Dividend policies of travel and leisure firms in the UK*

Erhan Kilincarslan

University of Huddersfield
Department of Accounting, Finance and Economics
Queensgate, HD1 3DH
Huddersfield, UK
Email: e.kilincarslan@hud.ac.uk
Tel: +44 (0) 1484 472810

Sercan Demiralay

Nottingham Trent University
Department of Accounting and Finance
50 Shakespeare Street, NG1 4FQ
Nottingham, UK
Email: sercan.demiralay@ntu.ac.uk

Corresponding Author:

Erhan Kilincarslan

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Declarations of interest: None

Forthcoming in "International Journal of Accounting and Information Management" – Accepted on 06 December 2020

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Abstract

Purpose – This study examines cash dividend practices of travel and leisure (T&L) companies listed on the London Stock Exchange (LSE).

Design/methodology/approach – The study uses a panel data set of 524 firm-year observations of 55 unique publicly listed UK T&L companies between 2007 and 2019. First, it employs a modified version of Lintner's (1956) partial adjustment model for analysis regarding target payout ratio and dividend smoothing. Second, it performs logit and Tobit models in ascertaining the association between financial characteristics and divided decisions of T&L firms. Finally, it applies the modified specification of partial adjustment model on different sub-samples that are partitioned based on various financial factors to determine how financial characteristics of T&L companies affect their dividend behavior.

Findings – The results show that UK T&L companies have long-term payout ratios and adjust their cash dividends by moving gradually to their target at a serious degree of smoothing. The findings also detect that financial characteristics of T&L firms (i.e., profitability, debt and size) have significant effects on their dividend payments decisions. In particular, more profitable and larger T&L corporations are more likely to pay cash dividends, whereas T&L companies with more debt are less likely to pay cash dividends in the UK. The results further reveal that although such financial characteristics also have important impacts on the target payout ratios and dividend smoothing levels, UK T&L companies generally adopt stable dividend policies over the period 2007-2019.

Originality – This is thought to be the first study to provide insights on dividend policy practices of UK travel and leisure corporation listed on the LSE.

Keywords: Dividend policy, dividend smoothing, travel and leisure, the United Kingdom.

1. Introduction

In the tourism business literature, it is well-documented that the travel and leisure (hereafter T&L) sector is greatly affected by macroeconomic variables, such as GDP growth, money supply, inflation, interest, exchange and unemployment rates (Barrows and Naka, 1994; Wong and Song, 2006; Lim and Chan, 2013), and highly vulnerable to non-macroeconomic factors, such as war, terror events, nuclear threats and economic uncertainty (Ioannides and Apostolopoulos, 1999; Drakos, 2004; Seetanah, 2011; Demiralay and Kilincarslan, 2019). Previous studies also show that the T&L sector is generally characterized by higher leverage dependency, higher risk of bankruptcy, higher capital intensity and higher competitive rivalry than other service sectors (Reich, 1993; Liu, 2009; Moon et al., 2015). Considering the greater sensitivity to various macroeconomic and non-macroeconomic dynamics and the unique structural characteristics, the implementation of effective corporate management and strategic decision-making is extremely vital for T&L sector companies to promote more sustainable and competitive development. Hence, this situation highlights the need for setting coherent and comprehensive polices, which shape the future of T&L firms, in various areas, such as the use of sources, market strategies, innovation and technology, environmental friendly activities and

financial management (e.g., investment, payout and capital structure decisions), among others.

In this paper, we attempt to investigate the strategic decision-making behavior of T&L companies from the financial management point of view – especially focusing on their dividend policy practices. This is because a firm's dividend decisions involve the distribution of corporate funds (determining size of cash payments) to shareholders or retaining earnings (not paying dividends) for reinvestment and, again through retention, employing low-cost internally generated cash to lower leverage ratio in their capital structure (Barclay et al., 1995; Lease et al., 2000). Therefore, the dividend policy setting process is one of the key aspects of corporate financial management closely related to investment and financing policies, and thus has significant implications for overall corporate strategy and firm value creation (Brealey and Myers, 2003). In this respect, owing to the unique sector characteristics previously mentioned, the decisions to pay or not to pay corporate profits as a cash dividend and how much or how often to pay are very important in travel and leisure companies.

It is, however, observed that T&L companies follow many different dividend payout policies. For instance, highly profitable T&L firms appear to pay generous dividends as a good (credible) signal to the market conveying their better financial performance and distinguishing themselves from their less or non-profitable counterparts who cannot mimic such dividend payment behavior. Given the high debt dependency, some may use internal earnings for reinvestment instead of distribution of cash dividends to prevent costly external financing, thus lowering the risk of default, whereas others pursue stable dividend payments in order to increase their existing shareholders' confidence and attract potential investors to their firms.

Alternatively, some T&L corporations might recognize the shifts in investor demand and adopt dividend polices accordingly but still there are others who pay no cash dividends. Indeed, the variety of these plausible explanations can be extended to a large amount but one thing certain is that dividend policy decisions of T&L companies have important causes and consequences on other financial policies (i.e., investment and financing decisions), hence on their overall sustainability and competitiveness. According to the World Tourism Office (UNWTO), tourism is one of the world's largest traded services sectors and generated USD 1.7 trillion export earnings from international tourism in 2018, accounting for 7% of global exports and 29% of global services exports (UNWTO, 2019). Consequently, it is worth investigating dividend policies of travel and leisure companies operating in such a sector that is a true global force for economic growth and development.

Dividend policy is a highly researched topic in the corporate finance literature, thus contains numerous theoretical and empirical studies for dividends. Nevertheless, although the above discussion clearly illustrates the importance of dividend payment decisions for T&L companies, relatively less attention is given to this topic in the tourism literature. Especially, to date, no research has focused on the UK investigating dividend policy behavior of T&L sector companies. In fact, tourism is one of the most important sectors in the UK. In 2018, 37.9 million international tourists came to the UK and spent £22.9 billion (ONS, 2019). The UK was placed in the top 10 destinations for overseas tourist arrivals worldwide and ranked fifth among the countries that generated the highest international tourism earnings in 2018 by the UNWTO (2019). The UK tourism sector is projected to grow at annual rate of 3.8% through to 2025, which is faster than the overall UK economy and sectors such as manufacturing, construction

and retail (VisitBritain, 2020). In addition, prior studies have reported that UK-listed companies have a record of significantly higher dividend payout rates than those of other developed countries, such as the US, Germany and Japan (Short et al., 2002; Kilincarslan and Ozdemir, 2018). The UK context is, therefore, an ideal setting for the study of dividend policy behavior of T&L companies in order to offer valuable insight into this under-researched area in the tourism academia.

Accordingly, we empirically investigate cash dividend payment practices of travel and leisure firms listed on the London Stock Exchange (LSE) over the period 2007-2019. Our study contributes to the literature in several ways. First, we provide new evidence on dividend behavior of publicly-listed UK T&L firms, ascertaining if preferred practice is to smooth their cash dividend payment stream over a number of years as a stable dividend policy, or to make residual dividend payments from what remains once desired investment projects have been funded. Second, we extend the previous findings of several tourism finance studies (e.g., Kim and Gu, 2009; Moon et al., 2015; Bahreini and Adaoglu, 2018) on the financial factors affecting dividend payout decisions in the UK market. Third, we present further understanding by identifying whether different financial characteristics have significant impacts on the target payout ratio and the degree of dividend smoothing of T&L firms. This is thought to be the first study to provide insights on the dividend policy practices of UK travel and leisure corporations listed on the LSE.

2. Sample Description

Using the London Stock Exchange's official website, we identified 2,025 companies listed on the LSE, of which 75 were from the travel and leisure sector as of March 31, 2020. Then, we excluded the ones that were incorporated outside the UK and ended up with 56 firms. Next, we obtained accounting and financial information from Thomson Reuter's Datastream database and crossed-checked with the validity of the data with Bureau van Dijk's Osiris database. Our sample included only those companies whose data could be obtained from these two databases. This requirement resulted in exclusion of one more company which was first listed in January 2020. The final sample consisted of a panel dataset of 524 firm-year observations of 55 unique publicly listed UK T&L firms between 2007 and 2019.

(Insert Table 1 about here)

Table 1 shows descriptive statistics for our research sample's dividend payments and net earnings trends across years from 2007 to 2019. It can be seen that UK T&L firms distributed cash dividends in 60.5% of the sample; with around 65% of T&L companies paying dividends in 2007. It then followed a fluctuating pattern that led to the lowest number of dividends payers (approximately 51%) in 2014. Then, it exhibited an increasing trend reaching almost 61% in 2019. The statistics further showed that the mean aggregate net earnings and mean earnings per share values fluctuating significantly from 2007 to 2019. However, the annual mean aggregate cash dividends and yearly mean dividends per share data demonstrated relatively fewer fluctuations after an initial dramatic drop from 2007 to 2008, probably due to the global financial crisis. At first glance, these patterns may imply that T&L companies attempted to prefer stability in dividend payments, rather than setting their dividends in accordance with the dramatic changes in earning in the UK. The mean yearly dividend payout ratio of UK T&L

companies also showed some fluctuations with an overall period average of almost 32%. In addition, Figure 1 and Figure 2. clearly illustrate the patterns highlighted above.

(Insert Figure 1 about here)

(Insert Figure 2 about here)

3. Analysis of Dividend Smoothing

3.1 Theoretical background

In a pioneering study in the finance literature, Lintner (1956) obtained in-depth interviews from corporate managers of 28 different well-established US industrial firms and found that managed dividend policies were adhered to by US managers. Given a preference for stable dividend payments, they made partial adjustments towards a long term payout ratio in order to smooth the distribution of dividends relative to frequent earnings changes in the short-run. Only when they believed their higher earnings levels could be sustained permanently were dividends increased. Similarly, they showed reluctance to cut dividends except when long term adverse circumstances were foreseen. The reason for this is that US managers believe that stable dividend distributions signal to the market their good financial performance, whereas volatile dividend payments and dividend cuts give a bad impression of performance. In fact, there is substantial evidence from various international studies over a range of periods of time (e.g., Fama and Babiak, 1968; Dewenter and Warther, 1998; Aivazian et al., 2003a; Al-Najjar and Kilincarslan, 2017; Kilincarslan, 2019) that a traditional Lintner style dividend smoothing policy is often followed by firms that are listed publicly.

Furthermore, it is also suggested that, besides being a valuable way of signaling insider information, the Lintner type dividend smoothing can also help reduce agency problems (Dewenter and Warther, 1998; Aivazian et al., 2003a, 2006). Because, managers would have less cash available for investing in what may be unprofitable projects or potentially misusing if they make stable cash dividend payments to shareholders. Indeed, the Lintner style dividends can be an advantageous method of reducing agency problems, particularly in Western capital markets where highly dispersed ownership structures lead to corporate managers holding great controlling power.

In the UK equity market, the main investor group is financial institutions, with some 27.6% of all ordinary shares in UK quoted firms being held by financial institutions based in the UK and some 45.5% being held by financial investors from overseas, at the end of 2018, as reported by the Office for National Statistics (ONS) (2020). Given the dividend preferences of pension funds and insurance companies and other tax exempt institutions, together with important motivations of financials to desire for dividends, such as the common institutional charter and prudent-man rule restrictions (Short et al., 2002), it is widely accepted that financial investors exert pressure to keeping UK firms' dividend payouts high. A recent study of Kilincarslan (2019) indeed shows, as Lintner suggested, that LSE firms do adjust their cash dividends slowly to their target and have long-term payout ratios. In the light of this, dividend smoothing may be an optimal pre-commitment mechanism for T&L companies to signal credible insider information to investors, minimize agency problems and help satisfy the dividend income requirements of financial investors on an ongoing basis in the UK market.

Hence, we surmise that UK T&L firms will be predisposed to adopting stable dividend payments.

H1: *UK travel and leisure firms have their target payout ratios and smooth their cash dividend payments, thus follow the traditional Lintner style dividend policies.*

3.2 Methodology

Lintner (1956), based on the findings of his in-depth interviews, formulated a mathematical model to test for the stability of cash dividend payments, as shown below:

$$D^*_{i,t} = r_i E_{i,t} \quad (1)$$

where $D^*_{i,t}$ is the target dividend payment, r_i is the target payout ratio (hereafter TPR) and $E_{i,t}$ is the net earnings for firm *i* at time *t*, showing that each company has a target dividend level that is a product of its earnings in a given year and its target payout ratio. Hence, the difference in dividend payments from year *t*−1 to year *t* can be calculated by:

$$D_{i,t} - D_{i,t-1} = \alpha_i + c_i (D^*_{i,t} - D_{i,t-1}) + \varepsilon_{i,t} \quad (2)$$

where α_i is the intercept term, c_i is the speed of adjustment (hereafter SOA) coefficient, $\varepsilon_{i,t}$ is the error term, $D_{i,t}$ is the actual dividend payment and $D_{i,t-1}$ is the previous year's (*t*−1) dividend payment. By substituting $r_i E_{i,t}$ for the target dividend payment $D^*_{i,t}$ and rearranging Equation (2), the following equation can be evenly obtained:

$$D_{i,t} = \alpha_i + c_i r_i E_{i,t} + (1-c_i) D_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

Equation (3) can also be illustrated as:

$$D_{i,t} = \alpha_i + \beta_1 E_{i,t} + \beta_2 D_{i,t-1} + \varepsilon_{i,t} \quad (4)$$

where $\beta_1 = c_i r_i$ and $\beta_2 = (1-c_i)$. According to Lintner (1956), the SOA coefficient (c_i) reflects the stability in dividend changes and calculates the adjustment speed to the TPR (r_i). Thus, the value c_i shows the dividend smoothing behavior of company *i* to the variations in the earnings levels – that is, a lower (higher) value of c_i implies more (less) dividend smoothing, suggesting a stable (unstable) dividend policy.

Dividend policy behavior employing Lintner's partial adjustment model and its variants has been the subject of many international studies across varied periods of time. Consistently, we design a modified version of the Lintner model to measure the degree of dividend smoothing of UK T&L companies over the period 2007-2019. Since our research period covers a relatively long time period, we include year dummies into the model to control for the effects of various observed and unobserved factors (e.g., the 2008 financial crisis, Brexit, stages of economic cycle and macroeconomic dynamics) on dividend policies of UK T&L companies. Consequently, we construct the following research model:

$$\text{Model 1: } DIV_{i,t} = \alpha_i + \beta_1 EARN_{i,t} + \beta_2 DIV_{i,t-1} + \sum_{t=1}^{T} \beta_t YEAR_{i,t} + \varepsilon_{i,t} \quad (5)$$

where $DIV_{i,t}$ is the current cash dividend payments and $EARN_{i,t}$ is the current year earnings for firm *i* at year *t*; $DIV_{i,t-1}$ is the lagged cash dividends per for firm *i* that distributed in year *t*-1

(previous year) and $YEAR_{i,t}$ represents yearly dummies for the years from 2007 to 2019, which take a value of 1 for the specific year and 0 otherwise.

3.3 Empirical results

Table 2 reports the results of pooled ordinary least squares (OLS) estimates on our research model (Model 1) for a panel dataset of 55 UK T&L firms listed on the LSE over the period 2007-2019. The pooled OLS estimates are obtained using White's corrected heteroscedasticity robust regression to alleviate the problems of heteroscedasticity.

The results show that the pooled OLS model when estimating the modified version of the Lintner model is statistically significant at the 1%, level as evidenced by the *F*-statistic. The R^2 value of 80.10 indicates a high level of goodness-of-fit, which suggests about 80% of the variation in cash dividend payments of T&L firms is explained by the model. This finding is consistent with Lintner's (1956) original study that reported an R^2 value of 85% for the US corporations. Regarding our test variables, the results present that the coefficients of current year earnings ($EARN_{i,t}$) (t = 3.53, p < 0.01) and lagged cash dividends ($DIV_{i,t-1}$) (t = 8.59, p < 0.01) are both highly significant and positive. This evidence provides empirical support for the application of traditional Lintner type managed dividend policy by T&L firms in the UK market between 2007 and 2019. Our evidence is in line with the findings of various studies in different countries (see Al-Najjar and Kilincarslan, 2019 for a review) and a recent study of Kilincarslan (2019) in the UK market, suggesting that UK tourism and leisure companies' current year's cash dividend payments are mainly determined by the levels of current year earnings and lagged cash dividends.

(Insert Table 2 about here)

After finding that the Lintner model works well for our sample of T&L firms, now we look at the SOA and TPR parameters to interpret these coefficients in identifying their cash dividend payment behavior more closely. As previously mentioned, Lintner (1956) suggests that the SOA parameter [calculated as $c = 1 - \beta_2$] shows how reactive cash dividends are to earnings changes and lies between 0 and 1 ($0 < c \leq 1$). A high SOA indicates a speedy adjustment; for instance, an SOA of 1 implies the company does not adjust or smooth cash dividends but relies on the long-run TPR [calculated as $r = \beta_1/(1 - \beta_2)$], thus pursuing a highly volatile dividend policy. On the other hand, an SOA value closer to zero suggests that the firm smooth dividend payments and slowly adjust them to the TPR, and so are applying a very stable dividend policy.

Accordingly, Table 2 further shows our SOA and TPR estimates. We employed "the delta method" to estimate these structural parameters as linear or nonlinear combinations of the OLS regression coefficients (i.e., β_1 and β_2), using calculations mentioned above. The coefficients of SOA and TPR are the transformations of the other estimated coefficients, and thus the standard errors, t-values and significance levels of these structural parameters are also reported. As the table indicates, the coefficients of SOA and TPR are both statistically significant at the 1% level. More specifically, it is estimated that the SOA is 0.318 [c = 1 – 0.682] and TPR is 42.8% [r = 0.136/(1 – 0.682)] for UK T&L firms over the period 2007-2019. These figures demonstrate that tourism and leisure companies aim to pay out about 43% of their earnings to their shareholders by way of cash dividends but, at the same time, they appear to follow stable dividend policies with a significant degree of smoothing of 0.318. When compared to the pioneering study of Lintner (1956), who found the SOA of 0.30 and TPR of

50% for US firms, our findings show T&L sector companies have relatively lower payout ratios but employ very similar levels of dividend smoothing with US firms. Overall, our evidence suggests that UK T&L companies set binding long-term payout ratios, moving gradually to their targets, as predicted by Lintner, and therefore pursuing stable dividend policies between 2007 and 2019. Hence, this provides support for H1.

Following researchers such as Fama and Babiak (1968), Aivazian et al. (2003a) and Al-Najjar and Kilincarslan (2017), we also perform further tests using firm-level data (i.e., per share data) as opposed to aggregate data used in Model 1. Since it is argued that each firm makes their dividend payment decisions individually and, consequently, firm-level data are more suitable for examining firm-specific choices, given that aggregate data might just reflect the common growth trends rather than properly capture such individual choices. Therefore, to confirm whether our main findings also hold for the firm-level data, we replicate the former analysis using per share data with the following model:

$$\text{Model 2: } DPS_{i,t} = \alpha_i + \beta_1 EPS_{i,t} + \beta_2 DPS_{i,t-1} + \sum_{t=1}^{T} \beta_t YEAR_{i,t} + \varepsilon_{i,t} \quad (6)$$

where $DPS_{i,t}$ is the current dividends per share and $EPS_{i,t}$ is the current year earnings per share for firm *i* at year *t*; $DPS_{i,t-1}$ is the lagged dividends per share for firm *i* that distributed in year *t*-1 (previous year) and $YEAR_{i,t}$ represents yearly dummies.

(Insert Table 3 about here)

Table 3 illustrates the results of the pooled OLS estimates when the modified Lintner model is run again using firm-level data (Model 2). These results are consistent with what we previously report using aggregate data: the independent variables have the same directional signs, exhibit similar statistical significance behavior and provide relatively close SOAs and TPRs. This, then, is further evidence of the robustness of our main results.

4. Analysis of Financial Characteristics Impact on Dividend Decisions

4.1 Theoretical background

The corporate dividend literature proposes that there is an inter-connection between a firm's dividend policy and its investment and capital structure decisions. Therefore, there is a direct link between financial characteristics of the firm and its dividend policy (Barclay et al., 1995; Brealey and Myers, 2003). Although our previous analysis has revealed that LSE-listed T&L companies in general follow a stable dividend policy, we do not know how financial characteristics affect their dividend payment decisions. In this part, we therefore outline a set of fundamental financial factors that are considered as the key determinants on dividend policy in the literature and investigate the effects of these selected factors on dividend payment decisions of UK T&L firms.

Previous dividend policy studies show that a key determinant of corporate dividend decisions is profitability and generally report that there is a positive relationship between profitability and dividend payments (e.g., Fama and French 2001; Aivazian et al. 2003b; Ferris et al 2006). Sirait and Siregar (2014) detect that dividend-paying status, dividend increase and persistence in dividend payments have a positive correlation with earnings quality. This positive relationship is in line with the "signaling theory", developed by Bhattacharya 1979,

Miller and Rock 1985, and John and Williams 1985. The signaling theory argues that profitable firms will be more inclined to pay dividends, to signal their better financial performance. They are also more likely to distribute greater cash dividends to shareholders as a good (credible) signal to the market. Conversely, their less profitable counterparts, in a weaker financial position, cannot match such dividend payments. In this respect, Kim and Gu (2009), looking at US hospitality firms, and Bahreini and Adaoglu (2018), looking at travel and leisure companies from five West European countries, report that profitability has a positive impact on dividend payout. Therefore, we propose that highly profitable UK T&L firms are more likely to pay cash dividends to demonstrate their better financial positions. Therefore:

H2: *Profitability is positively related to UK travel and leisure firms' dividend policy decisions.*

On the other hand, the existing literature would seem to indicate that strong growth (investment) opportunities reduce the likelihood of paying dividends. High-growth companies require more capital to fund their expansion and so, rather paying cash dividends, are predisposed to use available cash for investments (Rozeff, 1982; Fama and French, 2001; Ferris et al., 2006). In a recent study, Neves et al. (2020) indeed report that large firms with a high level of growth prospects mainly prefer to be financed using internal funds. The "pecking order theory", developed by Myers (1984), predicts this negative association. It argues that companies with high growth opportunities will first use their internally generated earnings to finance those investments. They will use debt should the investment demand more cash than is available, raising equity capital as a last resort. Hence, high-growth firms would pay out low or no dividends. Other studies have also generally indicated that external financing (debt) has a negative impact on dividends. The "transaction cost theory" argues that since financial charges and fixed costs that firms have to repay are incurred by debt, high dependency on external financing increases the risk of bankruptcy. Thus, highly levered firms often pay no or low dividends, preferring to keep their internal funds to pay their obligations and lower external financing costs, rather than paying out to shareholders (Rozeff, 1982; Miller and Rock, 1985).

Furthermore, Moon et al. (2015), examining US airline companies, and Bahreini and Adaoglu (2018) find that investment opportunities and dividend payout are inversely correlated. Kim and Gu (2009) showed that debt has a negative effect on the likelihood of US hospitality firms paying dividends. Given the above, we propose that UK T&L firms with high growth and/or more debt are less likely to pay cash dividends. Therefore, we set forth the following two hypotheses:

H3: *Growth is negatively related to UK travel and leisure firms' dividend policy decisions.*

H4: *Debt is negatively related to UK travel and leisure firms' dividend policy decisions.*

In the literature, two further significant factors which seem to influence dividend policy are firm age and firm size. Grullon et al. (2002) propose "the maturity (firm life cycle) hypothesis" which seeks to connect firm age with dividend policy. This hypothesis suggests that firms in the growth stage typically have many positive NPV projects and so need funds to finance fast growth and expansion, so will pay no dividends. However, as firms move from growth towards a more mature phase, they are increasingly likely to pay higher dividends, as their investment opportunities and growth rates become slower or may decline, and they begin to generate greater amounts of free cash flow. Previous studies, similarly show that large firms tend to be mature organizations with a steady earnings pattern, who can maintain a reasonable level of

funds, whereas small firms usually are exposed to more volatile cash flows (Fama and French, 2001; Grullon et al., 2002). Larger firms also have easier access to capital markets allowing them to raise external financing at lower costs than smaller firms, reducing their dependence on internally generated earnings (Farinha, 2003; Ferris et al., 2006). Given their less reliance on internal funds and lower transaction costs, larger firms are more likely to pay dividends and can afford to distribute higher cash dividends than their smaller counterparts.

Indeed, Kim and Gu (2009), Moon et al. (2015) and Bahreini and Adaoglu (2018) have all provided evidence that firm size is a positive driver of dividend payout setting process. Borrowing the above arguments, we postulate that more mature and larger-sized UK T&L firms are more likely to distribute cash dividends. Hence:

H5: Firm age is positively related to UK travel and leisure firms' dividend policy decisions.

H6: Firm size is positively related to UK travel and leisure firms' dividend policy decisions.

4.2 Methodology

To test our research hypotheses (Hypothesis 2 through Hypothesis 6), we design logit and Tobit regression models. This is because we employ two different dividend policy measures (i.e., two different dependent variables), and the type of measure defines the appropriate econometric technique. First, we compute a logit model (Model 3) to estimate a binary variable (0/1) as firms have the option of either paying or not paying a cash dividend in setting their dividend policies. Second, we estimate the intensity of paying dividends using the dividend payout ratio. A firm's dividend payout ratio may have two outcomes: either zero (a discrete number) if the firm does not pay dividends, or a positive value (continuous values) if the firm pays dividends, but will never be negative (left-censored at zero). So a Tobit model was designed to estimate this dependent variable (Model 4).

Then, we describe a set of explanatory variables proxying for each of our five hypotheses, based on the most prevalent forms in the literature. Again, given that our research sample covers a relatively long period (2007-2019), we include year dummies to control for time-varying factors. Finally, we use one-year lagged values for all independent variables (except year dummies) to make sure that they are predetermined with respect to the dividend payment decision, thus alleviating endogeneity concerns. The corresponding logit and Tobit models are formulated as follows:

$$\text{Model 3: } \textit{Logit}\ (\text{DPAY}_{i,t}) = \alpha_l + \beta_1 \text{ROA}_{i,t-1} + \beta_2 \text{GROW}_{i,t-1} + \beta_3 \text{DEBT}_{i,t-1} + \beta_4 \text{AGE}_{i,t-1} + \beta_5 \text{SIZE}_{i,t-1} + \sum_{t=1}^{T} \beta_t \text{YEAR}_{i,t} + \varepsilon_{i,t} \quad (7)$$

$$\text{DPAY}_{i,t} = \begin{cases} 0 \text{ if } \text{DPAY}_{i,t} = 0 \\ 1 \text{ if } \text{DPAY}_{i,t} > 0 \end{cases}$$

$$\text{Model 4: } \textit{Tobit}\ (\text{DPOUT}_{i,t}) = \alpha_l + \beta_1 \text{ROA}_{i,t-1} + \beta_2 \text{GROW}_{i,t-1} + \beta_3 \text{DEBT}_{i,t-1} + \beta_4 \text{AGE}_{i,t-1} + \beta_5 \text{SIZE}_{i,t-1} + \sum_{t=1}^{T} \beta_t \text{YEAR}_{i,t} + \varepsilon_{i,t} \quad (8)$$

$$DPOUT_{i,t} = \begin{cases} 0 & \text{if } DPOUT_{i,t} = 0 \\ DPOUT_{i,t} & \text{if } DPOUT_{i,t} > 0 \end{cases}$$

where DPAY is the probability of paying a cash dividend, which is a binary code (0/1) that equals 1 if the firm pays dividends and 0 otherwise (Model 2), and DPOUT is the dividend payout ratio, calculated as dividends per share to earnings per share (Model 3). The explanatory variables are as follows: ROA is the return on assets (profitability), GROW is the market-to-book ratio (growth/investment opportunities), DEBT is the fraction of total debt to total assets (debt ratio), AGE is the natural logarithm of the total number of years since the firm's incorporation date (firm age), SIZE is the natural logarithm of the firm's total assets (firm size) and YEAR is the yearly dummies for the years between 2007 and 2019, which take a value of 1 for the particular year and 0 otherwise.

4.3 Empirical results

Panel A of Table 4 reports descriptive statistics for our research variables over the period 2007-2019. These show that the mean DPAY illustrates that UK T&L firms in our sample paid cash dividends in 60.5% of the total observations, whereas DPOUT reveals that firms had an average dividend payout ratio of 31.9%. The mean DEBT and ROA figures imply that T&L companies had about 21.3% debt financing in their capital structures and had around a 2.6% of return on their total assets invested. On average, UK T&L firms experienced good investment prospects between 2007 and 2019, as evidenced by the mean GROW of 1.814, which is much higher than unity. It is worth noting that each variable has 524 firm-year observations, except DPOUT, which has 495 firm-year observations. When firms make losses and pay a cash dividend, their payout ratio becomes negative but a firm's dividend payout ratio cannot be negative. Thus, we exclude such observations.

(Insert Table 4 about here)

The results of Pearson's correlation matrix and variance inflation factor (VIF) values for the independent variables are shown in Panel B of Table 4. While the results indicate significant correlations between the variables, they are no more than moderately correlated. The VIF and tolerance (1/VIF) statistics are also calculated – as a rule of thumb, a VIF greater than 10 and a tolerance value lower than 0.1 (that corresponds to a VIF value of 10) indicate multicollinearity (Gujarati, 2003; Al-Najjar and Kilincarslan, 2018; Kilincarslan, 2018; Kilincarslan et al., 2020). However, we find that no VIF exceeds 10 or a tolerance value lower than 0.1. Hence, our results suggest no multicollinearity problem exists between the independent variables.

Furthermore, we computed logit and Tobit models to identify how financial characteristics of UK T&L companies affect their dividend payment decisions. More specifically, Panel A of Table 5 reports the results of the random effects logit estimations (Model 3), and Panel B of Table 5 presents the results of random effects Tobit estimations (Model 4).

(Insert Table 5 about here)

It can be seen that both Model 2 and Model 3 are statistically significant at the 1% level, as Wald χ^2 tests demonstrate. The likelihood ratio test statistics are also very significant at the 1% level, indicating that the panel-level variance component (ρ) values differed appreciably from zero (0.820 for Model 3 and 0.608 for Model 4). These findings suggest that the random effects logit and Tobit (panel) estimates are more favorable than the pooled estimates for our model. Therefore, the empirical findings are reported based on the former.

The random effects logit and Tobit estimates shown in Table 5 display a strong positive effect of profitability (ROA) on both the probability and intensity of paying a cash dividend of UK T&L firms. This is because the logit coefficient (Panel A) and Tobit coefficient (Panel B) for ROA are positive and statistically significant at the 1% level ($\beta_1 = 0.183$, $p < 0.01$ in Model 3 and $\beta_1 = 0.025$, $p < 0.01$ in Model 4). This evidence of a positive impact is consistent with the signaling theory and suggests that the more highly profitable T&L companies are more likely to pay and distribute larger cash dividends to convey their better financial performance. This finding of a positive relationship between profitability and dividend payments is also in line with previous studies, such as Fama and French (2001), Aivazian et al. (2003b), Ferris et al. (2006), Kim and Gu (2009) and Bahreini and Adaoglu (2018). Thus, this evidence provides support for H2.

Moreover, the results indicate a significant inverse association between debt (DEBT) and dividend payment decisions. The DEBT coefficients are statistically significant and negative in both logit ($\beta_3 = -0.045$, $p < 0.05$ in Model 3) and Tobit ($\beta_3 = -0.005$, $p < 0.05$ in Model 4) models. This inverse correlation is in accordance with the transaction cost theory, showing that highly levered UK T&L companies tend to distribute no or low cash dividends in order to use internal funds to pay their financial obligations and to minimize the dependency on external financing and the risk of bankruptcy. The evidence of the negative impact of debt on dividend policy is also consistent with prior research (e.g., Rozeff, 1982; Aivazian et al., 2003b; Kim and Gu, 2009) and lends support for H4.

The panel logit and Tobit estimates reveal that the corporate dividend decisions of UK T&L companies are also positively affected by the size of the company (SIZE), since the coefficients on this variable are positive and highly significant ($\beta_5 = 1.112$, $p < 0.01$ in Model 3 and $\beta_1 = 0.107$, $p < 0.01$ in Model 4). This evidence accords with the notion that large firms are usually mature organizations with ready access to capital markets and a solid earnings pattern. Hence, given that they have lower transaction costs and are less reliant on internal funds, large-size firms are more likely to pay dividends and can distribute bigger cash dividends than their smaller counterparts (Fama and French, 2001; Farinha, 2003; Ferris et al., 2006). This finding is also consistent with other studies, such as Kim and Gu (2009), Moon et al. (2015), Elmagrhi et al. (2017) and Bahreini and Adaoglu (2018), which lends support to H6.

Lastly, the results in Table 5 show no significant impact of growth (GROW) and firm age (AGE) on dividend payment decisions. Thus, these results indicate that growth opportunities and firm age do not influence the probability and intensity of paying a cash dividend of T&L firms. Therefore, this evidence leads to the rejection of H3 and H5.

Overall, using two alternative dividend policy measures (i.e., the probability and intensity of paying dividends) and different appropriate econometric techniques (i.e., logit and Tobit), we attempt to present more robust findings. These findings also exhibit consistency because the test variables have the same directional signs and similar statistical significance in both

models. Specifically, our results would indicate that more profitable and larger T&L companies are better disposed to pay dividends (and distribute higher dividends), while T&L companies with more debt are less disposed to pay dividends (and distribute lower dividends) in the UK market.

5. Analysis of Financial Characteristics Effect on Dividend Smoothing

5.1 Theoretical background

Al-Najjar and Kilincarslan (2017) find that the ownership structure of publicly listed firms affects their target payout ratios and dividend smoothing levels in the Turkish market, due to different preferences and concerns on cash dividends among the existence and types of large shareholders (e.g., family owners, institutional investors, foreign and/or domestic blockholders). Similarly, Kilincarslan (2017) detects that although financial firms traded in the Borsa Istanbul generally pursue relatively stable dividend policies, various firm characteristics (e.g., profitability, debt, growth and size) have different impacts on the target payouts and speed of adjustments of these firms. So far, our analyses first show that UK T&L companies set binding long-term payout ratios, moving gradually to their targets with a serious degree of smoothing. Second, we then reveal that there are significant associations between financial characteristics and dividend payment decisions (both for the probability and intensity for paying cash dividends) of T&L companies in the UK. In this respect, we predict that different financial characteristics of tourism and leisure firms are more likely to influence their dividend policy behavior in terms of setting target payout ratios and speed of adjustments. Therefore, the following is hypothesized:

H7: *UK travel and leisure firms' target payout ratios and dividend smoothing levels differ based on their financial characteristics.*

5.2 Methodology

In order to ascertain how financial characteristics of UK T&L companies affect their TPRs and SOAs over the period 2007-2019, we first start by partitioning our sample. Since our analysis in the previous part indicates that profitability, debt and firm size are the significant financial features, we stratified the sample into (1) high- and low-profitability firms, (2) firms with high and low debt, and (3) large and small firms. Then, we apply our modified version of the Lintner model (Model 1) on these six sub-samples based on the three firm characteristics to determine whether the TPRs and SOAs among sub-samples differ significantly from one another.

5.3 Empirical results

Table 6 reports the results of the pooled OLS regression estimates and corresponding TPR and SOA values for the six sub-samples according to the three financial characteristics – particularly, profitability in Panel A, debt level in Panel B and firm size in Panel C.

(Insert Table 6 about here)

The results present that all *F*-statistics for the six regression models are statistically significant at the 1% level, with the high R^2 values ranging from 74.42% to 86.11% – except for the low profitability group which obtained a moderate R^2 value of 54.38%. We further observe that the two independent variables, $EARN_{i,t}$ and $DIV_{i,t-1}$, are statistically significant in all

regressions (either at the 5% or 1% levels of significance) and have the same directional impacts (positive) on the dependent variable ($DIV_{i,t}$), as predicted by the Lintner model. Nevertheless, the coefficients (β_1 and β_2) of these independent variables generally are very different amongst the six sub-samples. This implies, then, that the TPRs and SOAs of T&L companies in six categories differ considerably from each other. At first sight, this evidence indicates the impact of financial characteristics on dividend smoothing practices as hypothesized.

More specifically, Panel A of Table 6 displays that the high profitability group has a TPR of 52.3% and a SOA of 0.35, whereas the low profitability group has a TPR of 42.3% and a SOA of 0.291. Consistent with the notion that profitability positively affects dividend payments, this finding reveals that more profitable UK T&L firms tend to distribute larger cash dividends to show their good performance, whereas less profitable ones cannot mimic such payout levels. Both groups exhibit a serious degree of dividend smoothing, but low profitable T&L firms follow stickier (more stable) dividend payment patterns, to possibly prevent volatility in dividends and strengthen the credibility of stable dividend distributions. Panel B illustrates that high-debt sub-sample's TPR (34.6%) is considerably lower than low-debt sub-sample's TPR (51%), which suggests that T&L firms with higher debt levels are more likely to use their earnings to pay their financial obligations at first instead of focusing on dividends unlike their count erparts with low-debt levels.

The results also show that high-debt companies have a relatively lower SOA value of 0.303, which signposts that they pursue steadier dividend payments as compared to low-debt companies with an overall SOA of 0.355. Panel C of Table 6 presents that large-size UK TL companies have a much greater TPR than small-size ones (54.8% and 40.2%, respectively). This finding is in line with the conventional view of the positive relationship between firm size and dividends and suggests that larger T&L companies tend to pay higher cash dividends, owing to their more stable earnings and easier access to capital markets. The SOA estimates (i.e., 0.259 for large-size and 0.311 for small-size firms) reveal that, although both sub-samples employ a serious degree of dividend smoothing, large-size ones exhibit smoother dividend payment patterns, which might be due to the fact that smaller T&L companies experience relatively more volatile cash flows. Overall, our empirical results indicate that UK T&L firms' target payout ratios and dividend smoothing practices show significant differences based on their financial characteristics and thus provide support for H7.

Again, we conduct further analysis using firm-level data to check whether our findings are robust or sensitive to the usage of different dividend policy measure. Particularly, we replicate the above tests applying the modified Lintner model using per share data (Model 2) on the six sub-samples. As demonstrated in Table 7, we observe very similar estimates and results to those previously reported using aggregate data in Table 6.

(Insert Table 7 about here)

6. Discussion and Conclusions

Although dividend policy setting process is one of the key aspects of corporate financial management and, hence, has important implications on overall corporate strategy and firm value creation, relatively less attention is given to this topic in the tourism literature. Especially,

no research has been undertaken in the UK context investigating dividend behavior of travel and leisure firms, despite the facts that (i) tourism is one of the most important sectors in the UK, (ii) the UK is among the top countries that generated the highest international tourism earnings worldwide, and (iii) UK-listed companies have a record of significantly higher dividend payout rates than those of other developed countries. Using a sample of 55 travel and leisure firms listed on the London Stock Exchange over the period 2007-2019, we therefore examine the cash dividend payment practices of these tourism sector companies in the UK. Accordingly, this study makes an important contribution to the tourism literature, providing valuable insight into this under-researched area in the tourism academia.

This study's findings give rise to a number of important conclusions. First, it can be seen from our empirical results that both lagged cash dividends and current earnings are positive and significant factors in determining current cash dividends of UK T&L firms. In order to do this, they have their long-term payout ratios and adjust their cash dividends and payment streams over years by a serious degree of smoothing. Thus, they adopt a stable dividend policy rather than matching dividend payments immediately with the earnings changes or paying out whatever remains after funding desired investment projects. One obvious interpretation of this finding is the desire of T&L companies to avoid the volatility in dividends, reflecting the volatility in earnings, which in turn may be perceived as a bad signal by the market. This could be attributable to the explanation that dividend smoothing may be an optimal pre-commitment mechanism for T&L companies to signal credible insider information to investors, to minimize agency problems and help satisfy dividend income requirements of financial investors on an ongoing basis in the UK market.

Moreover, the results reveal that financial characteristics of UK T&L firms, such as profitability, debt and size, have significant effects on their dividend payment decisions. Specifically, more profitable and larger T&L corporations are more likely to pay cash dividends (and distribute higher cash dividends), whereas T&L companies with more debt are less likely to pay cash dividends (and distribute lower cash dividends) in the UK market. We further detect that these financial characteristics have also important impacts on the target payout ratio and dividend smoothing levels of T&L firms. For example, more profitable UK T&L firms tend to pay larger cash dividends to show their good performance and less profitable ones cannot mimic such payout levels, while T&L firms with high debt have considerably lower target payout ratios in order to use their earnings to pay their financial obligations at first instead of focusing on dividends, unlike their counterparts with low-debt levels. It is found that larger T&L companies appear to pay higher cash dividends, owing to their more stable earnings and easier access to the capital markets. Although such financial features also seem to have significant effects on the speed of adjustment levels, UK T&L companies in general exhibit a serious degree of dividend smoothing over years and thus pursue stable dividend policies between 2007 and 2019.

Our results have important practical implications, especially for tourism managers and investors. Since T&L companies are generally characterized by higher capital intensity and higher competitive rivalry than other service sector companies, understanding the common dividend policy behavior in this sector helps corporate managers to review their dividend practices, compare them with their counterparts, and set optimum policies in a way that increases their firm value. This would also possibly affect the company profile by indicating credible signals to the market and would thus attract more investments from investors,

meaning more capital and liquidity, increased financial capabilities and better growth prospects. Furthermore, our results provide useful information to investors who may differ in their preferences regarding returns on their investments (e.g., some want dividend income, whereas others prefer capital gains, or a mixture of both), they should give careful consideration to UK T&L firms' dividend policies prior to investing. Therefore, knowledge of the dividend practices could help portfolio managers and investors when selecting companies with policies that best fit their investment targets.

The findings of our study will also benefit scholars and researchers, who seek useful guidance from the relevant literature. Given that our study focused only on T&L companies in the UK market, we strongly encourage comparative studies in other countries to examine dividend policy practices of T&L firms and to determine the generalizability of our findings. This would provide better understanding about dividend behavior and determinants that drive dividend practices of T&L companies more globally, thus enriching the tourism literature concerning the dividend policy debate. Another important point is that, although our study period covers a recent and relatively long time period (2007-2019), the recent outbreak of deadly coronavirus disease (COVID-19) has created a global health crisis that caused an immediate shock to all aspects of our world and everyday lives. This situation has led to extreme measures of government restrictions, such as travel bans, lockdown and social distancing, which have resulted in severe impacts not only on the social life of individuals but also on global economies and all kinds of businesses across the world. Knowing that the tourism sector is highly vulnerable to such events and considering the crucial adverse social, economic and financial effects of the pandemic, it is not surprising that COVID-19 will push T&L companies to implement recovery strategies from this crisis in the short-run, and will probably affect their overall corporate strategies and financial policies (including dividend policy) in the medium- and long-term. Therefore, we call for future studies examining the impact of the COVID-19 crisis on dividend policy behavior and practices of T&L firms when the data becomes available. In this respect, our study can serve as a valuable benchmark for such studies to identify similarities and differences before and after the coronavirus pandemic.

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Table 1. Descriptive statistics for the sample's dividend payments and net earnings trends between 2007 and 2019.

Year	No. of firm-year observations	Cash dividend payers (%)	Cash dividends (million £)	Net earnings (million £)	Dividends per share (£)	Earnings per share (£)	Dividend payout ratio (%)
2007	31	64.52 (48.64)	41.20 (68.12)	58.04 (86.26)	0.184 (0.301)	0.205 (0.542)	28.99 (36.84)
2008	31	64.52 (48.64)	24.30 (39.55)	51.39 (84.52)	0.120 (0.201)	0.144 (0.473)	31.71 (31.28)
2009	31	61.29 (49.51)	20.06 (38.77)	37.30 (71.32)	0.091 (0.169)	0.058 (0.413)	35.40 (43.31)
2010	32	65.63 (48.26)	21.41 (35.86)	47.03 (76.84)	0.093 (0.170)	0.151 (0.448)	30.68 (33.65)
2011	33	66.67 (47.87)	21.43 (40.08)	64.82 (93.11)	0.088 (0.156)	0.207 (0.559)	31.06 (35.81)
2012	37	62.16 (49.17)	29.82 (54.22)	64.08 (103.5)	0.122 (0.226)	0.156 (0.518)	28.63 (32.60)
2013	40	57.50 (50.06)	25.50 (47.31)	56.93 (97.62)	0.111 (0.225)	0.184 (0.456)	33.58 (43.38)
2014	43	51.16 (50.58)	20.50 (43.25)	51.29 (96.38)	0.090 (0.198)	0.184 (0.460)	26.48 (36.36)
2015	44	59.09 (49.74)	24.96 (48.26)	57.24 (100.8)	0.122 (0.238)	0.225 (0.478)	31.17 (40.68)
2016	47	59.57 (49.61)	24.58 (46.72)	56.36 (96.25)	0.113 (0.234)	0.219 (0.463)	30.22 (38.63)
2017	49	59.18 (49.66)	25.04 (47.28)	51.30 (94.21)	0.112 (0.229)	0.204 (0.451)	31.39 (38.35)
2018	55	60.00 (49.44)	25.49 (48.03)	45.22 (91.40)	0.108 (0.219)	0.174 (0.462)	35.25 (43.52)
2019	55	60.78 (49.31)	29.90 (57.41)	43.54 (95.46)	0.119 (0.231)	0.219 (0.436)	38.56 (48.02)
Over the period (2007-2019)	524	60.50 (48.93)	25.68 (47.98)	52.36 (91.95)	0.113 (0.218)	0.184 (0.469)	31.93 (39.08)

Notes: We report the mean values and standard deviations in parentheses. We winsorized the data at the 1st and 99th percentiles to minimize the effects of the outliers.

Table 2. OLS results for dividend smoothing

Estimates for the modified specification of Lintner model		
Dependent variable:	Cash Dividend Payments ($DIV_{i,t}$)	
Model:	Model 1	
Estimation method:	Pooled OLS	
Independent variables (βs):	Coefficient (Std. error)	*t*-value
$EARN_{i,t}$ *(β_1)*	0.136*** (0.0385)	3.53
$DIV_{i,t-1}$ *(β_2)*	0.682*** (0.0794)	8.59
YEAR	Yes	
Constant	1.077 (0.936)	1.15
Number of observations	469	
F-statistic	77.96***	
R-squared (%)	80.10	
Estimates of SOA and TPR using delta method		
	Coefficient (Std. error)	*t*-value
Target payout ratio (*r*) $\left[r = \frac{\beta_1}{1-\beta_2}\right]$	0.428*** (0.0550)	7.79
Speed of adjustment (*c*) $[c = 1-\beta_2]$	0.318*** (0.0794)	4.00

Notes: We report the OLS coefficients and standard errors in parentheses, and *t*-values. We test the pooled OLS model using White's corrected heteroscedasticity robust regression. We use the delta method to calculate structural parameters (SOA and TPR) as linear or nonlinear combinations of regression coefficients (β_1 and β_2). *** denotes significance at the 0.01 level.

Table 3. OLS results of dividend smoothing using firm-level data

Estimates for the modified specification of Lintner model		
Dependent variable:	Dividends Per Share ($DPS_{i,t}$)	
Model:	Model 2	
Estimation method:	Pooled OLS	
Independent variables (βs):	Coefficient (Std. error)	*t*-value
$EPS_{i,t}$ (β_1)	0.117*** (0.0318)	3.68
$DPS_{i,t-1}$ (β_2)	0.693*** (0.0819)	8.46
YEAR	Yes	
Constant	0.025 (0.025)	1.00
Number of observations	469	
F-statistic	88.45***	
R-squared (%)	81.87	
Estimates of SOA and TPR using delta method		
	Coefficient (Std. error)	*t*-value
Target payout ratio (*r*) $\left[r = \frac{\beta_1}{1-\beta_2}\right]$	0.381*** (0.0481)	7.92
Speed of adjustment (*c*) $[c = 1-\beta_2]$	0.307*** (0.0821)	3.74

Notes: We report the OLS coefficients and standard errors in parentheses, and *t*-values. We test the pooled OLS model using White's corrected heteroscedasticity robust regression. We use the delta method to calculate structural parameters (SOA and TPR) as linear or nonlinear combinations of regression coefficients (β_1 and β_2). *** denotes significance at the 0.01 level.

Table 4. Descriptive statistics, Pearson's correlations and VIF values

Panel A: Descriptive statistics

Variables	DPAY	DPOUT	ROA	GROW	DEBT	AGE	SIZE
Mean	0.605	0.319	0.026	1.814	0.213	2.699	12.24
Median	1.000	0.194	0.035	1.441	0.196	2.639	12.44
Std. Dev.	0.489	0.391	0.144	1.243	0.180	1.294	2.321
Minimum	0.000	0.000	−0.462	0.597	0.000	0.000	8.105
Maximum	1.000	1.401	0.158	5.483	0.570	4.828	15.48
Observations	524	495	524	524	524	524	524

Panel B: Pearson's correlations and VIF values

Variables	ROA	GROW	DEBT	AGE	SIZE	VIF	1/VIF
ROA	1.000					1.32	0.758
GROW	−0.144**	1.000				1.07	0.935
DEBT	0.228**	−0.056	1.000			1.50	0.667
AGE	0.308*	−0.152*	0.043	1.000		1.19	0.840
SIZE	0.463**	−0.233**	0.554**	0.320**	1.000	1.94	0.515

Notes: We winsorized the data at the 1st and 99th percentiles to minimize the effects of the outliers. ** and * denote significance at the 0.01 and 0.05 levels, respectively.

Table 5. Random effects logit and Tobit results on dividend decisions

Dependent variable:	**Panel A**: Dividend Decision (0/1) ($DPAY_{i,t}$)		**Panel B:** Dividend Payout Ratio ($DPOUT_{i,t}$)	
Model:	Model 3		Model 4	
	Random Effects Logit		Random Effects Tobit	
Independent variables:	Coefficient (Std. error)	*z*-value	Coefficient (Std. error)	*z*-value
$ROA_{i,t-1}$	0.183*** (0.0449)	4.07	0.025*** (0.0059)	4.24
$GROW_{i,t-1}$	−0.383 (0.4208)	−0.91	−0.018 (0.0367)	−0.49
$DEBT_{i,t-1}$	−0.045** (0.0224)	−2.01	−0.005** (0.0025)	−1.97
$AGE_{i,t-1}$	0.513 (0.4071)	1.26	0.061 (0.0452)	1.35
$SIZE_{i,t-1}$	1.112*** (0.3204)	3.47	0.107*** (0.0328)	3.26
YEAR	Yes		Yes	
Constant	−13.098*** (3.8076)	−3.44	−1.496*** (0.4214)	−3.55
No. of observations	469		443	
Wald χ^2	37.07***		47.30***	
ρ value	0.820		0.608	
Likelihood ratio test	128.94***		67.23***	

Notes: We report the logit/Tobit coefficients and standard errors in parentheses, and *z*-value. We use one-year lagged values of the independent variables. *** and ** denote significance at the 0.01 and 0.05 levels, respectively.

Table 6. OLS results of financial characteristics effect on dividend smoothing

Estimates for the modified specification of Lintner model						
	Panel A: Profitability		**Panel B:** Debt Level		**Panel C:** Firm Size	
	High	Low	High	Low	Large	Small
Dependent variable: Cash Dividend Payments ($DIV_{i,t}$)						
Model 1						
Independent variables (βs):						
$EARN_{i,t}$ (β_1)	0.183** (0.0910)	0.123*** (0.0454)	0.105** (0.0530)	0.181*** (0.0487)	0.142*** (0.0422)	0.125*** (0.0401)
	2.01	2.71	1.98	3.71	3.37	3.12
$DIV_{i,t-1}$ (β_2)	0.650*** (0.1404)	0.709*** (0.0937)	0.697*** (0.1204)	0.645*** (0.0953)	0.741*** (0.0715)	0.689*** (0.0763)
	4.63	7.57	5.79	6.77	10.36	9.03
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
Constant	1.522* (0.9114)	−1.212 (0.8417)	−1.576 (1.4593)	1.633** (0.7927)	1.859** (0.8895)	0.577 (0.4404)
	1.67	−1.44	−1.08	2.06	2.09	1.31
Number of observations	272	197	219	250	243	226
F-statistic	79.24***	26.04***	39.11***	41.85***	58.21***	94.60***
R-squared (%)	84.26	54.38	77.30	83.63	74.42	86.11
Estimates of SOA and TPR using delta method						
Target payout ratio (*r*) $\left[r = \frac{\beta_1}{1-\beta_2}\right]$	0.523** (0.2641)	0.423*** (0.0633)	0.346*** (0.0846)	0.510*** (0.0698)	0.548*** (0.1877)	0.402*** (0.0693)
	1.98	6.68	4.09	7.31	2.92	5.80
Speed of adjustment (*c*) $[c = 1-\beta_2]$	0.350** (0.1405)	0.291*** (0.0936)	0.303** (0.1202)	0.355*** (0.0954)	0.259*** (0.0795)	0.311*** (0.0764)
	2.49	3.11	2.52	3.72	3.26	4.07

Notes: We report the OLS coefficients and standard errors in parentheses, and *t*-values. We test the pooled OLS models using White's corrected heteroscedasticity robust regressions. We use the delta method to calculate structural parameters (SOAs and TPRs) as linear or nonlinear combinations of regression coefficients (β_1's and β_2's). ***, ** and * denote significance at the 0.01, 0.05 and 0.10 levels, respectively.

Table 7. OLS results of financial characteristics effect on dividend smoothing using firm-level data

Estimates for the modified specification of Lintner model						
	Panel A: Profitability		**Panel B:** Debt Level		**Panel C:** Firm Size	
	High	Low	High	Low	Large	Small
Dependent variable: Dividends Per Share ($DPS_{i,t}$)						
Model 2						
Independent variables (βs):						
$EPS_{i,t}$ (β_1)	0.163** (0.0524)	0.138** (0.0701)	0.098*** (0.0373)	0.162*** (0.0577)	0.160*** (0.0469)	0.094*** (0.0310)
	3.11	1.97	2.63	2.81	3.41	3.03
$DPS_{i,t-1}$ (β_2)	0.655*** (0.1051)	0.568*** (0.2036)	0.711*** (0.1177)	0.645*** (0.1156)	0.640*** (0.0907)	0.734*** (0.0947)
	6.23	2.79	6.04	5.58	7.06	7.75
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.041 (0.7322)	0.014 (0.0099)	0.005 (0.0102)	0.052 (0.0382)	0.063 (0.0389)	0.013 (0.0105)
	0.56	1.41	0.49	1.36	1.62	1.24
Number of observations	272	197	219	250	243	226
F-statistic	119.89***	67.72***	62.71***	46.02***	98.76***	35.42***
R-squared (%)	86.96	62.06	80.77	84.14***	80.10	57.38
Estimates of SOA and TPR using delta method						
Target payout ratio (*r*) $\left[r = \frac{\beta_1}{1-\beta_2}\right]$	0.472*** (0.0538)	0.319* (0.1855)	0.339*** (0.0622)	0.456*** (0.0732)	0.444*** (0.0581)	0.353*** (0.0728)
	8.78	1.72	5.45	6.23	7.64	4.85
Speed of adjustment (*c*) $[c = 1-\beta_2]$	0.345*** (0.1052)	0.432** (0.2038)	0.289** (0.1175)	0.355*** (0.1156)	0.360*** (0.0928)	0.266*** (0.0947)
	3.28	2.12	2.46	3.07	3.88	2.81

Notes: We report the OLS coefficients and standard errors in parentheses, and *t*-values. We test the pooled OLS models using White's corrected heteroscedasticity robust regressions. We use the delta method to calculate structural parameters (SOAs and TPRs) as linear or nonlinear combinations of regression coefficients (β_1's and β_2's). ***, ** and * denote significance at the 0.01, 0.05 and 0.10 levels, respectively.

Figure 1. Patterns of dividend payers, cash dividends and net earnings between 2007 and 2019

Figure 2. Patterns of dividends per share, earnings per share and dividend payout ratio between 2007 and 2019