

Article

What Best Explains Reporting Delays? A SME Population Level Study of Different Factors

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Abstract: The objective of this paper is to find out which factors best explain why SMEs delay their annual reports (DAR). Relying on various theoretical streams, we use three types of variables to explain DAR: past DAR behaviour of managers, corporate governance characteristics and occurrence of financial distress. The study is based on the whole population data from Estonia, with a total 59,294 unique firms. Two types of DAR, i.e., short- and long-term delays, are used as dependent variables in the logistic regression analysis. The paper indicates that both types of today's DAR are best explained by the previous DAR behaviour of managers, especially in the nearest past. Financial distress has a lower, but still acceptable explanatory power, while it remains weak for the corporate governance characteristics. Firm size and age have an impact on the results. As the paper indicates the prominence of recurrent violation behaviour in explaining DAR, the legal framework and its implementation could be adjusted to take account of this fact. The linkage of DAR and financial distress suggests the inclusion of the former into credit scoring models.



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1. Introduction

During the course of more than fifty years, many studies have been conducted to analyse the importance of accounting information presentation for making decisions, e.g., [1–3], while the topic has attracted ongoing research interest [4,5]. One of the most important characteristics of accounting information is its utility for founded decisions by companies' stakeholders, while such utility is based on information availability and timeliness. The relevance and usefulness of accounting information for stakeholders differs depending on firm's size, because the impact of large firms on the economy of a country is high compared with small and medium-sized enterprises (SMEs), although there are more SMEs worldwide than large firms, representing 90% of businesses [6]. According to the article 1 of IFRS for SMEs [7], they publish only general-purpose financial statements (including a balance sheet and income and cash flow statements) for certain external users. The latter means that the financial statements of SMEs are not as elaborate as those of large firms and the range of potential stakeholders is not as wide as for large firms.

According to the agency theory [8,9], the accounting disclosure policy is part of the contracting process between companies and their stakeholders, and its scope depends on firm's characteristics. Small firms have fewer stakeholders interested in their information, and therefore the motivation for making SME accounting information public is restricted. SME stakeholders are much less interested in having their financial performance portrayed in annual reports. SME annual reports are often simple documents, which do not portray the activities of firms in such detail as those of large/listed firms. Detailed financial information is often left undisclosed for SMEs, and, in addition, annual reports could be delayed or never submitted. Therefore, it might be technically impossible to study the

poor financial performance of a SME as a precedent of a reporting delay. Besides the latter, many SME managers consider annual reports just as a compulsory legal requirement. SME managers are not under pressure, due to the lack of public scrutiny (by, e.g., investors and financial analysts) resulting from private ownership, coupled with a low litigation risk. Still, in some countries with a high tax alignment, tax authorities will scrutinize financial statements in more depth, which is likely to positively affect financial statement quality [10].

The topic of reporting delays has a strong interconnection with the sustainability of a company. Delaying firms have been found to perform poorly [11], and are thus less sustainable in a broader sense, i.e., they have a higher risk of failure. Financial performance is also a key topic studied in conjunction with sustainability [12]. In a narrower sense, firms violating accounting rules could be less responsible towards different stakeholders [13], including being less environmentally and socially responsible. The latter issue could be especially characteristic of non-audited SMEs [14]. As corporate misbehaviour has been found to be bundled [15], delaying as a law violation could point to a more universal corporate negligence. Therefore, reporting delays could well serve as a proxy of unsustainability in both a broader and a narrower sense.

Previous literature shows that the overwhelming majority of papers study the reporting delays of large or listed firms and their determinants, and only a scant amount focuses on the late filing of financial statements in SMEs. Information asymmetry problems have been found to be more severe for SMEs in comparison with large or listed firms [16]. The papers by Luypaert et al. [17] on the example of Belgian SMEs and by Clatworthy and Peel [18] on the example of the UK's SMEs posit that, in case of delayed filings, the quality of financial statements is usually lower. However, there are also other explanations for the reporting delays of SMEs. For example, Altman et al. [19] justify the late filing of accounts with intentional managerial decisions, in order not to publish unfavourable information, i.e., the occurrence of financial difficulties. In this line, Lukason [20] posits, on the example of Estonian data, that the lengthy non-submission of annual reports is usually a sign of insolvency.

Given the lack of knowledge on what drives managers to violate the compulsory presentation of accounting information, this paper aims to find out which factors best explain why SMEs delay their annual reports (DAR). The paper is focused on SMEs due to their economic importance in Europe [21]. SMEs cover 98% of all European firms but are also responsible for approximately two-thirds of the total turnover and employment [22]. The study's context is Estonia, a country where the disclosure of all accounting information is digital, and thus easily accessible for the SME population. Three theoretically motivated potential drivers of DAR, namely the past DAR behaviour of managers, corporate governance characteristics and the firms' financial distress are used in this study to determine which of them best accounts for the short- and long-term DAR of Estonian SME firms. The paper's main contribution to the extant literature is that the past DAR behaviour of managers, a domain which has not been applied in comparable studies, leads to the highest explanatory power of today's DAR.

The following part presents the relevant prior literature (Section 2.1) and sets the research hypotheses (Section 2.2). Section 3 describes the study design used to test the hypotheses. The empirical results and discussion are presented in Section 4, while Section 5 finishes the paper with the conclusion, limitations and practical implications of the study.

2. Literature Review and Hypotheses

2.1. General Considerations

According to agency theory, conflicts of interest could emerge in the decision-making process of the stakeholders of a firm, as insider stakeholders have more information than outsider stakeholders [23]. In the SME context, the information asymmetry concerns the relationship between managers and all other stakeholders, including owners, due to very

simplistic governance systems [24]. Thus, other stakeholders, who are also in need of financial information for decision-making purposes, might have difficulties in accessing it.

Accounting information disclosure is part of the compulsory obligations for all companies around the world, at least once per year, although SMEs and large firms have different motivations to do it. SMEs have fewer incentives and stress to make their information public because of the lack of market pressure. The usual users of SMEs' financial reports include managers, owners, lenders, suppliers, customers, employees and the tax authority [25]. Firstly, managers need the information to run the firm, while owners are concerned about earning a sufficient rate of return on their investments. Creditors and banks demand annual reports to check firms' viability and their ability to pay back loans. Suppliers and customers have many decisions related to firms' information, such as the provision of raw materials, merchandise and payment deadlines. Employees as important stakeholders also need the information to verify the continuity of their employment or to negotiate their collective labour agreement. Finally, governments are interested in knowing SME annual reports mostly for tax collection purposes, while there are other reasons, such as the design of public policies or the collection of nationwide statistics.

In general, there are two possible approaches when it comes to analysing the presentation of annual reports: (1) the reporting timeliness in accounting information reporting, and (2) the failure to make such information public because managers do not present annual reports to the official register when due. The available literature is mostly focused on the reporting timeliness. A definition of timeliness in such studies is usually the period from the fiscal year-end to the day of the official earnings announcement. This total report lag for public firms could be further separated into the audit reporting lag and the discretionary reporting [26]. The audit reporting lag is out of managerial control, while managers could decide about the optimal timing of the financial statements' official announcements, although most countries have regulations to limit this period. However, the total reporting lag for SMEs, normally without compulsory audit requirements, is reduced to their managers' decisions. It should also be noted that even when SMEs are audited, those that are financially distressed might delay or never submit their reports to auditors, and thus stakeholders cannot benefit, anyhow, from the recent advances in the content of audit reports [27].

Prior studies about timely reporting could be divided between the effects and factors of late reporting. The first group of studies, for instance, analyses the impact of reporting timeliness on stock prices [26,28]. Size is one of the most important conditioning factors for explaining timeliness, as smaller companies publish their financial reports relatively later than large ones, irrespective of the information content. However, the reactions to the earnings announcements are bigger for small firms than for large ones [28,29]. Additionally, large companies, as multinationals, also need more time to prepare their financial information due to the higher complexity of their operations [26]. The second group of studies is focused on the factors involved in late reporting. Ashton et al. [30] and McGee [31] state that the net income sign, auditor size, auditor specialization, culture and economic system affect the timeliness of financial statements. However, there are many other factors involved as well.

Currently, timeliness is one of the most pronounced characteristics of financial information because it is a sign of market efficiency, being more important than ever before due to technological advances [32,33]. The study by Dyer and McHugh [34] is one of the earliest where total lag was the number of days from the year-end to the receipt of the published annual report. Their main finding is that small public firms take more time to report than large companies. However, the results of this paper have been challenged, as Davis and Whittred [35] found no association between size and total lag, also using public firms in their study. In addition, size has been proven to have an effect on reporting timing because larger firms have bigger data processing systems, making the information preparation shorter, prepare quarterly reports and have more pressure from their stakeholders [36]. Thus, the results related to firm size are not consistent because of varying evidence.

However, few studies are focused on the non-availability of annual reports in time (i.e., by the legal deadline set). As public large-sized firms are under huge pressure to present financial statements to avoid reputational and market inefficiencies, the few studies about accounting information delays are mostly focused on SMEs. Luypaert et al. [17] outlined why SMEs filed their financial statements late (more than seven months after the closing date of the accounting year) using a sample of Belgian private firms during 2006–2008. Specifically, Luypaert et al. [17] showed that around 30% of Belgian SMEs filed late. Their conclusions are that external audit, size and age are determinants of late filing. Additionally, extremely late filings were associated with lower financial statement quality and probable financial distress, calculated by using a local distress prediction model [17]. Clatworthy and Peel [18] also analyse the financial reporting timeliness of SMEs among a large sample of UK private firms, but this study is mainly focused on the effect of the regulatory context. Still, an important finding was that private firms that need to present information for investors were more law-obedient in doing so [18]. The two recent population-level studies in the Estonian context [11,24] have indicated that SMEs delaying their annual reports over the legal deadline have peculiar financial and governance characteristics. However, none of those studies covers all-inclusively the reasons why SMEs do not disclose their financial statements in time, taking also into account that the deadline violation could be elaborated further, e.g., considering different penalties depending on the length of the violation.

Thus, this study complements the few available earlier studies, but with a different scope. First, we extend these studies by considering different types of violations depending on the time a firm has delayed over the legal deadline. Short- and long-term delays are in many countries subject to different penalties. While short-term delays are usually subject to fines, long-term delays can result in the termination of a firm's activities. Second, we introduce various theoretically motivated domains potentially conditioning the delays in order to know which factors matter the most. These different domains are divided as: (a) individual behaviour level explanations, (b) board level (i.e., corporate governance) level explanations, (c) firm-level explanations. These domains are further explored in the next section.

2.2. Development of Hypotheses

The first domain is focused on managers' behaviour, specifically whether their actions in the past condition their present behaviour. According to Luypaert et al. [17], the filing behaviour in the same firm in the past is a useful predictor of the same phenomenon today. Such postulate could be linked to the theory of credibility used in several different research areas. Relying on this theory, past behaviour related to financial disclosure decisions conditions present behaviour [37]. Moreover, this behaviour could be associated with the idea of inertia, as previously risk-seeking decision makers will continue to be more "adventurous" [38]. From another angle, Baucus and Near [15] postulated a general model of the determinants of corporate illegal activities and found empirical proof that past violations condition future violations. Therefore, SMEs could violate annual reports' submission deadlines when their managers are characterized by such behaviour in the past. Thus, the first hypothesis is set as follows:

Hypothesis 1. *There is a positive relationship between DAR and the number of past delays of annual reports by managers.*

The second domain is focused on corporate governance, specifically on how the way a firm is run conditions SMEs' annual report disclosures. Prior literature shows that internal organizational factors could affect the timing of financial information, such as the history of a company and the personality and preferences of a CEO [39]. In general, managers decide the timing of releases based on measures of cost and benefits concerning early versus late reporting [40]. Due to the fact that there are many corporate governance characteristics available with potentially different effects on the violation, we subdivide this domain into hypotheses about specific variables of corporate governance. As the impact of some

corporate governance factors of SMEs is different from that of large firms [41,42], we focus on three most common corporate governance characteristics of SMEs related to law violation risks.

The first one is the number of board members. As board structure has a substantial impact on monitoring the firm's activities on behalf of shareholders, the number of members is one of the most relevant corporate governance characteristics [43]. Logically, firms' size normally determines the number of members in the board of directors [44,45], and this is in turn essential for the disclosure policy. We propose that when there are more members in the board of directors, more (diverse) opinions must be taken into account, and it is difficult to have a unique point of view. Consequently, the first hypothesis about corporate governance is stated as follows:

Hypothesis 2a. *There is a positive relationship between DAR and the number of SME board members.*

Second, as accounting law violation is concerned, the different risk aversion perception by managers must be considered, which we proxy with being either male or female. Female directors are more prone to follow legal requirements than male ones, because women directors tend to reduce the level of conflicts [46], while levels of ethical [47] and law-obedient [48] behaviour could also differ. Risk aversion literature highlights that women are more risk-averse than men [49,50], although other studies show evidence of gender neutrality in risk propensity and decision making in specific managerial contexts [51]. For instance, Charness and Gneezy [52] claim that because women invest less they just appear to be more financially risk-averse than men. Still, recent studies justify the role of women in the boardroom with a lower propensity of misreporting and frauds when compared to males [53,54]. Thus, the second hypothesis concerning corporate governance is set as follows:

Hypothesis 2b. *There is a negative relationship between DAR and the presence of women on the board.*

Third, a usual corporate governance characteristic applied in relevant studies is the greater share of equity capital owned by the company's insiders as top management, which is also linked with the less punctual filing of financial statements. This might be due to the fact that these insiders are often also the majority shareholders and do not commonly sell their shares, which makes them less interested in informing the market and less concerned about the share prices [33]. Moreover, in owner-managed SMEs, the two governance levels become equalized [41], therefore diminishing the inside pressures to publicize financial information. Thus, the third hypothesis about corporate governance is stated as follows:

Hypothesis 2c. *There is a positive relationship between DAR and the portion of shares owned by managers.*

The third domain of our study is the firm level in the sense of using a summary of its performance. Often, performance is considered as profitability in previous studies on information disclosure policies about large or listed firms. According to Basu [55], profitable companies publish their good news quicker when compared with firms earning losses. Concerning the performance in case of SMEs, studies have indicated that the presence of financial distress could be one of the most important firm-level conditioning factors [11,17,19], which could even outrun other financial domains by means of explanatory power. Another technical aspect concerning the determinants of annual report delays in SMEs relies on the fact that when firms do not submit annual reports, their performance information is not available at all. Therefore, the presence of financial distress could be the most objective financial measure of firm-level (poor) performance. Based on the above reasoning, the last hypothesis about firm-level determinants is stated as follows:

Hypothesis 3. *There is a positive relationship between DAR and the firm's payment defaults.*

3. Data and Method

This paper is based on the whole population data of Estonian SMEs. In total, 59,294 unique firms are included in the analysis. All included firms are SMEs, while very small firms are excluded. The latter are not subject to paying value-added tax, for which the minimum limit in Estonia is an annual turnover of 40 thousand euros. The variables used in this study are documented in Table 1.

Table 1. Variables used in the study.

| Variable Domain | Coding | Calculation |
|--|-----------------------------------|---|
| | Dependent variables | |
| Short-time annual report delay over legal deadline | SDELAY | Delay of ≤ 365 days from legal deadline as 1, otherwise 0 |
| Long-time annual report delay over legal deadline | LDELAY | Delay of > 365 days from legal deadline as 1, otherwise 0 |
| | Independent variables | |
| | 1. Past delaying behaviour | |
| Short-term report delays in the nearest past | PSDELAY | Count of delays of ≤ 365 days in 2016 in all Estonian firms by the managers of the firms used for coding the dependent variable |
| Long-term report delays in the nearest past | PLDELAY | Count of delays of > 365 days in 2016 in all Estonian firms by the managers of the firms used for coding the dependent variable |
| Short-term report delays in the longitudinal past | SUMPSDELAY | Count of delays of ≤ 365 days in 2009–2016 in all Estonian firms by the managers of the firms used for coding the dependent variable |
| Long-term report delays in the longitudinal past | SUMPLDELAY | Count of delays of > 365 days in 2009–2016 in all Estonian firms by the managers of the firms used for coding the dependent variable |
| | 2. Corporate governance | |
| Woman-led board | WOMAN | Presence of at least one female in the board as 1, otherwise 0 |
| Size of board | BOARDSIZE | Number of board members |
| Managerial ownership | BOARDOWNER | The proportion of shares owned by board members |
| | 3. Financial distress | |
| Present financial distress | SDEFAULT | Tax arrears present at the moment of annual report submission deadline as 1, otherwise 0 |
| Past financial distress | LDEFAULT | Tax arrears present for any of the 12 month ends before annual report submission deadline as 1, otherwise 0 |

For detecting the delay of the annual report over the legal deadline, the dependent variable of this study, we have used the 2017 financial year as the latest year under effective regulation, in which the long-term annual report delays are not affected by current COVID-19 situation. Namely, the long-term delays of 2018 reports would occur in mid-2020, which is already affected by the COVID-19 crisis. In addition, the legal setting and its implementation have not changed in Estonia in the viewed period, while the economy has

witnessed a stable growth. Thus, the period chosen could be considered free from external anomalies, which otherwise might have an effect on the results [18,20]. For short-term delay, we use a delay of ≤ 365 days (coded as SDELAY) and for long-term delay >365 days, respectively (coded as LDELAY). The latter choice is motivated by the fact that delaying more than one year can result in more severe consequences for firms in Estonia, the worst penalty being the deletion of the respective firm from the business registry, and thus the cessation of its activities. The population of 59,294 firms breaks down as: (a) 26,381 as SDELAY = 1 and 32,913 as SDELAY = 0, (b) 9548 as LDELAY = 1 and 49,746 as LDELAY = 0. Thus, out of the 26,381 firms with SDELAY = 1, a total of 9548 have migrated to the group of LDELAY = 1 because they had not submitted even one year after the legal deadline. The usage of two different dependent variables enables us to determine whether the determinants of short-term delayers are different from those of long-term ones. The latter follows the previous track in the relevant literature [11,24]. It must be added that, according to the Estonian legislation, all firms must submit an annual report half a year after the end of the fiscal year, at the latest. For the overwhelming majority of firms, the fiscal year matches the calendar year. The time to publish annual reports in Estonia is in line with the time in many other European countries (see, for an overview, [56]). Although an international comparison is not directly in the scope of this study, Estonia could also be considered comparable to many other European countries concerning corporate governance [57] and firms' performance [58].

The independent variables to test the three hypotheses are coded as follows. Past delaying behaviour is similar to the dependent variable, namely being captured with the number of short-term delays (PSDELAY) and long-term delays (PLDELAY), which are calculated from the 2016 annual reports of all Estonian firms in which the managers of the firms used to code the dependent variable were board members. Many managers of SMEs run different firms, and in order to get a holistic picture of their behaviour, all of them should be accounted. As delaying in the nearest past could differ from the longitudinal delaying behaviour, we also calculate these variables as the sum of short-term (SUMPSDELAY) and long-term delays (SUMPLDELAY) for the period 2009–2016. The start of the respective period is chosen as 2009, because this was the first year when managers had to present annual reports digitally. Of these two approaches, i.e., different types of delays in the nearest past (PSDELAY and PLDELAY) and in the longitudinal past (SUMPSDELAY and SUMPLDELAY), the one with better explanatory power is selected for the final integrative model. Both of them will not be applied simultaneously in the analysis, as delays in the nearest past are included in the calculation of longitudinal delays. In case the violation behaviour of managers is persistent in time, the longitudinal variables should theoretically provide a higher explanatory power. The latter variables have not been applied in the relevant literature, although previous violations in the specific firm have been employed [17,20].

For portraying corporate governance, we code three variables based on their usual application formulas in previous studies. Namely, we use the presence of at least one woman in the boardroom (coded as WOMAN), the number of board members (coded as BOARDSIZE) and shares owned by the board members (BOARDOWNER). As outlined in the literature review section, these three variables belong to the fundamentals of SME corporate governance. The latter two variables are associated with a higher failure risk of Estonian firms [57], while all of them are associated with DAR behaviour [24].

For portraying the payment defaults of firms, two variables are used. First, a variable reflecting whether a firm had tax arrears on the final day it was subject to submit the annual report (coded as SDEFAULT) is used. Second, a variable reflecting whether a firm had tax arrears on any of the 12 month ends up to the month before it was subject to submit the annual report (coded as LDEFAULT) is used. Tax arrears have been shown to have high bankruptcy prediction accuracy in Estonia [59], and, as firms delaying lengthily are likely to be insolvent [20], the merging of these two facts could provide a reasonable explanation of the DAR behaviour. While SDEFAULT directly reflects the financial difficulties at the

moment a firm should finally have submitted the annual report, LDEFAULT provides a longer retrospective view. In Estonia, no all-inclusive information about defaults to the private sector (e.g., banks, suppliers, workers) is available, but as firms having such private defaults usually witness tax arrears [60], the latter normally before the defaults to the private sector, the lack of such information is not an issue.

Concerning the statistical method, binary logistic regression (BLR) is applied in this study. BLR has been used for the same purpose in comparable studies [11,17,24]. First, separate BLRs are conducted for each of the three domains explaining reporting delays. This enables us to directly outline the individual explanatory power by means of pseudo- R^2 for each of them. Then, a single BLR is conducted, which includes variables from all three domains. Concerning past delaying behaviour, variables from either only 2016 or 2009–2016 are chosen based on which of them has better explanatory power. To check the potential effect of firm size or age on the obtained results, the model including variables from all three domains is separately composed for younger/older and smaller/larger firms. The latter enables us to directly determine how coefficients and significances vary depending on the firm's type. In addition, it is not possible to use age and size as control variables due to a serious multicollinearity with independent variables. Another important aspect is that the effect of size and age could be nonlinear, and thus their usage as control variables in BLR is not reasoned. All variables in the analysis have been winsorized, and variance inflation factors were calculated to exclude the role of outliers and inter-variable correlations on the estimates.

4. Results and Discussion

Descriptive statistics of independent variables by the groups of both dependent variables have been documented in Appendix A Tables A1 and A2. The statistical tests conducted indicate that variables from all three domains could be valuable in discriminating between (non-)delaying firms. Namely, both short- and long-term delayers are clearly characterized by more previous long-term delays by their managers, while the same evidence concerning past short-term delays is not straightforward. Although the statistical tests indicate significant differences, the values of corporate governance variables are out of the three domains most similar in between (non-)delayers. Potentially, therefore, they have the lowest explanatory power in the further analysis. Payment defaults in the near and longitudinal past, like the past delaying behaviour, seemingly indicate a high potential for discriminating between (non-)delayers.

Of the individual models composed, previous delays of managers have the best explanatory power for delays occurring in 2017 by means of pseudo- R^2 as shown in Table 2. This result is in line with Luybaert et al. [17], suggesting that past filing behaviour is an important predictor of current filing behaviour. Moreover, the delays managers have committed in the nearest past (i.e., 2016) have a better explanatory power than the longitudinal ones (i.e., 2009–2016). This might point to the fact that some managers delaying in the further past could correct their actions, probably due to severe consequences. The explanatory power of financial difficulties by means of present and past payment defaults is not as high as for past DAR behaviour, while the corporate governance variables have only a marginal explanatory power. This means that DAR is mainly conditioned by prior similar behaviour rather than other factors.

Table 3 displays the main models to explain financial statement delaying. The model with short-term delays (SDELAY) indicates that all variables (except WOMAN) are significant in explaining the phenomenon. Both the short- and long-term delays (PSDELAY and PLDELAY) the managers are responsible for in 2016 increase the likelihood of a short-term delay in 2017, while the marginal effect of PLDELAY is much larger. Larger boards (BOARDSIZE) are less likely to be engaged in short-term delays, while the increase of shares owned by managers (BOARDOWNER) behaves in the opposite way. The short-term delays are not dependent on the board's gender composition. Both present (SDEFAULT)

and previous payment defaults (LDEFAULT) increase short-term delays, the former having a slightly larger marginal effect.

Table 2. Logistic regression pseudo-R² values with all independent variable domains separately.

| Dependent SDELAY | Dependent LDELAY |
|---|-----------------------------|
| 1. Past delaying behaviour | |
| 1.1. Delays in the nearest past (PSDELAY & PLDELAY) | |
| pseudo-R ² 0.148 | pseudo-R ² 0.221 |
| 1.2. Delays in the longitudinal past (SUMPSDELAY & SUMPLDELAY) | |
| pseudo-R ² 0.083 | pseudo-R ² 0.152 |
| 2. Corporate governance (BOARDSIZE, BOARDOWNER & WOMAN) | |
| pseudo-R ² 0.007 | pseudo-R ² 0.022 |
| 3. Financial distress (SDEFAULT & LDEFAULT) | |
| pseudo-R ² 0.077 | pseudo-R ² 0.115 |

Table 3. Logistic regression models with all variable domains.

| Dependent SDELAY (R ² 0.208) | | | | | Dependent LDELAY (R ² 0.289) | | | | |
|---|--------|-------|-------|--------|---|--------|-------|-------|---------|
| Variable | B | S.E. | Sig. | dy/dx | Variable | B | S.E. | Sig. | dy/dx |
| PSDELAY | 0.272 | 0.007 | 0.000 | 0.068 | PSDELAY | −0.161 | 0.010 | 0.000 | −0.018 |
| PLDELAY | 0.620 | 0.013 | 0.000 | 0.155 | PLDELAY | 0.685 | 0.012 | 0.000 | 0.077 |
| BOARDSIZE | −0.446 | 0.017 | 0.000 | −0.111 | BOARDSIZE | −0.584 | 0.027 | 0.000 | −0.066 |
| BOARDOWNER | 0.247 | 0.024 | 0.000 | 0.062 | BOARDOWNER | 0.070 | 0.034 | 0.042 | 0.008 |
| WOMAN | 0.061 | 0.020 | 0.003 | 0.015 | WOMAN | −0.001 | 0.030 | 0.979 | −0.0001 |
| SDEFAULT | 0.656 | 0.036 | 0.000 | 0.162 | SDEFAULT | 0.930 | 0.040 | 0.000 | 0.135 |
| LDEFAULT | 0.596 | 0.026 | 0.000 | 0.148 | LDEFAULT | 0.575 | 0.035 | 0.000 | 0.073 |
| Constant | −0.508 | 0.030 | 0.000 | | Constant | −1.659 | 0.044 | 0.000 | |

The model with long-term delays (LDELAY) indicates that most variables are significant in explaining the phenomenon. In the case of the dependent variable portraying long-term delays (LDELAY), unlike that of the dependent short-term delays (SDELAY), the past short-term delays the managers are responsible for in 2016 (PSDELAY) decrease the likelihood of long-term delays in 2017, while long-term delays in 2016 (PLDELAY) have an opposite effect. There is no significant relationship between LDELAY with both WOMAN and BOARDOWNER, while larger boards, like with the dependent SDELAY, have a lower likelihood of LDELAY. Present (SDEFAULT) and previous (LDEFAULT) payment defaults both increase the likelihood of long-term delays in 2017, while the marginal effect is more pronounced for present payment defaults. The models presented in Table 3 are free from multicollinearity, as the mean VIF is 1.27 and the maximum VIF over the seven variables applied is 1.64.

Firm size (Table 4) and age (Table 5) have an impact on the results. Concerning short-time annual report submission delays (SDELAY), past delays are more important in the case of smaller firms, while the corporate governance characteristics vary even more. Namely, for the latter, the variables can even become insignificant or the coefficients can change signs depending of the firm's size. For independent variables portraying payment defaults, the coefficients remain rather similar between small and large firms. Concerning long-time annual report submission delays (LDELAY), similarly to short-time violations (i.e., SDELAY), past delays have a more important role for smaller firms, while the opposite occurs in the case of payment defaults. The role of corporate governance variables varies a lot in case of different size groups for LDELAY.

Table 4. Results depending on the size of the firm.

| Independent Variables | SDELAY | | | | LDELAY | | | |
|-----------------------|--------------------------------|-------|-------------------------------|-------|--------------------------------|-------|-------------------------------|-------|
| | Smaller (R ² 0.247) | | Larger (R ² 0.201) | | Smaller (R ² 0.309) | | Larger (R ² 0.322) | |
| | B | Sig. | B | Sig. | B | Sig. | B | Sig. |
| PSDELAY | 0.352 | 0.000 | 0.283 | 0.000 | −0.129 | 0.000 | −0.063 | 0.000 |
| PLDELAY | 1.052 | 0.000 | 0.352 | 0.000 | 0.892 | 0.000 | 0.530 | 0.000 |
| BOARDSIZE | −0.386 | 0.000 | −0.468 | 0.000 | −0.468 | 0.000 | −0.635 | 0.000 |
| BOARDOWNER | −0.040 | 0.321 | 0.227 | 0.000 | −0.266 | 0.000 | −0.174 | 0.003 |
| WOMAN | −0.068 | 0.011 | 0.142 | 0.000 | −0.186 | 0.000 | 0.072 | 0.245 |
| SDEFAULT | 0.649 | 0.000 | 0.677 | 0.000 | 0.878 | 0.000 | 1.233 | 0.000 |
| LDEFAULT | 0.571 | 0.000 | 0.609 | 0.000 | 0.541 | 0.000 | 0.659 | 0.000 |
| Constant | −0.223 | 0.000 | −0.665 | 0.000 | −1.112 | 0.000 | −2.349 | 0.000 |

Table 5. Results depending on the age of the firm.

| Independent Variables | SDELAY | | | | LDELAY | | | |
|-----------------------|--------------------------------|-------|------------------------------|-------|--------------------------------|-------|------------------------------|-------|
| | Younger (R ² 0.179) | | Older (R ² 0.242) | | Younger (R ² 0.271) | | Older (R ² 0.314) | |
| | B | Sig. | B | Sig. | B | Sig. | B | Sig. |
| PSDELAY | 0.197 | 0.000 | 0.351 | 0.000 | −0.188 | 0.000 | −0.120 | 0.000 |
| PLDELAY | 0.552 | 0.000 | 0.693 | 0.000 | 0.634 | 0.000 | 0.748 | 0.000 |
| BOARDSIZE | −0.341 | 0.000 | −0.555 | 0.000 | −0.505 | 0.000 | −0.700 | 0.000 |
| BOARDOWNER | 0.126 | 0.000 | 0.314 | 0.000 | −0.002 | 0.965 | 0.073 | 0.160 |
| WOMAN | 0.028 | 0.317 | 0.106 | 0.000 | −0.074 | 0.057 | 0.115 | 0.013 |
| SDEFAULT | 0.653 | 0.000 | 0.640 | 0.000 | 0.878 | 0.000 | 0.976 | 0.000 |
| LDEFAULT | 0.602 | 0.000 | 0.592 | 0.000 | 0.589 | 0.000 | 0.569 | 0.000 |
| Constant | −0.352 | 0.000 | −0.628 | 0.000 | −1.409 | 0.000 | −1.894 | 0.000 |

Concerning short-time annual report delays (SDELAY), past delays and corporate governance variables have a more pronounced role in the case of older firms. For independent variables portraying payment defaults, the results remain rather similar between young and old firms. Concerning long-time annual report delays (LDELAY), independent variables portraying different domains can behave more erratically, leading to either more or less important roles depending on the specific variables.

The results of the study have been consolidated in Table 6. Hypothesis 1 is clearly accepted in the case of the previous long-term reporting delays the managers have been responsible for, i.e., it determines both the short- and long-term reporting delays today. This lends support to the credibility theory as past serious violation behaviour continues in the future. Moreover, it supports the logic of the general model of violations proposed by Baucus and Near [15]. In turn, the previous short-term delays reduce the likelihood of current long-term delays, but the marginal effects for the independent variable portraying past short-term delays are smaller than those of long-term delays in all models. This might imply that short-term delays in the past occur more randomly for no substantial underlying reason, and thus their interconnection with current delays remains much weaker. Concerning comparable studies, Lukason [20] and Luybaert et al. [17] have found that past violations in the same firm have a linkage with today's DAR, while this study extends the findings over the behaviour of managers in all firms, also considering the severity of past DARs. Thus, we can move the underlying theoretical knowledge forward by stating that the past behaviour of delaying annual reports conditions the same behaviour today, but that this argument only holds strongly for severe delaying behaviour in the past.

Table 6. Summary of the associations found in the study.

| Independent/Dependent. | Short-Term Delay | | | | | Long-Term Delay | | | | |
|--------------------------|------------------|--------------|---|-------------|---|-----------------|--------------|---|-------------|---|
| | Base Result | Size Context | | Age Context | | Base Result | Size Context | | Age Context | |
| | | S | L | Y | O | | S | L | Y | O |
| Past short-term delays | + | + | + | + | + | − | − | − | − | − |
| Past long-term delays | + | + | + | + | + | + | + | + | + | + |
| Board size | − | − | − | − | − | − | − | − | − | − |
| Shares owned by managers | + | 0 | + | + | + | 0 | − | 0 | 0 | 0 |
| Women in the board | 0 | 0 | + | 0 | + | 0 | − | 0 | 0 | 0 |
| Current payment defaults | + | + | + | + | + | + | + | + | + | + |
| Past payment defaults | + | + | + | + | + | + | + | + | + | + |

Note: Table is based on $p < 0.001$ results. Mark “+” indicates an increase of delaying likelihood with the growth in the value of the independent variable, “−” indicates a decrease, respectively, and “0” no effect. S—smaller firm, L—larger firm, Y—younger firm, O—older firm.

The Hypothesis 2a–c concerning corporate governance provide the following results. Unlike with the expectation concerning board size, the increase in this factor reduces the likelihood of both short- and long-term delays, and thus Hypothesis 2a is rejected. This result is consistent with the findings of Clatworthy and Peel [18]. Probably, contrary to the expectation that larger boards are more dysfunctional, the opposite occurs, i.e., the likelihood that at least one board member is reluctant to violate accounting law starts to matter more. Hypothesis 2b, concerning the more law-abiding behaviour of woman-lead boards, was rejected, as these do not differ from the male-led boards. This lends support to the strand of literature which does not postulate substantial gender differences in risk behaviour. The more law-abiding behaviour has been found in one earlier research [24], but it is not directly comparable with this study, as the median firm there was around twice as small as the minimum firm size in this study. Hypothesis 2c, concerning the greater delaying behaviour of firms with a larger share of managerial ownership, was accepted in the case of short-term delaying, but the variable is insignificant for long-term delayers. This could point to the fact that in owner-managed firms, board member(s) might not see short-term delaying as a problem because of the stakeholders’ interest in their annual reports is very low. However, the board members might be afraid of the more severe consequences arising from long-term delaying. In addition, the insignificance of the variable in larger firms could simply point to the reduction of the role of manager-owners in such companies. Managerial ownership was found to have a reducing effect on delaying behaviour in earlier research [24], but in that study the majority of firms were very small micro firms fully owned by the single board member. In the latter population, the higher frequency of more law-obedient individuals compared to non-obedient ones seems logical.

Hypothesis 3, concerning payment defaults pointing to current and previous financial distress, was clearly accepted in the case of both short- and long-term delayers. The existent payment defaults have a more important role, while previous payment defaults still matter. This corroborates the stream of literature positing that managers might be willing to hide a poor financial situation by not submitting the annual report [11,17–20].

5. Conclusions

This paper aimed to find out which factors best explain why SMEs delay their annual reports (DAR). Relying on various theoretical streams, we used three types of variables to explain DAR: past DAR behaviour of managers, corporate governance characteristics and financial distress. The study was based on the whole population data of Estonian firms, with a total of 59,294 unique companies and with logistic regression as the statistical method.

The paper shows that past DAR by managers has the best explanatory power for today’s DAR. As the main theoretical contribution, it should be noted that more severe DARs in the past matter the most. In addition, DARs in the immediate past matter more than their longitudinal track. In addition, current and past payment defaults of firms

are important in explaining DAR, while the former indicates a better explanatory power. Corporate governance variables are not very useful in explaining DAR. Still, contrary to the expectation, larger boards are more law-abiding, while the inclusion of women in the board remains insignificant in respect to DAR. In smaller firms, more shares owned by the board members lead to a higher likelihood of DAR, while the variable is insignificant in larger firms.

The paper provides important clues for policy-makers and managers. First, it clearly outlines the role of previous violation behaviour in conditioning future violation behaviour. This could open the discussion on whether more severe punitive measures are needed in case of recurrent violators, as evidently no learning effect has occurred from the past misbehaviour. Potential changes in the regulative environment could have a crucial effect on DAR. Thus, should these occur, the re-estimation of the findings of this study could be an imminent requirement. Second, as firms with payment defaults clearly violate deadlines more, SME policymakers and implementers should take account of this fact in respect to keeping the business environment transparent and well-functioning. Namely, as tax arrears were applied as a proxy of payment defaults, tax authorities should see the violation of the annual report submission accompanied by tax arrears as a warning signal to deal more effectively with enforcing tax claims. The latter implication also applies to private creditors, who can modify their lending practices accordingly.

The paper is not free from limitations. Although the whole population from one country is used, and despite the fact that reporting violations of SMEs are fairly common in many countries, the legislative framework and especially its implementation could still be country-specific. Thus, the transferral of the obtained results to some other environment should be treated with reservation. The paper used certain variables to test the hypotheses, but in order to obtain a more holistic picture of the phenomenon, a larger variety of proxies to portray relevant domains would be beneficial. In addition, the study aimed to provide the first multi-domain exploratory understanding of the ranking of different determinants of annual report delays, but we acknowledge that several other domains could be supplemented to the study designs, e.g., the quality of accounting information, different types of managerial violation behaviour or some external factors such as changes in the legal framework or adverse economic conditions. Moreover, the interaction terms of variables portraying different domains could be studied further, and machine learning tools could reveal nonlinear relationships between variables. Several of these limitations also provide important clues for future research. As a stylized example of the latter, we offer to build decision tree models based on a larger selection of variables to reveal the hierarchic interconnections between variables representing different domains.

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