we find firm-year and firm level effects to be predominantly important in the variance of dividend policy of SMEs. In line with our Hypothesis 1, firm- year effects account for a statistically significant and economically meaningful variation of dividend policy of SMEs. Firm-year effects account for 64% variation in DIV, 47% variation in DIV/TA, 57% variation in DIV/EBITDA, and 65% variation in DIV/E. The remaining of the variance is

attributable to firm effects, namely 34% variation in DIV, 53% variation in DIV/TA, 42% variation in DIV/EBITDA and 34% variation in DIV/E. These results are in line with our Hypothesis 2. Industry effects account for negligible 2% variation in DIV, 0% variation in DIV/TA, and 1% variation in DIV/EBITDA and DIV/E. Finally, we find that region effects do not account for any variation in the decision to issue dividends, DIV, neither in dividend payout measured by DIV/TA. Regions account for only 1% variation in DIV/EBITDA, and no variation in DIV/E.

Insert Table 7 here

Furthermore, we account for the possibility that regions are nested within industries. Namely, region development can significantly vary due to the types of industry they are focused on (Ma et al., 2013). Thus, when region specializes in one type of industry we could assume industry to be higher level, and thus threat regions as nested within industries. Therefore, in Table 8 we observe the relative importance of the firm-year effects nested within firms, firm effects nested within regions, and regions nested within industries as the highest level of the analysis. Similarly, as in Table 7, we find that all the effects are statistically significant at a 1% level. Results are very consistent. We find that firm-year and firm effects are the most important, and in sum account for 98% of variation in SMEs' decision to provide a dividend, DIV. 1% of a variation is attributable to regions and remaining 1% to differences in industry. Results of the variance decomposition of dividend payouts Div/TA, DIV/EBITDA and Div/E remain the same as in Table 7. Firm-year effects and firm effects are the most important in driving differences in these ratios. We fail to find the economical significance of region and industry level effects. Therefore, we fail to reject Hypothesis 1 and 2, while our results rejects Hypothesis 3.

Insert Table 8 here

5. Conclusion

Even though SMEs pay dividends on a regular basis and they account for the important part of their cash, we still do not know what are the most important drivers of those decisions. In this study we decompose the variance of dividend policy to investigate which are the most important drivers of its difference among SMEs. Our results show that firm-year and firm specific factors are the most important in the variance of dividend policy and account for the largest portion. Differences in a decision whether to pay a dividend, dividend to total assets ratio, dividend to EBITDA ratio, and dividend to earnings ratio are by far mostly affected by firm-year and firm level factors, while industry level factors play a very little role. Our results are robust on different grouping of industries, namely 4-digit and 2-digit NACEBEL code. Firm level effects are the most important when observed over time. These results have several important implications for dividend policy.

Firstly, the results imply that dividend decisions of SMEs are largely a firm-specific phenomenon, whether it's the fixed or variable portions of their dividend policy. This finding indicates that future discussions on dividend policy are likely to yield more fruitful results when centred on factors directly linked to the firm (Erkan et al., 2016). Regarding the time-varying component, it is essential to conduct more research on how SMEs adjust their dividend policies in response to shifts in firm-specific factors over time. Our findings on the firm-year and firm level effects are consistent with the results on a sample of listed firms across countries (Erkan et al., 2016). Furthermore, results are in line with the variance decomposition studies on firm performance that showed the firm level effects are by far the most important effects in driving the differences between the performance of the firms (see e.g. Hawawini et al., 2003; Misangyi et al., 2006; Rumelt, 1991).

Second, the portion of variance of dividend policy attributable to the industry level effects is much lower than the portion found in the variance of firm performance, namely between 4 and 20 percent of variance (McGahan and Porter, 1997; Rumelt, 1991). Similarly as Rumelt

(1991), we can draw the conclusion that firms in their dividend policy differ from one another within industries "a great deal more than industries differ from one another" (pp 168). Namely in our study "intra-industry effect dominated the inter-industry effect" (Rumelt, 1991, pp 170). These results do not conform with the previous evidence found that comparable investment opportunities lead to a systematic relationship between industry and dividend policy (Michel, 1979). Third, by shedding light on the extent to which firm-year, firm and industry level factors influence dividend policy of SMEs, this study allows us to take a significant step toward closing the gap between what we know and what we need to know about why SMEs pay dividends. Forth, our study shows the roles of firm-year, firm and industry level factors for new and established firms, as well as for small, medium and micro firms.

This paper further offers practical takeaways. For example, our findings offer investors direction on the key factors to weigh on when choosing SME to meet their liquidity requirements. It is advisable for investors to take caution when assessing the SME's willingness to pay or pay higher dividends, especially if the industry seems appealing. Our results reveal that SMEs base their dividend policy decisions primarily on factors that are unique to their own firm, whether at a specific moment in time (firm-year level effect) or consistently over time (a firm fixed effect).

This study is no without limitations. Firstly, we do not explain the variation in dividend policy of SMEs across different levels. The methodology solely encompass categorical influences (such as firm-year, firm, and industry effects) without exploring distinct strategic elements within each influence (Misangyi et al., 2006). Recognizing precise strategic components within each category of influence that affect dividend policy would not solely enrich insights into the influence of factors on dividend policy, but also yield tangible and applicable implications for managerial practices. Secondly, we focused on one country, while an international sample could shed more light on a variation in SMEs from different countries, especially in exploiting the differences in regional development, and differences between

formal and informal institutions that would be more pronounced than in the Belgian setting. In line with the findings of La Porta et al. (2000) and Shleifer and Wolfenzon (2002), higher dividend payouts are expected in regions with effective legal systems. This is due to the broader availability of external financial resources for firms in such environments (Falavigna and Ippoliti, 2022). Well-functioning judicial system can facilitate the growth of capital markets and enhance firms' access to their financial resources (Djankov et al., 2008). Furthermore, SMEs located in poor legal environments where the inefficiency of courts increases, are even more likely to pay out dividends to send out a positive signal to the market (Falavigna and Ippoliti, 2022). Future research could exploit differences between dividend policies of SMEs in advanced and emerging countries. Next, we measure industry level effects by NACEBEL codes, but firm may cover the activity of several different industries (McGahan and Porter, 1997). A second issue is that NACEBEL codes tend to be overly broad (McGahan and Porter, 1997), and NACEBEL definitions of industries do not directly correspond to the way executives tend to define industries (Peteraf and Shanley, 1997). Both of these issues may lead to an underestimation of the importance of industry effects (McGahan and Porter, 1997). Finally, we assume that after applying firm, industry and region level effects, the residual variance is due to variation over time, however, other levels might be introduced such as corporate groups, in which firms are considered to be nested.

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Tables and Figures

Table 9. Variable definitions

Dependent variables	**Definition**
Measures of dividend policies	
DIV	Dummy equal to 1 if a firm paid a dividend in year t, zero otherwise
Div/TA	Total dividends paid in year t over the total assets in year t
DIV/EBITDA	Total dividends paid in year t over the cash flow in year t-1
Div/E	Total dividends paid in year t over net income in year t-1

Table 2. Summary statistics.

Number of dividend payers, mean, standard error, 5th percent, median and 95th percent, minimum and maximum of dividend measures for: the complete sample of dividend payers (Panel A), the three industries with the most concentrated dividend payers (Panel B), and dividend payers in three regions in Belgium (Panel C). Industries are represented by NACEBEL 2-digit codes.

Dividend payers	**N**	**Mean**	**SE**	**p5**	**Median**	**p95**	**Min**	**Max**
				Panel A				
DIV/TA	132,021	0.113	0.125	0.003	0.062	0.426	0.000	0.426
DIV/EBITDA	115,129	0.590	0.662	0.021	0.352	2.419	0.000	2.419
DIV/E	114,542	1.729	2.229	0.059	0.858	8.275	0.000	8.275
				Panel B				
Wholesale trade, except of motor vehicles and motorcycles								
DIV/TA	25,559	0.111	0.122	0.004	0.062	0.426	0.000	0.426
DIV/EBITDA	22,529	0.599	0.649	0.027	0.377	2.419	0.000	2.419
DIV/E	22,460	1.612	2.088	0.076	0.842	8.275	0.001	8.275
Specialized construction activities								
DIV/TA	19,616	0.115	0.128	0.003	0.063	0.426	0.000	0.426
DIV/EBITDA	17,194	0.590	0.685	0.017	0.327	2.419	0.000	2.419
DIV/E	17,064	1.840	2.345	0.044	0.871	8.275	0.003	8.275
Retail trade, except of motor vehicles and motorcycles								
DIV/TA	20,448	0.109	0.124	0.003	0.059	0.426	0.000	0.426
DIV/EBITDA	15,280	0.601	0.710	0.023	0.332	2.537	0.000	2.537
DIV/E	18,068	1.696	2.237	0.050	0.820	8.275	0.002	8.275
				Panel C				
Flemish Region	99,139							
DIV/TA	81,859	0.121	0.130	0.003	0.068	0.426	0.000	0.426
DIV/EBITDA	71,578	0.634	0.694	0.019	0.378	2.419	0.000	2.419
DIV/E	71,229	1.847	2.328	0.054	0.909	8.275	0.001	8.275
Walloon Region	46,900							
DIV/TA	38,725	0.092	0.110	0.004	0.048	0.383	0.000	0.426
DIV/EBITDA	33,751	0.490	0.587	0.022	0.283	2.134	0.000	2.419
DIV/E	33,561	1.501	2.044	0.060	0.741	7.895	0.000	8.275
Brussels-Capital	14,142							
DIV/TA	11,437	0.126	0.123	0.007	0.082	0.426	0.000	0.426
DIV/EBITDA	18,153	0.569	0.667	0.020	0.323	2.419	0.000	2.419
DIV/E	9,752	1.653	2.034	0.111	0.929	8.200	0.000	8.275

Table 3 Dividend policy variance decomposition using three-level Hierarchical linear model (HLM).

In Model 1 we decompose the variance of a decision whether SME will pay divided, dividend dummy (DIV) and we use the complete sample of dividend payers and dividend nonpayers. In Models 2-4 we decompose the variance of dividend to total assets ratio (Div/TA), dividend to EBITDA ratio (DIV/EBITDA) and dividend to earnings ratio (Div/E) on a sample of dividend payers.

	DIV		DIV/TA		DIV/EBITDA		DIV/E	
	b	%	b	%	b	%	b	%
Firm Year	0.098	64%	0.008	47%	0.276	56%	3.51	64%
Firm	0.051	34%	0.009	53%	0.211	43%	1.904	35%
Industry	0.003	2%	0.000	0%	0.004	1%	0.037	1%
Total	0.152	100%	0.017	100%	0.491	100%	5.451	100%
N	873,463		132,021		115,129		114,542	

Notes. Firm-years are nested in firms, firms are nested in industries. All coefficients are significant at 1% level.

Table 4. The firm-, industry- and province-level effects over time using three-level Hierarchical linear model (HLM).
The variance decomposition of dividend to total assets (Div/TA), dividend to EBITDA (DIV/EBITDA) and dividend to earnings ratio (Div/E) over time using three-level HLM on a sample of dividend payers. We applied restricted maximum likelihood estimation

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Div/TA																	
Error	10%	18%	8%	8%	8%	7%	7%	15%	13%	0%	8%	42%	17%	9%	9%	11%	0%
Firm	90%	82%	92%	92%	92%	93%	93%	85%	88%	100%	85%	58%	75%	91%	82%	89%	92%
Industry	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%	8%	0%	9%	0%	8%
N	5,991	5,647	7,380	7,658	7,648	10,752	11,573	10,078	15,028	11,046	6,641	5,483	4,646	5,773	5,284	2,895	2,447
DIV/ EBITDA																	
Error	0%	0%	1%	52%	4%	3%	0%	0%	12%	0%	1%	1%	28%	24%	1%	4%	5%
Firm	98%	99%	97%	46%	95%	97%	98%	98%	85%	98%	96%	98%	69%	73%	97%	94%	90%
Industry	2%	1%	2%	2%	1%	1%	1%	2%	3%	1%	2%	2%	3%	3%	2%	2%	5%
N	5,696	5,056	6,029	7,025	7,215	7,890	10,878	9,647	14,480	10,678	6,372	5,150	4,235	5,256	4,436	2,747	2,339
Div/E																	
Error	6%	0%	2%	0%	13%	20%	6%	17%	1%	1%	0%	4%	26%	1%	0%	0%	17%
Firm	93%	98%	98%	100%	87%	79%	94%	83%	95%	98%	99%	96%	73%	99%	99%	99%	81%
Industry	1%	1%	0%	0%	0%	1%	1%	1%	4%	1%	1%	0%	1%	0%	0%	1%	2%
N	5,673	5,026	6,005	6,992	7,176	7,829	10,835	9,609	14,414	10,630	6,328	5,113	4,221	5,219	4,406	2,731	2,335

Table 5. Variance decomposition of dividend policy of new and established firms using three-level Hierarchical linear model (HLM).
In Models 1-4 we split the sample using 6 years threshold, where new firms are 6 years old or younger, and established firms are older than 6 years. In Models 5-8 we use a 10 years threshold, where new firms are 10 years old or younger, and established firms are older than 10 years. In Models 1 and 5 we use the sample of both dividend payers and dividend nonpayers. In all other models we only use the sample of dividend payers.

	Panel A				Panel B			
	6 years old threshold				10 years old threshold			
Model	1	2	3	4	5	6	7	8
	DIV	DIV/TA	DIV/EBITDA	DIV/E	DIV	DIV/TA	DIV/EBITDA	DIV/E
New firms								
Firm Year	58%	38%	58%	72%	62%	44%	58%	68%
Firm	40%	56%	39%	28%	36%	56%	41%	32%
Industry	2%	6%	3%	0%	2%	0%	1%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%
N	140,867	15,981	12,347	12,269	257,620	32,142	26,118	25,950
Established firms								
Firm Year	62%	47%	55%	63%	62%	47%	54%	61%
Firm	36%	53%	44%	37%	37%	53%	45%	38%
Industry	2%	0%	1%	1%	1%	0%	1%	1%
Total	100%	100%	100%	100%	100%	100%	100%	100%
N	732,596	116,040	102,782	102,273	615,843	99,879	89,011	88,592

Notes. Firm-years are nested in firms, firms are nested in industries. All coefficients are significant at 1% level.

Table 6. Variance decomposition of dividend policy of medium, small and micro firms using three-level Hierarchical linear model (HLM).
Medium firms employ between 250 and 50 people, small firms employ between 50 and 10 people, micro firms employ less than 10 people. In Model 1 we use the sample of both dividend payers and dividend nonpayers. In Models 2-4 we only use the sample of dividend payers. We apply restricted maximum likelihood estimation method.

Model	1		2		3		4	
	DIV		DIV/TA		DIV/EBITDA		DIV/E	
	b	%	b	%	b	%	b	%
Medium firms								
Firm Year	0.096	59%	0.006	46%	0.241	56%	3.051	63%
Firm	0.065	40%	0.007	54%	0.183	43%	1.744	36%
Industry	0.003	2%	0.000	0%	0.006	1%	0.037	1%
Total	0.164	100%	0.013	100%	0.43	100%	4.832	100%
N	174,851		35,231		31,513		31,440	
Small firms								
Firm Year	0.106	57%	0.005	42%	0.219	57%	2.903	72%
Firm	0.078	42%	0.007	58%	0.158	41%	1.098	27%
Industry	0.003	2%	0.000	0%	0.004	1%	0.019	0%
Total	0.187	100%	0.012	100%	0.381	100%	4.020	100%
N	95,354		23,808		21,271		21,251	
Micro firms								
Firm Year	0.094	67%	0.009	47%	0.308	57%	3.937	65%
Firm	0.044	31%	0.010	53%	0.228	42%	2.058	34%
Industry	0.002	1%	0.000	0%	0.004	1%	0.030	0%
Total	0.140	100%	0.019	100%	0.54	100%	6.025	100%
N	603,258		72,982		62,345		61,851	

Notes. Firm-years are nested in firms, firms are nested in industries. All coefficients are significant at 1% level.

Table 7. Dividend policy variance decomposition using four-level Hierarchical linear model (HLM) including region effects.

In Model 1 we decompose the variance of a decision whether SME will pay divided, dividend dummy (DIV) and we use the complete sample of dividend payers and dividend nonpayers. In Models 2-4 we decompose the variance of dividend to total assets ratio (Div/TA), dividend to EBITDA ratio (DIV/EBITDA) and dividend to earnings ratio (Div/E) on a sample of dividend payers. Regions represent the differences between Flanders, Wallonia and Brussels capita region.

	DIV		DIV/TA		DIV/EBITDA		DIV/E	
	b	%	b	%	b	%	b	%
Firm Year	0.098	64%	0.008	47%	0.277	57%	3.514	65%
Firm	0.051	34%	0.009	53%	0.204	42%	1.857	34%
Industry	0.003	2%	0.000	0%	0.004	1%	0.035	1%
Region	0.000	0%	0.000	0%	0.005	1%	0.027	0%
Total	0.152	100%	0.017	100%	0.49	100%	5.433	100%
N	873,463		132,021		115,129		114,542	

Notes. Firm-years are nested in firms, firms are nested in industries, industries are nested in regions. All coefficients are significant at 1% level.

Table 8. Dividend policy variance decomposition using four-level Hierarchical linear model (HLM) where regions are nested in industries.

In Model 1 we decompose the variance of a decision whether SME will pay divided, dividend dummy (DIV) and we use the complete sample of dividend payers and dividend nonpayers. In Models 2-4 we decompose the variance of dividend to total assets ratio (Div/TA), dividend to EBITDA ratio (DIV/EBITDA) and dividend to earnings ratio (Div/E) on a sample of dividend payers. Regions represent the differences between Flanders, Wallonia and Brussels capita region.

	DIV		DIV/TA		DIV/EBITDA		DIV/E	
	b	%	b	%	b	%	b	%
Firm Year	0.098	64%	0.008	47%	0.276	56%	3.513	65%
Firm	0.051	34%	0.009	53%	0.204	42%	1.857	34%
Region	0.001	1%	0.000	0%	0.009	2%	0.07	1%
Industry	0.002	1%	0.000	0%	0.000	0%	0.000	0%
Total	0.152	100%	0.017	100%	0.489	100%	5.44	100%
N	873,463		132,021		115,129		114,542	

Notes. Firm-years are nested in firms, firms are nested in industries, industries are nested in regions. All coefficients are significant at 1% level.

Appendix

Table A.1 Dividend policy variance decomposition using three-level Hierarchical linear model (HLM)**.**

In Model 1 we decompose the variance of a decision whether SME will pay divided, dividend dummy (DIV) and we use the complete sample of dividend payers and dividend nonpayers. In Models 2-4 we decompose the variance of dividend to total assets ratio (Div/TA), dividend to EBITDA ratio (DIV/EBITDA) and dividend to earnings ratio (Div/E) on a sample of dividend payers.

	DIV		DIV/TA		DIV/EBITDA		DIV/E	
	b	%	b	%	b	%	b	%
Firm Year	0.098	64%	0.008	47%	0.278	56%	3.518	64%
Firm	0.051	33%	0.009	53%	0.214	43%	1.943	35%
Industry	0.004	3%	0	0%	0.004	1%	0.039	1%
Total	0.153	100%	0.017	100%	0.496	100%	5.5	100%
N	873,463		132,021		115,129		114,542	

Notes. Industries are grouped in 2-digit NACEBEL codes.

Table A. 2 Dividend policy variance decomposition using three-level Hierarchical linear model (HLM) with restricted maximum likelihood estimation method**.**

In Model 1 we decompose the variance of a decision whether SME will pay divided, dividend dummy (DIV) and we use the complete sample of dividend payers and dividend nonpayers. In Models 2-4 we decompose the variance of dividend to total assets ratio (Div/TA), dividend to EBITDA ratio (DIV/EBITDA) and dividend to earnings ratio (Div/E) on a sample of dividend payers.

	DIV		DIV/TA		DIV/EBITDA		DIV/E	
	b	%	b	%	b	%	b	%
Firm Year	0.098	64%	0.008	47%	0.276	56%	3.51	64%
Firm	0.051	34%	0.009	53%	0.211	43%	1.905	35%
Industry	0.003	2%	0.000	0%	0.004	1%	0.037	1%
Total	0.152	100%	0.017	100%	0.491	100%	5.452	100%
N	873,463		132,021		115,129		114,542	

Notes. Firm-years are nested in firms, firms are nested in industries. All coefficients are significant at 1% level.

Chapter 4

The relationship between slack resources and dividend policy of privately held firms

Joint work with Ine Paeleman

Abstract

While current literature argue that financial resources positively influence the dividend payouts of firms, less is known on how human resources (HR) influence the dividend payouts of privately held firms? We argue that HR slack increases dividend payouts, while financial slack negatively moderates that relationship. We develop and test a model using an extensive sample of 122,309 Belgian privately held firms. Our results show that HR slack positively and significantly influences dividend payouts, however, in the presence of financial slack, the effect becomes negative. Overall, results reveal that slack resources are an important determinant of dividend payouts of privately held firms.

Keywords: Dividend policy, Slack resources, Financial slack, HR slack, Privately held firms

1. Introduction

Prior studies show that slack resources - those uncommitted and available resources for discretionary use (Mishina, Pollock, and Porac, 2004; Simsek, Veiga and Lubatkin, 2007; Sharfman et al., 1988; Sharma, 2000) significantly affect firm strategic choices (Combs and Ketchen, 1999), firm performance (Bradley, Shepherd and Wiklund, 2011; Daniel et al., 2004; Paeleman and Vanacker, 2015; Vanacker, Collewaert and Paeleman, 2013), firm survival (Paeleman and Vanacker, 2015; Verbeke and Yuan, 2013), internationalization (Paeleman, Fuss and Vanacker, 2017). Slack recourses help managers to pursue entrepreneurial and innovative activities (Bourgeois, 1981) or buffer firm from internal and external shocks (Bourgeois, 1981; Bradley, Shepherd and Wiklund, 2011; Daniel et al., 2004; Greenley and Oktemgil, 1998; Tan and Peng, 2003). While various types of resources provide firms with the ability to efficiently and effectively pursue their goals through their strength (Brush and Chaganti, 1999), quality (Chandler and Hanks, 1994b) and the competencies they generate for the firm (Chandler and Hanks, 1994a,b), the two resources consistently found to be closely associated with firm emergence and development are human resources (e.g., Birley, 1987; Cooper et al., 199) and financial resources (e.g., Cooper et al., 1994; Lee et al., 2001) firm employs. In essence, people and money are the foundational resources that firms must acquire to establish and grow their business (e.g., Carter et al., 1997; Cooper et al., 1994; Gilbert et al., 2006). HR slack represents absorbed, highly idiosyncratic, and difficult to redeploy slack resource (Mishina, Pollock and Porac, 2004; Vanacker et al., 2013). It is a sum of the knowledge, skills, and abilities of firm employees (Wang et al., 2013; Wright, McMahan and McWilliams, 1994). It can also be regarded as underutilized employees' skills and work time (Lefevbre, 2023a, 2023b). Although recently considered, strategy scholars consider HR slack as a crucial resource for firms to survive, grow and preform (Wright et al., 2001). On the other end of continuum is the more debated financial slack, namely the amount of cash above the

current demands by the firm's operations (Mishina, Pollock and Porac, 2004), or simply the excess cash resources (George, 2005).

Human resources are arguably the most crucial stakeholders with respect to value creation because they are responsible for implementing the firm's strategies to generate value. Aoki (1984) argues that shareholders and employees represent the two essential stakeholder groups, with managers acting as intermediaries between the two. A crucial question then is how to align human resources' interest with the goal of maximizing shareholder value. The present research on slack resources does not provide us with an answer on the impact of HR slack on dividend payouts of privately held firms, neither how the interplay of HR slack and financial slack impacts this core strategic financial decisions managers are facing with. In privately held firms, the prioritization and utilization of slack resources are expected to play a pivotal role in shaping managerial decision-making, as emphasized by George (2005). How these decisions interact with dividend policy is yet a puzzle. Slack resources obviously help managers while they balance dividend payouts and retention over the life of the firm (see e.g., Brockman and Unlu, 2011; DeAngelo, DeAngelo and Stulz, 2006). Too little slack may not buffer firms from internal and external shocks (Cyert and March, 1963) and may hurt firm performance which would eventually lower dividend payouts. Therefore, slack resources play an important role, and may provide another missing piece of the dividend puzzle (Black, 1976).

Effective management of human resources leads to more employee satisfaction and loyalty which is then translated in the increased firm sales, better performance, reduced borrowing costs, and increased dividend payouts (Saeed, 2021). Within an environment with pronounced information asymmetry, such as in privately held firms, HR slack plays one of the pivotal roles in keeping the employees tied and loyal to the organisation (Vanacker, Colleweart and Zahra, 2017). HR slack enables healthy relationships and reflects loyalty which in response further increases earnings, and hence dividend payouts. In the absence of HR slack, unforeseen events such as an employee falling ill can render an organizational unit incapable of delivering

essential services, leading to delays affecting other units and customers (Vanacker et al., 2017). In addition, HR slack safeguards firm against external pressures or environmental shocks, which enables uninterrupted and consistent income that further reflects in increased dividend payouts. Finally, HR slack could foster trust among lenders, leading to a decrease in the cost of borrowing, and a positive impact on dividend payouts. Fair treatment of HR slack signals that a firm has sound financial position and is confident in its prospects (Francis et al., 2019) which reduces firm information asymmetry with lenders and creates better conditions to sustain dividend payouts.

In this paper, we study (1) how HR slack impacts firm's dividend payouts and (2) how financial slack moderates this relation. In addition, we control for the other types of slack resources identified in the past literature, potential slack and recoverable slack resources. We use an extensive sample of 122,309 Belgian privately held firms during the period between 2005 and 2021. Our results show that HR slack significantly increases dividend payouts of privately held firms, while financial slack negatively moderates the relationship between HR slack and dividend payouts.

This study makes several contributions. Firstly, we contribute to the slack literature by exploring the impact of slack resources on firm dividend policy. Previous studies mainly focused on the consequences of slack resources on the firm performance overlooking its role in a strategic choice such as dividend policy. To our knowledge, we are the first to look at this relationship. Secondly, our contribution to the dividend literature extends to examining the influence of human resources on dividend payouts, an aspect that has hitherto remained unexplored. Furthermore, we focus on the effect of the excess of human resources compared to industry norms. In general, two firms may be equal in the absolute amount of resources they possess, but different in the levels demanded by the current firm operations, hence different in slack resources (Mishina, Pollock and Porac, 2004). Hence, our findings furnish evidence supporting the significance of slack resources as a determinant of dividend payouts. Finally,

literature does not provide us with evidence on the extent to which the interaction of human slack resources and financial slack resources impacts firm dividend policy. In this paper, we show that in the presence of financial resources, the effect of HR slack on dividend payouts becomes negative.

Our study continues as follows: In Section 2, we discuss theory and develop hypothesis. Section 3 presents the method, data and the measurements of the variables. Section 4 presents the results of the relationship in question, and Section 5 concludes.

2. Theory and hypothesis

2.1 Slack Resources

Firms generate slack resources when they can maintain a surplus of resources beyond what is essential for their fundamental operational costs (Bourgeois, 1981; Cyert and March, 1963). Bradley et al. (2011) and Mishina et al. (2004) define slack resources as resources available in excess of resource demands. Adjacent to the absolute amount of resources, the slack resources are important because two firms might possess the same absolute amount of resources but vary in their requirements for ongoing operations (Paeleman, 2015). This implies they maintain differing levels of resource slack (Mishina et al., 2004). Furthermore, in theoretical terms slack resources are usually defined as surplus resources that are not currently employed for productive purposes, and as firms having resources above their operational needs. Nevertheless, firms can also possess negative resource slack when they extend their resources beyond what is typically expected (Bradley et al., 2011b; Mishina et al., 2004), referred as resource constraints.

While Barnard (1938) had explored the concept of slack in his early work, the term 'slack' was not formally coined until March and Simon published their influential book in 1958 (Tan and Peng, 2003). Since then, a longstanding and extensively discussed issue in the field of strategy and management literature revolves around whether slack resources positively or negatively impact firm performance (e.g., Bourgeois, 1981; Bradley et al., 2011a,b; George, 2005; Mishina et al., 2004; Tan and Peng, 2003). One perspective argues that slack has a positive effect because it facilitates strategic behavior

and serves as a buffer in workflow (e.g., Bourgeois, 1981; Cyert and March, 1963). In contrast, an opposing viewpoint suggests that slack can have negative effects on firm performance as it can lead to strategic and structural mismatches, resulting in inefficiencies (e.g., Jensen and Meckling, 1976; Leibenstein, 1969). Some of these opposing views are reconciled by proposing that slack initially has a positive impact on performance, but this effect diminishes as slack increases, up to an optimal level of slack. Beyond this optimal point, the relationship turns negative (Bourgeois, 1981; George, 2005; Nohria and Gulati, 1996; Sharfman et al., 1988; Tan and Peng, 2003). Further, slack resources are one of the fundamental concepts in Penrose's (1959) growth theory who asserts that slack resources create opportunities for firm growth, and it falls upon the management to effectively harness these resources for the purpose of expansion. Penrose's (1959) perspective is that managers engage in entrepreneurial resource recombination when they identify growth prospects. Moreover, studies recognize the importance of slack resources for firms wish to expand across borders and compete in global markets (Tseng et al., 2007). Lastly, slack resources can serve as a facilitator of strategic behaviour, granting the firm the capacity to explore new strategies, such as the introduction of novel products or venturing into new markets (Thompson, 1967).

The management literature distinguishes between different types of slack resources depending on the discretion firms have in the deployment of these resources (Bourgeois, 1981; Sharfman et al., 1988). Slack resources could be low-discretion or high-discretion, depending on the level of flexibility firm have to use them in various situations. HR slack - the excess of individuals that firm employs, thus, above the current demands by firm’s operations represents a low-discretion resource slack. HR slack is the sum of the knowledge, an illiquid resource that is idiosyncratic to the context (Lecuona and Reitzig, 2014). HR slack is rare and difficult to redeploy (Mishina et al., 2004; Lecuona and Reitzig, 2014; Voss et al., 2008). According to Chandler (2000), effective management of human resources is one if the main problems faced by small firms. Firms benefit from HR slack in a way that it facilitates the expansion of current products into unexplored markets (Mishina et al, 2004), and helps adjust to contingencies without compromising ongoing business operations (Galbraith, 1977; Thompson, 1967).

Furthermore, it positively affects firms to become exporters and their export diversity (Paeleman, 2015). Lecuona and Reitzig (2014) offer evidence on the positive impact of tacit and firm-specific HR slack on firm profitability, especially in the presence of environmental shocks and for firms that rely on non-standardized workflows. Nevertheless, excess people on the firm payroll breed costs. For example, Wang, Choi, Wan, and Dong (2013) argue that HR slack among knowledge employees can affect the rent-generating potential of firm-specific knowledge resources by influencing knowledge employees' incentives to invest in specialized human capital. This can lead to lower innovation and performance.

Financial slack, on the contrary, is the most freely available type of resource slack which can be allocated for various uses. It is categorized as high-discretion resource slack (Bradley, Shepherd and Wiklund, 2011). Financial slack represents the amount of financial resources that firm possess above the current demands by the firm's operations (Mishina, Pollock and Porac, 2004). Compared to HR slack, financial slack is easier to generate, both internally and externally (Mishina, Pollock and Porac, 2004; Vanacker et al., 2013). Financial slack represents the unabsorbed, uncommitted and available slack resources that is easy to redeploy and providing managers with a great flexibility (Bradley, Shepherd and Wiklund, 2011).

Past research has divided slack into three categories-available, recoverable, and potential, which differentiate between the extent to which resources are available (Bourgeois, 1981; Hambrick and D'Aveni, 1988). Available slack represents resources that are not yet committed to organizational design or specific expenditures (Paeleman, 2015). Potential slack reflects the extent of a firm's debt capacity and represents excess resources not yet absorbed into its operations. Potential slack represents the potential of a firm to raise more debt, the firm's remaining borrowing capacity (Bromiley, 1991; Daniel et al., 2004; Cheng and Kesner, 1997). Recoverable slack is another type of absorbed slack which represents the level of discretionary resources contained or absorbed in the current firm operations (Bourgeois and Singh, 1983;

Bromiley, 1991; Cheng and Kesner, 1997; Steensma and Corley, 2001). We control for both potential and recoverable slack.

Strategic and management literatures offer mixed evidence on the effect of slack resources on various firm dimensions. For example, proponents of the behavioural theory see slack as a conflict mediator between different stakeholders. Slack resources maintain these relationships, because "with the sufficient slack, there is a solution for every problem" (Cyert and March, 1963). In a similar vein, but from the more organization point of view, proponents of the organizational theory see slack as a buffer not only from the internal, but also from conflicts coming externally, from the environment (Cyert and March, 1963). Therefore, slack resources help firms to overcome "rainy days" (Sharfman et al., 1988) and keep firms afloat. Furthermore, both theories agree on that slack breeds innovation by allowing firms to experiment, to enter new markets, and to introduce new products (Hambrick and Snow, 1977; Thompson, 1967), thus, fostering more entrepreneurial and strategic behaviour (Bourgeois, 1981). Therefore, in general both theories hold a positive view on effects of slack resources, as long as it keeps them below threshold beyond which benefits outweigh costs (Tan and Peng, 2003).

The costs of slack resources are discussed more through agency and resource constraint theories. Namely, proponents of the agency theory highlight that slack resources incentivize managers to pursue their own interests at the expense of owners (Jensen, 1986, Latham and Braun, 2009; Tan and Peng, 2003). Managers would take greater risks than needed and invest slack in diversification and empire-building, which in turn rather hurt firm performance (Jensen, 1986; Tan and Peng, 2003). Similarly, proponents of resource constraint theory argue that slack makes managers overconfident and overly optimistic (George, 2005) which hurts firms in a long run. Less slack would instead incentivize managers to allocate their resources more efficiently (Baker and Nelson, 2005; Starr and Macmillan, 1990), and push firm boundaries by looking at the outside opportunities (Baker and Nelson, 2005).

2.2 The Effect of HR Slack and Dividend Payout Policies

Employees are regarded as a crucial strategic assets due to their pivotal role in carrying out strategic plans (Garel and Petit-Romec, 2020). A sustained competitive advantage stems from the ability to pursue strategy and employees are vital in the successful execution of these strategies (Methews, 2002). Effective human resources management leads to more employee satisfaction and loyalty which is then translated in the increased firm sales, better performance, reduced borrowing costs, and increased dividend payouts (Saeed, 2021). Within an environment with a pronounced information asymmetry, such privately firms, HR slack can serve as an indicator of a company's dedication to ethical principles regarding the workplace and the expansion of its human resources (Saeed, 2021). Therefore, an excess of human resources, the HR slack plays one of the pivotal roles in keeping the employees tied and loyal to the organisation (Vanacker et al., 2017). In the absence of slack resources, there is considerably less room to, for example, offer important employees additional benefits like flexibility in their schedules or room to be creative to retain their loyalty to the organization (Vanacker et al., 2017a). When crucial stakeholders holding valuable knowledge end their affiliations with the firm, these disruptions can have a detrimental effect on the firm's performance, and consequently dividend payouts. HR slack therefore enables healthy relationships and reflects loyalty which in response further increases earnings, and hence dividend payouts. Furthermore, HR slack strengthens the income stream for the firm by enabling uninterrupted internal workflow and serves as an “internal shock absorber” (Bourgeois, 1981: 30). In the absence of HR slack, unforeseen events such as an employee falling ill can render an organizational unit incapable of delivering essential services, leading to delays affecting other units and customers. In addition, HR slack safeguards firm against external pressures or environmental shocks, which enables uninterrupted and consistent income that further reflects in increased dividend payouts. Therefore, more HR slack means more employees’ satisfaction and loyalty, and more employees are available than needed for

the essential operations of the firm. All of these factors contribute to an increase in earnings, consequently increasing dividend payouts.

HR slack could also contribute to the positive firm reputation among debt issuers due to employee loyalty, higher productivity and better social values. Saeed (2021) argues firm with friendly practices toward human resources are in a better position to negotiate better loan terms. Through investing in wellbeing of human resources firm lowers both its debt ratios and its likelihood of defaulting (Bae, Kang and Wang, 2011). Thus, HR slack reflecting firm commitment to better employment practices could foster trust among lenders, leading to a decrease in the cost of borrowing, and a positive impact on dividend payouts. Moreover, fair treatment of HR slack signals that a firm has sound financial position and is confident in its prospects (Francis et al., 2019). Furthermore, this additional information helps lenders reduce their uncertainty of firm future operations and charge lower debt premium which enables firms to pay higher dividends (Garel and Petit-Romec, 2020; Saeed, 2021). In fact, Gouma and Ben-Nasr's (2018) research demonstrates that firms that treat their human resources fairly experience a reduced likelihood of financial distress. The lower risk results in creditors demanding a lower premium for extending debt, thereby enhancing the firm's capacity to distribute cash in the form of dividends.

High HR slack might induce pressure on firm shareholders to demand higher dividends, especially when there is a lack of trust between management and shareholders. Shareholders might perceive good HR practices as created alliances between managers and human resources to preserve their high wages and benefits (Faleye and Trahan, 2011; Saeed, 2021). Pagano and Volpin (2005) argue management can utilize generous employee benefit programs to turn employees into a protective measure against hostile takeovers. Employees, in turn, collaborate with managers to resist such takeover attempts in order to preserve their substantial wages and benefits. Following this negative perception of high HR slack firms may pay higher dividends to signal moral commitment towards shareholders.

Therefore HR slack significantly and positively affects dividend payouts of privately held firms. The positive effect of HR slack on dividend payouts is reflected through promoting good corporate governance practices. Corporate governance refers to the system of rules, practices, and processes by which a firm is directed and controlled. Michiels et al. (2017) found that professionalized family firms, which often have better corporate governance practices, pay higher dividends. Several other studies have found a positive relationship between corporate governance and dividend payouts (Abor and Fiador, 2013; Pahi and Yadav, 2018; Rajput and Jhunjhunwala, 2019). For instance, Abor and Fiador (2013) found that firms with high dividend payouts tend to adopt good corporate governance structures to protect shareholder interests. Furthermore, HR departments play a crucial role in implementing and monitoring corporate governance practices, such as board composition and size (Abor and Fiador, 2013). Rajput and Jhunjhunwala (2019) found that board independence, a key aspect of corporate governance, positively influences dividend policy. HR slack can provide the necessary resources and expertise to ensure the proper functioning of corporate governance mechanisms, leading to a higher dividend payouts. Moreover, HR slack allows for the development and implementation of effective human resource management practices, such as training and development programs, employee engagement initiatives, and talent acquisition strategies. These practices can improve employee productivity, satisfaction, and retention, ultimately leading to better firm performance (Porta et al., 1998) and increase shareholder value through higher dividend payouts. Furthermore, Wu (2017) documents that managers who are facing a turnover risk would smooth dividends more and maximize shareholders' value. Author argues that managers would hesitate to increase dividends while they are far from the turnover threshold. Therefore, HR slack which might include managers themselves positively impacts dividend payouts.

Furthermore, recruiting employees poses significant challenges for privately held firms due to their relative obscurity and limited reputation as attractive employers, especially when compared to larger publicly-traded firms (Williamson, 2000). This circumstance underscores

the importance of establishing a surplus of human resources, HR slack, as a crucial consideration for managers in privately held firms, who may encounter heightened difficulties in securing personnel as needed (Welbourne, Neck, and Meyer, 1999). As such, keeping employees with a valuable knowledge tied to the organisation provides flexibility to encounter challenges with the access to the labour market (Vanacker, Collewaert and Zahra, 2017). By engaging in experimentation with projects that entail significant uncertainty yet hold the potential for substantial gains, the allocation of slack resources cultivates what Nohria and Gulati (1996) refer to as a "culture of experimentation" (p. 1247). This further enhances innovativeness and launch of new products that sustain firm competitiveness in the market (O'Brien, 2003). Through this channel HR slack further increases shareholder's value and possibilities of higher dividend payouts.

Therefore, we hypothesize that:

Hypothesis 1: HR slack has a positive impact on dividend payouts of privately held firms.

Privately held firms face difficulties and high costs when raising external funds (Brav, 2009) predominantly due to information asymmetries (Cable and Turban, 2001). As already argued, HR slack may help privately held firms to signal positive firm future prospects which can provide lenders necessary information, and ultimately reduce borrowing costs. Lower rate of financial stress found by Ghouma and Ben-Nasr (2018) among firms that treat their employees fairly induce lenders to charge a low premium for debt which increases firm's ability to pay out cash as dividends (Saeed, 2021). However, in the presence of financial slack that signal is less relevant as substantial cash reserves already provide a guarantee in servicing debt obligations and more debt could be issued which ultimately lowers dividend payouts. A bundle of HR slack and financial slack therefore creates different dynamics and leads to less positive

effect of HR slack on dividend payouts. Furthermore, labour friendly practices might be part of the management strategy to pursue self-interest motives at the expense of shareholders (Faleye and Trahan, 2011) who would than ask for dividend payouts to curb down such practices. As a result, shareholders may interpret HR slack as a means for management to advance its own agenda, employing these initiatives while employees overlook any excessive behaviours from managers. However, when there is a financial slack present shareholders believe there is a sufficient cash at hand to pay dividends, and the impact of high HR slack on dividend payouts becomes less positive. Therefore, the financial slack would decrease the positive effect of HR slack on dividend payouts, hence results in a negative moderation effect.

According to the behavioural finance literature firm's dividend payouts are not solely based on financial factors but also influenced by the level of patience exhibited by its shareholders (Saeed and Sameer, 2017). In privately held firms characterized by higher uncertainty due to information asymmetries toward the outsiders, shareholders have less patience and low risk-tolerance. They are less likely to wait for future returns, and instead ask for immediate compensation for their investments. So, privately held firms including those with HR slack are under increased pressure to address the impatient shareholders' claims by paying them out dividends. With the financial slack the pressure is lower as shareholders believe there is a sufficient cash generated to provide dividend payouts. Thus, the financial slack negatively moderates the impact of HR slack on dividend payouts of privately held firms. Therefore, we hypothesize that:

Hypothesis 2: Financial slack negatively moderates the positive impact of HR slack on dividend payouts of privately held firms.

3. Method

3.1 Sample

In this study we use the publicly available data from the Bel-First database maintained by Bureau van Dijk (BvD). We collect data on all financial accounts from an unconsolidated financial statements of Belgian privately held firms operating between 2005 and 2021[17]. We focus on independent privately held firms, thus, we remove firms with an ultimate owner holding at least 50% of the shares, except those held by named individuals, employees, or family members. Therefore, our sample consists of stand-alone firms (Rommens et al, 2012). Next, we remove financial and utility firms as those comply to different government regulations (e.g., Allen and Michaely, 2003; Berzins, Bøhren and Stacescu, 2018; Grullon and Michaely, 2002). We also require firms to have at least one employee to remove "ghost" firms, and we consider only those firms with positive total equity (e.g. Hasan and Cheung 2018; Owen and Yawson, 2010). Finally, we follow a Belgian legislation and remove firm-years when the firm is not legally allowed to pay a dividend[18]. Our sampling procedure provide us with 122,309 Belgian, independent, privately held firms over the sample period which resulted in 726,165 firm-year observations[19].

3.2 Variables

3.2.1 Dependent Variables

We follow a prior research on dividend policy (DeAngelo et al., 2006; Fama and French, 2001; Michiels et al., 2015; Rommens, Cuyvers and Deloof, 2012) and measure dividend payouts by dividend to EBITDA ratio, *DIV/EBITDA*, that is the dividends paid in year t scaled by the cash

[17] We also collected data from 2004 to be able to calculate the lagged variables for the initial year 2005.
[18] Belgian firms are not allowed to pay a dividend when their "net assets", which equal the difference between total assets and liabilities and intangible assets, are lower than the "unavailable equity" which is the sum of issued capital (less the sum of uncalled capital and called amounts of unreleased capital), share premiums, revaluation surpluses, legal reserves, unavailable reserves, and investment grants (De Backer et al. 2014).
[19] In Table A. 1, available in appendix we show the number of observations per year.

flow (we use EBITDA as a measure for cash flow) in year t-1. Essentially, this measure of dividend payouts represents the ratio of distributed cash over the generated cash, and provides us with a meaningful economic interpretation (La Porta et al. 2000; Rommens, Cuyvers and Deloof, 2012). We also measure dividend payouts by dividend to earnings ratio, *Div/E*, that is the dividends paid in year t over net income in year t-1 (La Porta et al. 2000; Rommens, Cuyvers and Deloof, 2012). Net income represents a year's profit (or loss) after tax, but before dividends. For robustness analysis, we measure dividend payouts as dividends to total assets rato, *Div/TA,* dividends paid in year t over total assets in year t-1 (Michaely and Roberts, 2012; Rommens, Cuyvers and Deloof, 2012).

3.2.2 Independent variable

We measure *HR slack* by taking a ratio of costs of employees scaled by total assets from which we deduct the industry median ratio calculated for all firms operating in the same industry measured by 4 digit NACEBEL codes. This measure provides a clear indication whether a firm possesses the slack in human resources above or below the industry norm (e.g. Mellahi and Wilkinson, 2010; Mishina, Pollock and Porac, 2004; Paeleman and Vanacker, 2015). Employment costs are better measure than the number of employees because the costs are a part of P/L account, while the number of employees (equivalents) are reported in the notes of financial statements. Moreover, besides quantity employment cost captures the quality of employees as higher quality indicates more human capital such as higher education and more experience, which will be more costly to employ (Vanacker, Colleweart and Paeleman, 2013). Moreover, we measure costs of employees relative to assets due to huge drop in the number of

observations when we use sales, because only large Belgian firms are obliged to report their sales, thus it would bias our results towards large firms[20].

3.2.3 Moderating variable

To measure the moderation effect, we include *Financial slack* and calculate it as the amount of cash and cash equivalents available in the firm relative to total assets (Vanacker et al., 2013) from which we deduct the median ratio for all firms operating in the same industry, measured by 4-digit NACEBEL codes (George, 2005; Vanacker, Collewaert and Paeleman, 2013). This measure is in line with the previous single-country studies and it depicts the difference between the cash available and the cash demanded from the industry norms (Paeleman and Vanacker, 2015). Although, financial slack and free cash flow are similar, financial slack is theoretically a broader concept. A concept of free cash flow assumes that firm exploited all positive net present value (NPV) projects, which means that only unprofitable alternatives are available (Brush, Bromiley and Hendrickx, 2000). In that case firm rather distributes excess cash in the form of dividends. On the other hand, financial slack is the excess of cash after firm met all current business demands, such as sales levels or other types of commitments (Mishina, Pollock and Porac, 2004). Therefore, it does not assume that all positive NPV investment opportunities are exploited. We measure all slack variables in time t-1 because managers of privately held firms need time to "unlock" the slack and transform them into new activities, which usually takes one year (Daniel et al., 2004; Vanacker, Collewaert and Zahra, 2017).

[20] Only large Belgian firms are required to report their sales, while small Belgian firms can report abbreviated financial statements that can be without sales (source: https://www.nbb.be/en/central-balance-sheet-office/drawing/size-criteria/size-criteria-companies).

3.2.4 Control Variables

We include several control variables that affect dividend policy of privately held firms and that are relevant in the context of slack resources. We control for the *Age* of the firm by taking a natural logarithm of the number of years since the firm's incorporation (La Rocca, La Rocca, and Cariola 2011). How much dividends privately held firm will issue is time-dependent and the age seves as a proxy for a dividend life cycle (Cadenovic, Deloof and Paeleman, 2023). We control for the *Firm performance* by scaling earnings before interest, taxes, depreciation and amortization in year t to total assets in year t-1 (Bulan, Subramanian and Tanlu, 2007; Fenn and Liang 2001; Michiels et al. 2015). We control for the *Firm size* by taking the natural logarithm of total assets (Bulan, Subramanian and Tanlu 2007; Faccio, Lang and Young 2001; Rommens, Cuyvers and Deloof,2012; Koh et al. 2015; Michaely and Roberts, 2012). We measure *Growth opportunities* by scaling intangible assets over total assets (Villalonga, 2004). Slack resources allow firms to adapt to complex competitive landscapes (Levinthal, 1997). Firms may adapt to industry complexity by either rearranging their available resources to develop new skills or by moving resources into or out of their current markets (George, 2005). Industry complexity refers to the level of competition in an industry that stems from concentration, or the market share dominance of one or more firms (Dess and Beard, 1984). Further, slack resources buffer firms from the pressures of the environment. We control for the *Industry complexity*, and measure it as the sum of the squared market shares of firms operating in the same industry as the focal firm. We further control for the *Size of competitors* by taking a mean of the number of full time employees equivalents of firms operating in the same industry as the sample firm (Vanacker et al., 2017). We also control for the effects of different slack resources. Namely, *Potential slack* which represents the borrowing capacity (Kim and Bettis, 2014; Paeleman and Vanacker, 2015), is actually a proxy for firm leverage which significantly influences dividend payouts of privately held firms (Michaely and Roberts 2011; Rommens, Cuyvers, and Deloof 2012). It represents a future resource that is not yet absorbed in the firm.

Debt, on the other hand, represents a control mechanism for managers not to overinvest and hurt firm in the long run (Jensen, 1986). Therefore, a higher potential slack means higher control over the future investments. In the context of dividends, more debt restricts dividend payouts, due to increased bankruptcy costs, and due to restrictions debtholders impose on privately held firms (Cassar, 2004). We measure potential slack as a ratio of the total debt to total assets from which we deduct the median ratio calculated for all firms operating in the same industry, measured by 4-digit NACEBEL codes, to adjust for the industry norms (Kim and Bettis, 2014). We subtract from 1 the industry adjusted value to be certain we catch the slack value. Next, we control for the *Recoverable slack*, the resources that are absorbed in the current firm operations. Recoverable slack represents the level of resources within current firm operations (Bradley, 2011). Recoverable slack consists of resources that have already been utilized in operations (e.g. inventory) but can be recaptured without substantial organizational redesign (Bradley, 2011). It is a particularly important slack dimension because of its immediate impact on operations (Miller and Leiblein, 1996). We measure it as the ratio of accounts receivables plus inventories to total assets from which we deduct the median ratio calculated for all firms operating in the same industry, measured by 4-digit NACEBEL codes, to adjust for the industry norms (Steensma and Corley, 2001). Finally, we include 69 industry dummies to control for different industry effects, and 16 year dummies to control for any general macroeconomic effect. All independent and control variables, except for Age and firm performance are lagged one year.

3.2.5 Method of analysis

Similarly as in Vanacker, Collewaert and Zahra (2017), to estimate the effect of slack resources on dividend policy we rely on Generalized Estimating Equations. The GEE approach is particularly convenient method as it enables us to control for unobserved heterogeneity across firms, and potential heteroskedasticity usually present in the panel datasets (Liang and Zeger, 1986). In compare to fixed effects models the GEE model provide more consistent and robust

coefficient estimates because of the autocorrelation and present non-independence (Ndofor, Sirmon and He, 2011).In all our models, we choose an identity link function to connect dividend payouts to our specified effects and an exchangeable correlation structure (see: Ballinger, 2004). We have no concern about the multicollinearity, as the maximum variance inflation factor is below 2.

4. Results

4.1 Descriptive statistics

Table 1 presents summary statistics of the variables used in this study for the overall sample and subsamples of dividend payers and dividend nonpayers. For the dividend to EBITDA ratio and the dividend to earnings ratio, we remove negative values (Rommens et al., 2012). Also, all variables, except for the Age are winsorized at the 1% and 99% tails. We notice that dividend payers on average hold less HR slack than dividend nonpayers, and the difference is statistically significant. The opposite is true for the financial slack. On average, dividend payers possess significantly more financial slack than dividend nonpayers. It is important to note, however, that in our sample, vast majority of firms are nonpayers, 84%.

*** Insert Table 1 here ***

Table 2 provides correlations between all variables used in empirical models and we already note a significant positive correlation between dividend payouts and financial slack, and negative and significant correlation between dividend payouts and HR slack, except for Div/TA. The correlation between HR slack and financial slack is significantly positive.

*** Insert Table 2 here ***

4.2 Hypothesis tests

Table 3 provides the results of our GEE regression models on the effect of HR slack recourses on DIV/EBITDA, using the overall sample. Model 1 is a baseline model including control variables, and we gradually introduce our main slack variable and interaction effect in

Models 2 and 3, respectively. Models 2 tests Hypothesis 1, and Model 3 tests Hypothesis 2. Firstly we discuss the results of the baseline Models 1 of Tables 3 and 4, and later we discuss the remaining models.

Namely, we find that age of the privately held firms does not significantly influence the dividend to EBITDA ratio, while it positively and significantly affects dividends to earnings ratio. In line with the previous empirical results on dividend policy of privately held firms, we find that firm performance positively affects dividend payouts, as illustrated by Models 1 in both Tables 3 and 4. Better performing firms will pay higher dividends, measured either relative to cash or relative to earnings. Also, firm size positively and significantly affects dividend payouts. We find that privately held firms with more growth opportunities will pay lower dividends to cash flow as reported in Model 1 of Table 3, but higher dividend to earnings as shown by Model 1 of Table 4. We further find that industry complexity positively and significantly influence dividend payouts, while the size of competitors although significant and positive, its effect is negligible. Finally, privately held firms with more potential slack, namely, the debt capacity also issue higher dividends relative to earnings as shown in Tables 3 and 4. More potential firm has to raise more debt means they are still not indebted to the level to restrict dividend payouts and thus they will pay higher dividends. On the contrary, recoverable slack decreases dividend payouts. This result suggests that recoverable slack as an absorbed slack in the current firm operations, namely the cash that is already invested to facilitate business activities is therefore not available for dividend payouts.

*** Insert Tables 3 and 4 here ***

In Hypothesis 1 we state that the HR slack has the positive impact on dividend payouts. Indeed, our results show that HR slack is positive and highly significant in Model 2, thus, an increase in one unit of HR slack will increase dividends relative to EBITDA by $\beta = 0.004$ units. Furthermore, we find a positive and significant coefficient of financial slack which implies

financial slack is positively and significantly affecting dividend to EBITDA. Moreover, Table 4 presents results of the GEE regressions on the effect of slack resources on Div/E. Similarly as in Table 3, Model 2 reports a positive and significant effect of HR slack on dividend to earnings ratio of privately held firms. A unit increase in HR slack would increase Div/E by $\beta = 0.04$ units. Further, Table 4 reports that the effect of financial slack is positive and significant. Financial slack coefficient amounts to $\beta = 0.292$. Overall these results provide a support to Hypothesis 1.

In Hypothesis 2 we claim that the relationship between HR slack and dividend payout is negatively moderated by financial slack. Table 3, Model 3 reports the results of the interaction effect between the two slack resources. We find a negative significant moderation effect of financial slack on DIV/EBITDA, $\beta = -0.024$. These results provide a support for Hypothesis 2. Furthermore, Table 4 reports similar effect on Div/E. Namely, HR slack positively and significantly affects dividend to earnings ratio, while financial slack negatively moderates the relationship with the interaction effect of $\beta = -0.079$. We illustrate these findings in Figures 3 and 4. Overall, we find a support for Hypothesis 2.

*** Insert Figures 1 and 2 here ***

4.3 Robustness tests

We conduct several robustness analyses to observe the stability of our results. Firstly, we use an alternative dividend payouts measure, namely dividends to total assets ratio, Div/TA. In, line with the results, the GEE estimation results show a positive significant effect of HR slack on dividends to total assets ratio. The moderation effect of financial slack is, however, positive and statistically insignificant (Table A. 2, available in appendix). Second, we apply fixed effects models as an alternative econometric approach and rerun the models presented in Tables 3 and 4. Contrary to our hypothesis 1, we find negative significant effects of HR slack on both dividend to EBITDA and dividend to earnings ratios. We find a consistent, negative

and significant moderation effect of financial slack, which is line with our hypothesis 2 (Tables A. 3 and A. 4, available in appendix). Furthermore, when we apply fixed effects analysis on dividend to total assets ratio, results show negative and highly significant effect of HR slack, while interaction effect remains negative and significant at 10% level (Table A. 5 available in appendix). Third, we employ an alternative measure of HR slack based on a predictive value approach to control for the possibility that HR slack resources are endogenously determined by a firm's decision (Lefebvre, 2023; Vanacker, Collewaert and Zahra, 2017; Wang et al., 2016). First, we regress the ratio of costs of employees to total assets on firm size, firm age and industry dummies, to get the predicted values. Next, we calculate residual values by subtracting the predicted values from the actual levels. Residual values represent HR slack. When we use this alternative measure, results also show a positive significant effect of HR slack on dividend DIV/EBITDA, however, a positive moderation effect of financial slack significant at 10% level. Further, HR slack has a positive significant effect on DIV/E, and financial slack has a negative insignificant moderation effect (Table A. 6, available in appendix). We also measure HR slack by taking the ratio of costs of employees over total assets from which we subtract the mean (instead of the median) ratio operating in the same 4-digit industry, and results remain similar to our main analysis (Table A. 7, available in appendix). Finally, we measure HR slack adjusted for different industry norms measured by 3-digit, and 2-digit industry codes, and results remain similar (Tables A. 8 and A. 9, available in appendix).

5. Conclusion

In this study we find a significant and positive impact of HR slack resources on dividend payouts. Furthermore, we find that financial slack has a negative moderation effect on the relationship between HR slack and dividend payouts. These results indicate that besides well-known firm characteristics such as leverage, profitability, excess cash etc., slack recourses are also an important factor for dividend payouts of privately held firms. However, the findings are not always robust to alternative models and measures. This study contributes to the dividend

policy literature by identifying slack resources as a significant determinant of dividend policy. Further, it contributes to the literature on slack resources which was mostly focused on the effects of slack resources on firm growth and performance (George, 2005; Mishina, Pollock and Porac, 2004; Tan and Peng, 2003). By developing and testing a model where distinct slack resources impact dividend payouts, we bridge the slack resource literature and dividend policy literature.

Our findings have important implications for managers and policymakers. Practically, this study implies that managers of privately held firms should be conscious of their slack resources when crafting their dividend strategies, with particular attention to the HR slack whose impact is not straightforward. Further, it is important to acknowledge that more financial slack does not necessarily implies more dividend payouts. The abundance of slack resources can backfire and decrease the benefits for firm owners. In that regard, policymakers could further channel their efforts towards the enforcement of the slack resources for the overall benefit of privately held firms and their investors. Our evidence gives support to the current policymaker practices that view negatively the minimisation of HR slack, followed by the accumulation of financial slack (Vanacker et al., 2017). In this way policymakers encourage managers to reduce financial slack, directing excess cash towards investments and expanding employment, which finally enhances dividend payouts. Our findings indicate that such strategies can have a positive impact on overall firm dividend policy.

Our study encourages future research to investigate further the relationship between HR slack and dividend payouts. Firstly, the value of different types of slack resources depends on the institutional context (Vanacker er al., 2017). Building on the institutional theory would help in clarifying when the different slack resources enhances dividend payouts, and when they humper them. Thus, institutional context is another moderating variables worth exploring in the future research. Secondly, slack resources may have stronger or weaker influences on dividend payouts in different countries. Future research would gain valuable insights from the

application of institutional theory, as national institutions play a pivotal role in shaping the managers discretion to utilize their slack resources. This, in turn, significantly impacts the allocation and resulting dividend payout implications of these resources. For example, different employee rights might significantly moderate the relationship between HR slack and dividend payouts in different national context. Thirdly, researcher should consider other types of slack resources and their impact on dividend policy. The characteristics of HR slack could depend on the firm's size and its primary economic activities. Consequently, researchers might need to investigate alternative measures to effectively capture and analyse this form of slack. Forth, privately held firms represent the prevailing type of the firm globally, characterized by concentrated ownership and greater limitations in accessing labour and financial markets. Therefore, more research is needed that places a spotlight on private firms. The interplay between country governance frameworks, ownership structures, and corporate governance systems plays a pivotal role in shaping the accumulation and utilization of various types of slack resources, or possibly moderates the impact of these resources on firm dividend policy. Finally, the absence of conclusive evidence regarding the influence of HR slack and other forms of slack on dividend policies in publicly listed firms underscores the need for further research in this area.

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Tables and Figures

Table 1
Summary Statistics.

Panel A										
Variables	N	Mean	SD	p5	p25	p50	p75	p95	Min	Max
DIV/EBITDA	726,165	0.096	0.346	0.000	0.000	0.000	0.000	0.606	0.000	2.436
Div/E	726,165	0.281	1.101	0.000	0.000	0.000	0.000	1.492	0.000	8.283
Div/TA	726,165	0.019	0.068	0.000	0.000	0.000	0.000	0.134	0.000	0.445
HR slack	726,165	0.074	0.299	-0.245	-0.096	-0.002	0.153	0.652	-0.364	1.487
Financial slack	726,165	0.085	0.194	-0.117	-0.058	0.017	0.179	0.505	-0.157	0.699
Age	726,165	2.824	0.701	1.386	2.398	2.944	3.332	3.829	0.000	5.030
Firm performance	726,165	0.168	0.126	0.013	0.085	0.145	0.227	0.412	-0.095	0.626
Firm size	726,165	6.736	1.402	4.635	5.775	6.612	7.535	9.336	3.951	11.042
Growth opportunities	726,165	0.006	0.022	0.000	0.000	0.000	0.000	0.032	0.000	0.157
Industry complexity	726,165	0.073	0.116	0.003	0.013	0.028	0.081	0.308	0.002	0.675
Size of competitors	726,165	12.715	12.815	3.652	6.131	8.972	13.484	34.871	2.532	89.357
Potential slack	726,165	1.077	0.237	0.740	0.887	1.042	1.249	1.511	0.667	1.613
Recoverable slack	726,165	0.007	0.237	-0.375	-0.162	-0.003	0.178	0.409	-0.500	0.567

Continued

Panel B							
Variables	Dividend payers			Dividend nonpayers			Diff.
	N	Mean	SD	N	Mean	SD	t statistics
DIV/EBITDA	118,615	0.591	0.662	607,550	-	-	-
Div/E	118,615	1.723	2.222	607,550	-	-	-
Div/TA	118,615	0.118	0.129	607,550	-	-	-
HR slack	118,615	0.070	0.280	607,550	0.075	0.302	4.66***
Financial slack	118,615	0.138	0.206	607,550	0.074	0.190	-103.45***
Age	118,615	2.932	0.687	607,550	2.803	0.701	-58.06***
EBITDA/TA	118,615	0.220	0.133	607,550	0.158	0.122	-156.94***
Firm size	118,615	7.225	1.457	607,550	6.641	1.370	-133.00***
Growth opportunities	118,615	0.006	0.023	607,550	0.005	0.022	-12.84***
Industry complexity	118,615	0.084	0.126	607,550	0.071	0.114	-34.05***
Size of competitors	118,615	14.666	15.135	607,550	12.334	12.275	-57.46***
Potential slack	118,615	1.114	0.232	607,550	1.069	0.237	-60.00***
Recoverable slack	118,615	-0.020	0.224	607,550	0.013	0.239	44.03***

Notes:
Panel A shows the summary statistics for the complete sample, including dividend payers and dividend nonpayers. Panel B shows the summary statistics for the subsample of dividend payers.
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table 2
Correlation Matrix.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1	DIV/EBITDA	1												
2	Div/E	0.873*	1											
3	Div/TA	0.874*	0.727*	1										
4	HR slack	-0.009*	-0.005*	0.018*	1									
5	Financial slack	0.123*	0.075*	0.152*	0.035*	1								
6	Age	0.058*	0.052*	0.019*	-0.061*	0.015*	1							
7	Firm performance	0.058*	0.011*	0.223*	0.092*	0.184*	-0.274*	1						
8	Firm size	0.091*	0.069*	0.046*	-0.240*	-0.125*	0.364*	-0.229*	1					
9	Growth opportunities	-0.005*	0.002	0.010*	0.010*	-0.023*	-0.141*	0.103*	-0.016*	1				
10	Industry complexity	0.028*	0.019*	0.027*	-0.001	0.003	0.050*	-0.017*	0.134*	0.016*	1			
11	Size of competitors	0.041*	0.030*	0.036*	-0.007*	-0.003	0.102*	-0.029*	0.258*	-0.007*	0.435*	1		
12	Potential slack	0.117*	0.079*	0.104*	-0.048*	0.429*	0.246*	0.050*	-0.054*	-0.039*	-0.006*	-0.016*	1	
13	Recoverable slack	-0.033*	-0.033*	-0.042*	0.190*	-0.425*	0.006*	-0.112*	-0.039*	-0.026*	-0.003	-0.028*	-0.149*	1

Notes:
* denotes statistical significance at 1% level or better.

Table 3
Results of GEE Regression Analysis for Dividend to EBITDA ratio.

Variable	Model 1		Model 2		Model 3	
	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*
Age	-0.001	(0.001)	0.000	(0.001)	0.000	(0.001)
Firm performance	0.120***	(0.004)	0.103***	(0.004)	0.103***	(0.004)
Firm size	0.027***	(0.000)	0.029***	(0.000)	0.029***	(0.000)
Growth opportunities	-0.085***	(0.017)	-0.033*	(0.017)	-0.035**	(0.017)
Industry complexity	0.014***	(0.005)	0.014***	(0.005)	0.014***	(0.005)
Size of competitors	0.000***	(0.000)	0.000***	(0.000)	0.000***	(0.000)
Potential slack	0.194***	(0.002)	0.147***	(0.003)	0.146***	(0.003)
Recoverable slack	-0.005**	(0.002)	0.046***	(0.002)	0.045***	(0.002)
Financial slack			0.164***	(0.003)	0.166***	(0.004)
HR slack			0.004**	(0.002)	0.007***	(0.002)
Financial slack × HR slack					-0.024***	(0.008)
Constant	-0.373***	(0.005)	-0.355***	(0.005)	-0.354***	(0.005)
Year FE	YES		YES		YES	
Industry FE	YES		YES		YES	
N (firm-years)	726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309	
Wald chi-squared	34,723***		38,483***		38,493***	

Notes:
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table 4
GEE regression results for Dividend to Earnings ratio.

Variable	Model 1		Model 2		Model 3	
	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*
Age	0.013***	(0.002)	0.014***	(0.002)	0.014***	(0.002)
Firm performance	0.049***	(0.010)	0.009	(0.010)	0.008	(0.010)
Firm size	0.058***	(0.001)	0.065***	(0.001)	0.065***	(0.001)
Growth opportunities	0.217***	(0.060)	0.301***	(0.060)	0.296***	(0.060)
Industry complexity	0.048***	(0.015)	0.048***	(0.015)	0.048***	(0.015)
Size of competitors	0.000**	(0.000)	0.000	(0.000)	0.000	(0.000)
Potential slack	0.397***	(0.007)	0.313***	(0.007)	0.311***	(0.007)
Recoverable slack	-0.074***	(0.006)	0.007	(0.007)	0.005	(0.007)
Financial slack			0.292***	(0.010)	0.297***	(0.010)
HR slack			0.040***	(0.005)	0.049***	(0.005)
Financial slack × HR slack					-0.079***	(0.023)
Constant	-0.729***	(0.015)	-0.706***	(0.015)	-0.703***	(0.015)
Year FE	YES		YES		YES	
Industry FE	YES		YES		YES	
N (firm-years)	726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309	
Wald chi-squared	24,864***		26,14***		26,158***	

Notes:
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

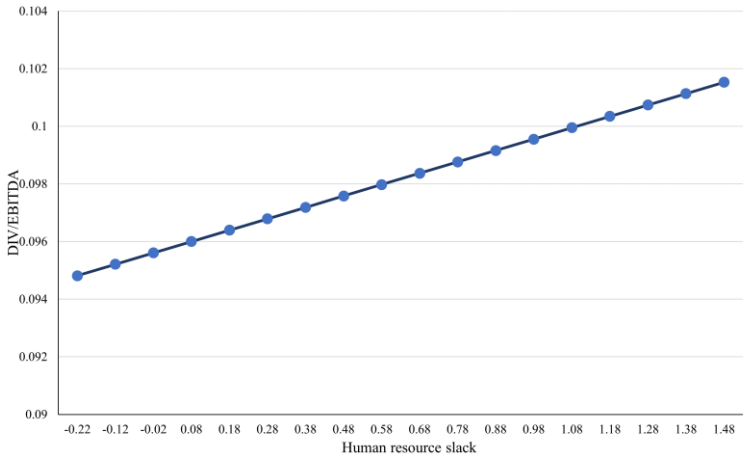

Figure 1 The effect of HR Slack on Dividend to EBITDA ratio.

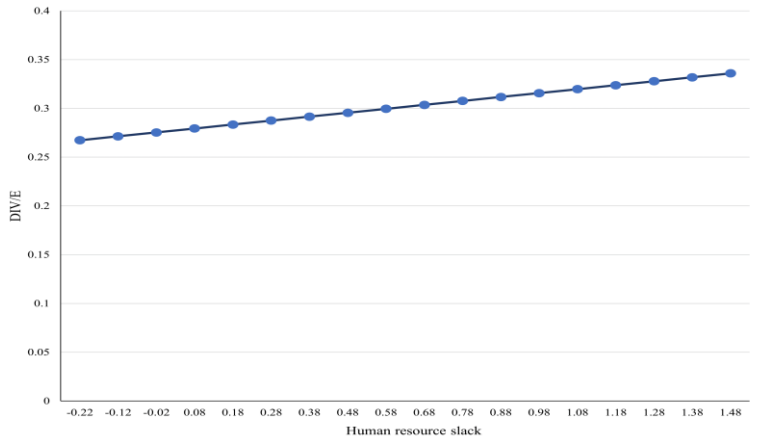

Figure 2 The effect of HR Slack on Dividend to Earnings ratio.

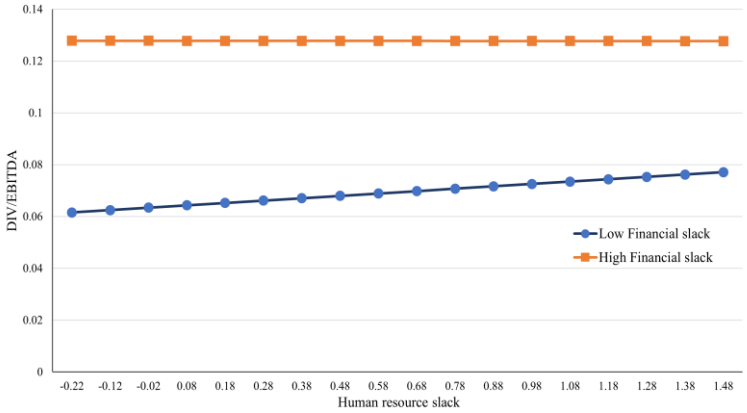

Figure 3 The effect of HR Slack and the moderation effect of Financial slack on Dividend to EBITDA ratio.

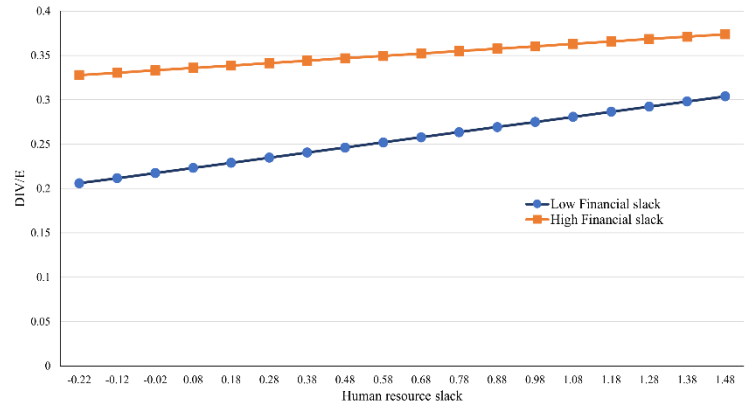

Figure 4 The effect of HR Slack and the moderation effect of Financial slack on Dividend to Earnings ratio.

Notes: We use one standard deviation from means of HR slack and Financial slack, covering at least 68% of the data.

Appendix

Table A. 1
Number of observations per year

Year	N
2005	44,104
2006	35,400
2007	39,970
2008	47,218
2009	48,521
2010	49,350
2011	64,703
2012	65,586
2013	64,636
2014	63,686
2015	52,921
2016	36,772
2017	32,109
2018	31,298
2019	25,781
2020	14,460
2021	9,650

Table A. 2
GEE regression results for Dividend to Total Assets ratio.

Variable	Model 1		Model 2		Model 3	
	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*
Age	0.001***	(0.000)	0.001***	(0.000)	0.001***	(0.000)
Firm performance	0.093***	(0.001)	0.090***	(0.001)	0.090***	(0.001)
Firm size	0.004***	(0.000)	0.005***	(0.000)	0.005***	(0.000)
Growth opportunities	-0.021***	(0.004)	-0.010**	(0.004)	-0.010**	(0.004)
Industry complexity	0.002*	(0.001)	0.002*	(0.001)	0.002*	(0.001)
Size of competitors	0.000***	(0.000)	0.000***	(0.000)	0.000***	(0.000)
Potential slack	0.034***	(0.001)	0.025***	(0.001)	0.025***	(0.001)
Recoverable slack	-0.000	(0.000)	0.011***	(0.000)	0.011***	(0.000)
Financial slack			0.034***	(0.001)	0.034***	(0.001)
HR slack			0.001***	(0.000)	0.001***	(0.000)
Financial slack × HR slack					0.001	(0.002)
Constant	-0.078***	(0.001)	-0.075***	(0.001)	-0.075***	(0.001)
Year FE	YES		YES		YES	
Industry FE	YES		YES		YES	
N (firm-years)	726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309	
Wald chi-squared	46,238***		50,564***		50,565***	

Notes:
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table A. 3
Fixed Effect regression results for Dividend to EBITDA ratio.

Variable	Model 1		Model 2		Model 3	
	Coeff.	*Robust S.E.*	Coeff.	*Robust S.E.*	Coeff.	*Robust S.E.*
Age	-0.071***	(0.003)	-0.067***	(0.003)	-0.067***	(0.003)
Firm performance	-0.173***	(0.005)	-0.185***	(0.005)	-0.185***	(0.005)
Firm size	0.063***	(0.002)	0.060***	(0.002)	0.060***	(0.002)
Growth opportunities	-0.126***	(0.030)	-0.066**	(0.030)	-0.069**	(0.030)
Industry complexity	0.004	(0.006)	0.004	(0.006)	0.004	(0.006)
Size of competitors	0.000	(0.000)	0.000	(0.000)	-0.000	(0.000)
Potential slack	0.387***	(0.005)	0.368***	(0.005)	0.368***	(0.005)
Recoverable slack	-0.010**	(0.004)	0.034***	(0.004)	0.032***	(0.004)
Financial slack			0.101***	(0.006)	0.106***	(0.006)
HR slack			-0.034***	(0.003)	-0.028***	(0.003)
Financial slack × HR slack					-0.060***	(0.012)
Constant	-0.552***	(0.014)	-0.527***	(0.014)	-0.527***	(0.014)
Year FE	YES		YES		YES	
Firm FE	YES		YES		YES	
N (firm-years)	726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309	
R-squared	5%		5%		5%	

Notes:
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table A. 4
Fixed Effect regression results for Dividend to Earnings ratio.

Variable	Model 1		Model 2		Model 3	
	Coeff.	*Robust S.E.*	Coeff.	*Robust S.E.*	Coeff.	*Robust S.E.*
Age	-0.184***	(0.010)	-0.177***	(0.010)	-0.177***	(0.010)
Firm performance	-0.909***	(0.016)	-0.923***	(0.016)	-0.922***	(0.016)
Firm size	0.154***	(0.005)	0.148***	(0.005)	0.148***	(0.005)
Growth opportunities	0.136	(0.102)	0.203**	(0.102)	0.198*	(0.102)
Industry complexity	0.025	(0.020)	0.025	(0.020)	0.025	(0.020)
Size of competitors	-0.000	(0.000)	-0.000	(0.000)	-0.000	(0.000)
Potential slack	1.007***	(0.015)	0.987***	(0.016)	0.986***	(0.016)
Recoverable slack	-0.056***	(0.012)	-0.009	(0.013)	-0.012	(0.014)
Financial slack			0.108***	(0.017)	0.118***	(0.018)
HR slack			-0.052***	(0.011)	-0.039***	(0.011)
Financial slack × HR slack					-0.130***	(0.037)
Constant	-1.273***	(0.040)	-1.232***	(0.041)	-1.231***	(0.041)
Year FE	YES		YES		YES	
Firm FE	YES		YES		YES	
N (firm-years)	726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309	
R-squared	4%		4%		4%	

Notes:
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table A. 5
Fixed Effect regression results for Dividend to Total Assets ratio.

Variable	Model 1		Model 2		Model 3	
	Coeff.	*Robust S.E.*	Coeff.	*Robust S.E.*	Coeff.	*Robust S.E.*
Age	-0.009***	(0.001)	-0.008***	(0.001)	-0.008***	(0.001)
Firm performance	0.035***	(0.001)	0.032***	(0.001)	0.032***	(0.001)
Firm size	0.011***	(0.000)	0.011***	(0.000)	0.011***	(0.000)
Growth opportunities	-0.029***	(0.007)	-0.018***	(0.007)	-0.018***	(0.007)
Industry complexity	0.000	(0.001)	0.000	(0.001)	0.000	(0.001)
Size of competitors	-0.000	(0.000)	-0.000	(0.000)	-0.000	(0.000)
Potential slack	0.069***	(0.001)	0.066***	(0.001)	0.066***	(0.001)
Recoverable slack	-0.001*	(0.001)	0.007***	(0.001)	0.007***	(0.001)
Financial slack			0.020***	(0.001)	0.020***	(0.001)
HR slack			-0.005***	(0.001)	-0.004***	(0.001)
Financial slack × HR slack					-0.005*	(0.003)
Constant	-0.117***	(0.003)	-0.113***	(0.003)	-0.113***	(0.003)
Year FE	YES		YES		YES	
Firm FE	YES		YES		YES	
N (firm-years)	726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309	
R-squared	5%		5%		5%	

Notes:
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table A. 6
GEE regression results for dividend payouts. Predictive value approach.

Variable	Model 1		Model 2		Model 3		Model 4	
	DIV/EBITDA		DIV/EBITDA		Div/E		Div/E	
	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*
Age	0.001	(0.001)	0.001	(0.001)	0.014***	(0.003)	0.014***	(0.003)
Firm performance	0.131***	(0.004)	0.132***	(0.004)	0.047***	(0.012)	0.047***	(0.012)
Firm size	0.030***	(0.001)	0.030***	(0.001)	0.063***	(0.001)	0.063***	(0.001)
Growth opportunities	-0.050**	(0.020)	-0.048**	(0.020)	0.262***	(0.068)	0.261***	(0.068)
Industry complexity	0.017***	(0.006)	0.017***	(0.006)	0.057***	(0.017)	0.057***	(0.017)
Size of competitors	0.000**	(0.000)	0.000**	(0.000)	0.000	(0.000)	0.000	(0.000)
Potential slack	0.155***	(0.003)	0.155***	(0.003)	0.334***	(0.008)	0.333***	(0.008)
Recoverable slack	0.046***	(0.002)	0.047***	(0.002)	0.001	(0.007)	0.000	(0.008)
Financial slack	0.170***	(0.004)	0.171***	(0.004)	0.300***	(0.011)	0.300***	(0.011)
HR slack	0.010***	(0.002)	0.008***	(0.002)	0.054***	(0.005)	0.056***	(0.006)
Financial slack × HR slack			0.018*	(0.010)			-0.016	(0.028)
Constant	-0.372***	(0.006)	-0.373***	(0.006)	-0.701***	(0.017)	-0.700***	(0.017)
Year FE	YES		YES		YES		YES	
Industry FE	YES		YES		YES		YES	
N (firm-years)	601,208		601,208		601,208		601,208	
Number of firms	103,985		103,985		103,985		103,985	
Wald chi-squared	34,380***		34,386***		23,148***		23,148***	

Notes:
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table A. 7
GEE regression results for dividend payouts.

Variable	Model 1		Model 2		Model 3		Model 4	
	DIV/EBITDA		DIV/EBITDA		Div/E		Div/E	
	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*
Age	0.000	(0.001)	0.000	(0.001)	0.014***	(0.002)	0.014***	(0.002)
Firm performance	0.103***	(0.004)	0.103***	(0.004)	0.009	(0.010)	0.008	(0.010)
Firm size	0.029***	(0.000)	0.029***	(0.000)	0.065***	(0.001)	0.065***	(0.001)
Growth opportunities	-0.034*	(0.017)	-0.035**	(0.017)	0.300***	(0.060)	0.295***	(0.060)
Industry complexity	0.014***	(0.005)	0.014***	(0.005)	0.049***	(0.015)	0.049***	(0.015)
Size of competitors	0.000***	(0.000)	0.000***	(0.000)	0.000	(0.000)	0.000	(0.000)
Potential slack	0.147***	(0.003)	0.146***	(0.003)	0.313***	(0.007)	0.311***	(0.007)
Recoverable slack	0.046***	(0.002)	0.045***	(0.002)	0.007	(0.007)	0.005	(0.007)
Financial slack	0.164***	(0.003)	0.163***	(0.003)	0.292***	(0.010)	0.288***	(0.010)
HR slack	0.004***	(0.002)	0.006***	(0.002)	0.040***	(0.005)	0.049***	(0.005)
Financial slack × HR slack			-0.022***	(0.008)			-0.077***	(0.023)
Constant	-0.354***	(0.005)	-0.353***	(0.005)	-0.701***	(0.015)	-0.697***	(0.015)
Year FE	YES		YES		YES		YES	
Industry FE	YES		YES		YES		YES	
N (firm-years)	726,165		726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309		122,309	
Wald chi-squared	38,485***		38,492***		26,147***		26,159***	

Notes:
[a] HR slack measured as the ratio of the costs of employees over total assets from which we deduct the mean ratio calculated for all firms operating in the same industry, measured by 4-digit NACEBEL codes.
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table A. 8
GEE regression results for dividend payouts.

Variable	Model 1		Model 2		Model 3		Model 4	
	DIV/EBITDA		DIV/EBITDA		Div/E		Div/E	
	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*
Age	0.000	(0.001)	0.000	(0.001)	0.014***	(0.002)	0.014***	(0.002)
Firm performance	0.103***	(0.004)	0.103***	(0.004)	0.009	(0.010)	0.008	(0.010)
Firm size	0.030***	(0.000)	0.030***	(0.000)	0.065***	(0.001)	0.065***	(0.001)
Growth opportunities	-0.034*	(0.017)	-0.035**	(0.017)	0.301***	(0.060)	0.296***	(0.060)
Industry complexity	0.014***	(0.005)	0.014***	(0.005)	0.049***	(0.015)	0.049***	(0.015)
Size of competitors	0.000***	(0.000)	0.000***	(0.000)	0.000	(0.000)	0.000	(0.000)
Potential slack	0.147***	(0.003)	0.146***	(0.003)	0.313***	(0.007)	0.311***	(0.007)
Recoverable slack	0.045***	(0.002)	0.045***	(0.002)	0.007	(0.007)	0.005	(0.007)
Financial slack	0.164***	(0.003)	0.165***	(0.004)	0.291***	(0.010)	0.297***	(0.010)
HR slack	0.006***	(0.002)	0.008***	(0.002)	0.042***	(0.005)	0.050***	(0.005)
Financial slack × HR slack			-0.024***	(0.008)			-0.076***	(0.023)
Constant	-0.356***	(0.005)	-0.355***	(0.005)	-0.707***	(0.015)	-0.704***	(0.015)
Year FE	YES		YES		YES		YES	
Industry FE	YES		YES		YES		YES	
N (firm-years)	726,165		726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309		122,309	
Wald chi-squared	38,493***		38,503***		26,155***		26,167***	

Notes:
[a] HR slack measured as the ratio of the costs of employees over total assets from which we deduct the median ratio calculated for all firms operating in the same industry, measured by 3-digit NACEBEL codes.
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Table A. 9
GEE regression results for dividend payouts.

Variable	Model 1		Model 2		Model 3		Model 4	
	DIV/EBITDA		DIV/EBITDA		Div/E		Div/E	
	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*	Coeff.	*robust S.E.*
Age	0.000	(0.001)	-0.000	(0.001)	0.014***	(0.002)	0.014***	(0.002)
Firm performance	0.103***	(0.004)	0.103***	(0.004)	0.008	(0.010)	0.007	(0.010)
Firm size	0.030***	(0.000)	0.030***	(0.000)	0.066***	(0.001)	0.066***	(0.001)
Growth opportunities	-0.034**	(0.017)	-0.036**	(0.017)	0.300***	(0.060)	0.294***	(0.060)
Industry complexity	0.014***	(0.005)	0.014***	(0.005)	0.050***	(0.015)	0.050***	(0.015)
Size of competitors	0.000***	(0.000)	0.000**	(0.000)	0.000	(0.000)	0.000	(0.000)
Potential slack	0.147***	(0.003)	0.146***	(0.003)	0.313***	(0.007)	0.311***	(0.007)
Recoverable slack	0.045***	(0.002)	0.044***	(0.002)	0.005	(0.007)	0.003	(0.007)
Financial slack	0.163***	(0.003)	0.166***	(0.004)	0.291***	(0.010)	0.298***	(0.010)
HR slack	0.008***	(0.002)	0.011***	(0.002)	0.047***	(0.005)	0.057***	(0.005)
Financial slack × HR slack			-0.028***	(0.008)			-0.091***	(0.022)
Constant	-0.357***	(0.005)	-0.356***	(0.005)	-0.711***	(0.015)	-0.708***	(0.015)
Year FE	YES		YES		YES		YES	
Industry FE	YES		YES		YES		YES	
N (firm-years)	726,165		726,165		726,165		726,165	
Number of firms	122,309		122,309		122,309		122,309	
Wald chi-squared	38,506***		38,522***		26,178***		26,196***	

Notes:
[a] HR slack measured as the ratio of the costs of employees over total assets from which we deduct the median ratio calculated for all firms operating in the same industry, measured by 2-digit NACEBEL codes.
***, **, and * denote statistical significance at 1%, 5% and 10% levels, respectively. Standard errors are in parentheses.

Chapter 5

Conclusion

This PhD dissertation offers an insight into the dividend policies of privately held firms in Belgium, between 2005 and 2021. This dissertation goes beyond the current knowledge of the widely explored dividend policy, and offers a new perspective on factors that significantly influence financing decisions of privately held firms. In the following section, I will briefly summarize the empirical evidence of this PhD dissertation.

1. Empirical evidence

1.1 Study 1: Do dividend policies of privately held firms follow a life cycle?

In Study 1, I answer the research question on whether the dividend policy of privately held firms follows a predictable pattern that parallels their life cycle. I exploit a wide sample of 113,599 Belgian independent, privately held firms operating between 2005 and 2018.

Firstly, I hypothesize that the likelihood of paying dividends increases over the life cycles of privately held firms. I also claim that the total dividend payout increases over the life cycle. In general, the life cycle theory refers to the changes in firms' financial policies as they progress from young to more established stages (Dickinson, 2011; Faff et al., 2016). More established firms are expected to be more likely to pay dividends compared to young firms that have more investment opportunities to exploit. As such, more established firms often have greater possibilities of paying dividends due to higher profitability and fewer investment projects.

I follow a similar procedure of DeAngelo, DeAngelo and Stultz (2006) and rely on Fama and MacBeth (1973) and Fama and French (2001) methodologies. Firstly, I investigate the relationship between proxies of dividend life cycle (relative retained earnings) and the

likelihood to pay dividends and the amount of paid dividends. Next, I investigate whether the relationship persists among young and more established firms by dividing the sample according to a firm age. I further investigate the relationship among large and small firms, and divide the sample according to a median firm size. Afterwards I describe the trend of relative retained earnings five years before dividend initiations and omissions. I also investigate the relationship of dividend policy and the legal threshold for paying dividends. In the final analysis, I investigate the life cycle relationship using an alternative proxy, firm age.

Results indeed show that privately held firms are more likely to pay dividends, and pay higher dividends as they mature and collect more retained earnings. Thus, I confirm the life cycle theory among privately held firms. The relationship persists over the entire sample period and it is confirmed by alternative dividend measures, proxies for life cycle and methods of analysis. Additionally, life cycle relationship is found among both young and more established privately held firms, and I find that the legal threshold for solvency to be able to pay dividends is not relevant. Privately held firms stop paying dividends as their solvency worsens, regardless of their legal ability.

1.2 Study 2: Dividend policy of SMEs: a variance decomposition approach

In Study 2, I examine the factors that contribute to the differences between the dividend policy of Small and Medium Sized Enterprises (SMEs). Namely, I decompose the variance of dividend policy of 117,524 Belgian SMEs operating between 2005 and 2021.

Financing policies such as cash, profitability, debt and growth opportunities are both statistically significant and economically important for dividend policy of privately held firms (Cadenovic, Deloof and Paeleman, 2023; Michiels, Voordeckers, Lybaert and Steijvers, 2015). In addition, earned-contributed capital mix, agency costs, ownership structure are an important drivers of dividend policy (Berzins et al., 2018, 2019; Cadenovic, Deloof and Paeleman, 2023; Michaely and Roberts, 2012). However, untangling the dividend phenomena by observing only one or few factors in isolation provide an incomplete picture of the underlying mechanisms

that make the differences in firm's dividend decisions (Erkan, Fainshmidt and Judge, 2016). Therefore, in this study I take a holistic approach and observe the total variance of dividend policy.

Firstly, I hypothesize that a significant portion of variation in dividend payout policies of SMEs is attributable to the firm-year, firm and industry level effects. To test hypotheses I apply a variance decomposition methodology, specifically Hierarchical linear modelling (HLM). I also test whether there are differences in the relative contribution of these four levels for new and more established firms, and for Medium, Small and Micro firms.

I find that not all levels are important for dividend decisions of SMEs. The most important are the firm-year and firm effects, while the industry level effects were less important in our data. Specifically, firm-year level effects account for 47–64 percent, and firm effects account for 34-53 percent of the variance in dividend payouts. Industry play only a minor role as a determinant of the dividend policy of SMEs. However, I find that these effects are statistically significant and should not be ignored for dividend decisions. In addition, to these effects I find that regions account for a limited variation in dividend payouts, up to 2% of the total variance. Results stay consistent for the sample of medium, small and micro firms, new and more established firms.

1.3 Study 3: the relationship between slack resources and dividend policy of privately held firms

In Study 3, I research the question on how HR slack impacts dividend payouts of privately held firms. I develop and test a model using an extensive sample of 122,309 Belgian privately held firms operating between 2005 and 2021.

Slack resources - those uncommitted and available for discretionary use (Mishina et al., 2004; Sharma, 2000) significantly affect firm strategic choices, performance, survival, internationalization (Bradley, Shepherd and Wiklund, 2011; Daniel et al., 2004; Paeleman and Vanacker 2015; Verbeke and Yuan, 2013). Slack recourses help managers to pursue

entrepreneurial and innovative activities (Bourgeois, 1981) or buffer firm from internal and external shocks (Bradly, 2011; Greenley and Oktemgil, 1998; Tan and Peng, 2003).

In this study, I focus on two types of slack - human resource (HR) slack and its interplay with financial slack. I also control for potential slack and recoverable slack. I argue that HR slack positively impacts dividend payouts of privately held firms, while financial slack negatively moderates this relationship. To test these hypothesis we rely on Generalized Estimating Equations (GEE). Additionally, I employ fixed effects regressions to confirm the robustness of our results. Indeed, the results show that HR slack is highly significant and positively impacts dividend payouts. Overall, I find a support for both of our hypothesis. Our results show that HR slack has positive and highly significant effect on dividend payouts. Furthermore, I find a positive and significant coefficient of financial slack, and a negative significant moderation effect of financial slack on dividend payouts in our GEE models. The results are robust on various different measures of dividend payuots and alternative measures of HR slack.

2. Limitations and avenues for future research

This PhD dissertation is not without limitations. Firstly, the lack of a detailed ownership information for the entire sample period limits the scope of this dissertation, predominantly in the context of agency theory. The conflict potential between different shareholders is a significant determinant of dividend policy of privately held firms (Berzins, Bøhren, and Stacescu, 2018, 2019; Michiels et al., 2015). However, in the sample of independent privately held firms I am not able to identify different types of owners, and their relationships. Thus, it is difficult to measure agency conflicts between insiders and outsiders in a good way, which is unfortunate given that the shareholder structure of privately held firms could be diverse from group structures, wholly owned or dispersed (Michaely and Roberts, 2012; Rommens et al., 2012). Second, due to lack of detailed ownership data previous limitation extends because I

cannot observe and investigate the potential effect of different tax clienteles on dividend policy of privately held firms. Dividend taxes are different for corporate investors and individual investors, thus I cannot apply the particular rate as I am not able to test for the existence of different dividend clienteles. Third, similarly to other studies on dividend policy of privately held firms this PhD dissertation is country specific. More research is needed in an international setting especially in investigating the different national and subnational effects that might be important in driving the variation of dividend policy of differently located SMEs. All firms operate in the same institutional context of Belgium. Firms operating in different institutional contexts might have different preferences toward their dividend policy. It is acknowledged that firms are both enabled and constrained by institutions in their environment (North, 1990; Bruton et al., 2010). Therefore, it would be interesting to adopt an institutional perspective and examine how a country's formal institutions regulate firms' dividend policy. Fourth, I have no information on share repurchases of privately held firms to be able to investigate to what extent they exist as a substitute to dividend payouts in privately held context. Neither I am able to test how their dynamics moves over the firm life cycle. Future research could fill this gap in the knowledge of privately held firm share repurchases. Fifth, further research could inspect other factors that may drive differences between dividend policy by identifying within firm level effects, as well as their overall importance. Finally, this PhD dissertation focusses only on dividend policy, whereas dividends are clearly related to other firm finance policies. Investigating this link is interesting for the future research.

3. Contributions and implications of the PhD dissertation

Despite all these limitations, my research offers some important new theoretical insights and practical recommendations in the dividend policy of privately held firms. In the first study, I tackle the question whether dividend policies of privately held firms follow a predictable pattern of life cycle (Chapter 2). In line with the life cycle theory, I find that privately held

firms are more likely to issue dividends and issue higher dividends as they move from the early (start-up) stage to more established stages of their life cycle. This study adds to the limited knowledge of the dividend policy of privately held firms by showing it follows a predictable pattern in line with the life cycle theory. Up to date literature found that dividend policy of privately held firms is significantly affected by taxes, ownership, and agency conflicts (Berzins, Bøhren, and Stacescu, 2018; Michiels et al., 2015; Rommens, Cuyvers, and Deloof, 2012). However, neither of these studies shows whether and to what extend dividends follow a life cycle. Moreover, this study contributes to the overall knowledge of the financing policies of SMEs (the majority of the firms in the sample), by showing that besides the life cycle in the capital structure of these firms (see e.g. La Rocca, La Rocca, and Cariola, 2011; Reid, 2003; Serrasqueiro and Maçãs Nunes, 2012), the life cycle is also present in their dividend policy. In addition, this study draws attention on the legal constraints present in the regulations of dividend policy of Belgian privately held firms, and questions the usefulness of these regulations.

According to this study managers should be aware of the stage of the life cycle of their firm. Namely, besides financial needs, financial resources and financing costs that depend on the firm life cycle (Berger and Udell, 1998), the study adds to the existing literature that the dividend policy also moves accordingly. Further, this study offers a valuable insight for the owners of privately held firms. It shows that, managers of privately held firms balance cash retention and cash issuance over the course of privately held firm's life, implying that life cycle drives dividend policy more than the private interests of the managers. Furthermore, study offers policy implications by showing that legal constraints imposed on dividend payments do not induce managers to 'milk' the cash from the firm before it reaches its solvency threshold. Moreover, they stop paying dividends and reduce their dividend payments as their solvency position worsens. This provides indication for policymakers to channel their regulations more

into the direction of improving solvency positions of privately held firms according to firms' life cycle.

The second study of this PhD dissertation (Chapter 3) examines the relative importance of determinants at the firm year, firm and industry levels on dividend policy of privately held SMEs. Study finds that levels are statistically significant and economically important, but to a varying degree. These results imply that the firm-year and firm specific factors are the most important and account for the largest portion of variation in dividend policy of SMEs, while industry play a minor role. Results are consistent with the international evidence on listed firms (Erkan et al., 2016). This study shows, conceptually and empirically that the investigation of dividend policy is perhaps best approached by focusing attention toward the time varying and stable firm level effects and treating the industry in which a firm is embedded as environment which affect firm dividend policy to lesser extent. Given findings regarding the magnitude of the variance in firm dividend policy that occurs across time, future research should focus in particular on examining transient firm factors. The next important firm characteristics imply besides resources held by the firm, the stable firm components are amongst the most important determinant of their dividend decisions. Study overall draws attention on the link between dividend policy and resource based theory implying that theory on divided policy could further evolve in that direction. Study indicates the HLM analysis can be further used by strategic management and finance researchers to determine whether firm, and/or industry level factors are best treated as transient or stable effects. This study also provides practical insights. For instance, the research provides valuable guidance for investors when selecting SMEs to fulfil their liquidity needs. It is prudent for investors to exercise caution when evaluating an SME's willingness to pay dividends or offer higher dividends, particularly when the industry appears attractive. Our findings demonstrate that SMEs predominantly shape their dividend policies based on factors specific to their individual firms, whether these are time varying factors or remain stable over time. Furthermore, it is essential that practitioners have information about

which firm year and firm characteristics contribute to better investor return in form of dividends and why. Such information would allow them to identify which areas require additional attention to improve their attractiveness to outside investors.

In the third study of this PhD (Chapter 4), I find a significant impact of slack resources on dividend payouts. Especially important HR slack has a positive impact on dividend payouts, while financial resource slack negatively moderates this relationship. These results show that besides well-known firm characteristics such as leverage, profitability, excess cash etc., slack recourses are also an important factor for dividend payouts of privately held firms. This study makes several contributions. Firstly, it contributes to the dividend policy literature by identifying slack resources as a significant determinant of dividend policy. Further, it contributes to the literature on slack resources which was mostly focused on the effects on firm growth and performance (George, 2005; Mishina et al., 2004; Tan and Peng, 2003). By developing and testing a model where distinct slack resources impact dividend payouts, the study bridges the slack resource literature and dividend policy literature. The study implies that managers of privately held firms should take into regard their slack levels when deciding on dividend payouts. These findings could also stimulate policy makers to not only consider the enforcement of the slack resources for the benefit of firm innovation, performance, or internationalisation (Bradley, Shepherd and Wiklund, 2011; Daniel et al, 2004; Paeleman and Vanacker, 2015, Verbeke and Yuan, 2013), but also for the benefits they could bring to firm owners.

4. Concluding notes

This Phd dissertation advance our knowledge of the dividend policy of privately held firms. Previous studies have mainly focused on the listed firms, overlooking the importance of the majority firms in the economy which are privately held. As listed firms are well known for their principal agent problems, and more detailed information about this type of firms is publicly available, listed firms provided an interesting setting for studying the dividend policy.

Nevertheless, privately held firms, which constitute the backbone of the economy, may encounter greater challenges in accessing capital (Brav, 2009) and labor markets (Williamson, 2000), while also confronting with various forms of agency problems and information asymmetry. Consequently, it is imperative to give considerably more focus to the exploration of the dividend policy within privately held firms. Thus, the aim of this dissertation was to shed more light on the private firm dividend policy. Individual studies of this PhD dissertation reveal that factors driving dividend policy are similar to those of listed firms, however, they are not limited to the previously identified factors, as this PhD dissertation implies. Results are generalizable on the sample of listed firms, indicating more research is needed in the future to identify the drivers of dividend policy within privately held firms. With this PhD dissertation, I reveal that life cycle theory applies to dividend policy of privately held firms (Chapter 2). As retained earnings of privately held firms, which indicate the maturity of firm, increase, privately held firm is more likely to pay dividends and pay higher dividend amounts. Results of the second study (Chapter 3) reveal that the variation in the likelihood of paying the dividend and the amount of dividends paid is the most driven by time variant firm factors, after which stable firm level factors are the most important. Finally, the third study of this PhD dissertation (Chapter 4) shows that HR slack positively and significantly impacts dividend payouts of privately held firms, while financial slack negatively moderates this relationship.

Overall, this PhD dissertation offers valuable insights into the nuances of dividend policy within privately held firms and serves as a catalyst for future research endeavours aimed at addressing the numerous significant challenges in this area of corporate finance.

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