



Article

Determinants of Time for Publication Annual Reports: Empirical Evidence from Non-Financial Listed Companies in Vietnam

Anh Huu Nguyen, Hieu Thanh Nguyen *, Chung Quang Tran and Lien Quynh Le

School of Accounting and Auditing, National Economics University, Hanoi 10000, Vietnam; anhnh@neu.edu.vn (A.H.N.); chungtq0209@neu.edu.vn (C.Q.T.); lienlq@neu.edu.vn (L.Q.L.)

* Correspondence: hieuketoan@neu.edu.vn

Abstract: This article studied the factors affecting the time taken for annual report submission through an analysis of 654 non-financial listed companies on the Vietnamese stock market from 2016 to 2020. Data collected were processed by using fixed-effect models (FEM), random effect models (REM), adjusted REM, and general least square (GLS) to ensure the validity of research results. The main objective of this paper was to explore the effects of independent variables including retained earnings (RETA), earnings before interest and tax (EBITTA), liquidity (WCTA), capital structure (BVETD), bankruptcy risk (ZSCORE), size (SIZE), number of years in business (AGE), characteristics of financial reports (CONSO), and type of audit firm (AUDIT) on the number of days for publication annual reports (TIME). The results obtained from the adjusted-REM and GLS regression showed that retained earnings, firm age, and firm size have positive effects on time for disclosure annual reports, whereas earnings before interest and tax and audit firm type have negative effects. In addition, the results showed that working capital, capital structure, feature of consolidated reports, and bankruptcy risk have no significant effects on time to publish annual reports.



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1. Introduction

Financial statements are tools to provide general information on the financial position, business results, and cash flow of an enterprise after a certain period of time (month, quarter, year). The users of financial statements are very diverse, from company managers, to investors, creditors, government authorities, employees, and others. By analyzing financial statements, users can make decisions relating to lending, investing, or issuing policies. Each person will make different decisions based on the usefulness of the information on the financial statements.

For that reason, governmental agencies have issued regulations regarding timely disclosure of financial statements. In Vietnam, these regulations are according to Circular No. 96/2020/TT-BTC dated 16 November 2020, guiding the disclosure of information on the stock market. Following these regulations, companies must disclose audited annual financial statements within 10 days from the day the auditing firm signs the audited reports but not exceeding 90 days from the end of the fiscal year. Particularly for listed public companies with consolidated financial statements, the State Securities Commission of Vietnam shall consider extending the time for publication provided the company's written request, but no later than 100 days from the end of the financial year. Accordingly, [Vuran and Adiloglu \(2013\)](#) stated that, in Turkey, the time limit for submitting consolidated financial statements is 99 days and single financial statements is 71 days from the end of the financial year. Despite the issuance of such regulations, many companies listed on Hanoi Stock Exchange (HSX) and Ho Chi Minh City Stock Exchange (HOSE) in Vietnam request

for late submission with justifications including complicated business operations, obstacles in creating consolidated reports, and having many subsidiaries (Lien 2016; Suong 2018).

Many scholars both in Vietnam and other countries around the world have been interested in the factors affecting the publication of annual financial statements for decades. Research has been conducted in both developed and developing countries. Prior to 2000, there were studies by Ashton et al. (1987) in the United States, Ashton et al. (1989) in Canada, and Carslaw and Kaplan (1991) in New Zealand. After 2000, this topic continued to attract the attention of scholars in different countries: Haw et al. (2000) in China, Turel (2010) in Turkey, Khasharmeh and Aljifri (2010) in Bahraini and the United Arab Emirates (UAE), Modugu et al. (2012) in Nigeria, Vuran and Adiloglu (2013) in Turkey, Sakka and Jarboui (2016) in Tunisia, Khuong and Vy (2017), Ha et al. (2018) in Vietnam, Lukason and Camacho-Miñano (2019) in Estonia, and Dewi et al. (2019) and Raihani et al. (2019) in Indonesia. Research results are quite diverse in both research methods and research results. There is no consensus on the direction of effects on the time of publication of annual financial statements. Research by Ha et al. (2018) suggested that financial leverage has no effect on the time of publication but the study of Khasharmeh and Aljifri (2010) with the research sample at Bahrain and study of Modugu et al. (2012) argued that companies with a high percentage of debt to equity are likely to publish reports earlier than companies with a low ratio to reduce negotiation costs on loan contracts.

Vietnam is a developing country in Asia; accordingly, Vietnamese enterprises continually seek to receive foreign investment for development. Therefore, transparency and timely disclosure of financial information to investors is essential. Companies, especially those listed on the stock market, need to better serve the demands of accounting information to investors in time. Therefore, the study of “Determinants of time for publication annual reports: Empirical evidence from non-financial listed companies in Vietnam” is essential both in theory and practice because this topic has contributed to literature on timeliness of financial reports.

Analysis results of companies in Vietnam reveal that in the period from 2016 to 2020, the more retained earnings, the longer the time required to publish annual statements. Most companies decided to report early when their business results for the reporting year are profitable. Besides, when enterprises have been operating for a long time, they seem to be more cautious about reporting information and slower to publish reports than younger enterprises. In addition, the larger in size, the longer number of days required to publish financial accounts. Moreover, it can be said that companies in danger of bankruptcy shall not release annual reports early. Finally, complex of consolidated reports, liquidity, and capital structure of non-financial list companies in Vietnam are not influential on the annual reports' publication time.

In relation with previous studies on the same topic, this study is the first study in Vietnam using bankruptcy risk as a new variable influencing the time to publish financial statements besides other factors which have been used by previous studies, such as: profitability, leverage, auditing firm type, and features of annual reports (Vuran and Adiloglu 2013; Sakka and Jarboui 2016; Ha et al. 2018). In addition, this is the first study using recently updated data in a developing country. Many authors are also very interested in the disclosure of financial statements recently, but they examined other aspects of annual statements including: a study on the influence of information readability on financial statements on inventory liquidity in France (Boubaker et al. 2019), or on cost of equity capital in US firms (Rjiba et al. 2020).

This research contributes to the literature in several ways. First, this study is the first using both financial and nonfinancial information updated recent years to explore influencing factors on time of disclosure annual reports in Vietnam. Secondly, this research goes beyond the existing literature by providing feature of report (consolidated report) and bankruptcy risk in determinants of time for publication annual report.

The structure of the article in addition to the introduction and conclusion includes the following sections: (2) Theoretical framework and Literature review; (3) Hypothesis

Development; (4) Research Methodology; (5) Empirical results; and (6) Discussions and Recommendations.

2. Theoretical Framework and Literature Review

2.1. Theoretical Framework

2.1.1. Agency Theory

Agency theory refers to the conflict of interest between shareholders who own the companies and the managers who run the companies. Managers get paid and offered bonuses to manage the daily operations on behalf of the owners. However, according to agency theory, there is an inherent conflict between shareholders and managers. Shareholders expect managers to work actively and effectively for companies. Managers, contrastingly, are motivated by their self-interest, likely to make decisions that benefit themselves rather than the company. Therefore, they will choose the way to make the published information good to the owners. Thus, communication issues persist between owners and managers as suggested by the agency theory.

2.1.2. Signal Theory

Signal theory was first studied by [Akerlof \(1970\)](#) and later developed by [Spence \(1973\)](#) as signal equilibrium theory. Signaling theory describes the behavior of two parties, signal transmitters, and signal receivers. The sender of information must choose the type of information to be disclosed and the quality of the information to be disclosed, how to transmit the information to the recipient, and when to disclose the information. On the other hand, the receiver must find a way to decode the signal to fully understand the information given. The information given can contain positive, negative, and possibly incomplete information, indicating inherent information asymmetry between the sender and receiver. [Clarkson et al. \(2020\)](#) and [Albitar et al. \(2021\)](#) agreed on the purpose of companies on providing information to stakeholders to signal their positive activities on corporate social reports. For companies listed on the stock market, the disclosure of annual financial statements is mandatory according to the regulations of the stock exchange, but each company will disclose information at different times. There are implications related to the time of information disclosure at the enterprise.

2.2. Literature Review

Financial statements are fundamental tools to communicate information among companies and investors and other interested parties about the financial position and business outcomes of the company. Many studies were conducted on the factors affecting the time of financial statement publication. Studies have not only spanned across countries around the world for decades but also diversified in terms of research samples, research subjects, research methods, and research results. The salient features of the studies are as follows.

[Ashton et al. \(1987\)](#) studied factors affecting the number of days to publish annual financial statements in US companies. The research data sample was collected in 1982. The research model included 14 independent variables representing the factors that can affect the time to publish financial statements, namely: total revenue in the year, industry type, listing status, month end of the accounting period, quality of internal control, complexity of business operations, complexity of financial position, complexity of electronic data processing, type of reports to be prepared, approaching methods of the auditors, number of years as a client of the audit firm, operating results (profit, loss), net profit on total assets, type of auditor's opinion. Among the above variables, listing status, month end of the accounting period, operating results, and type of auditor's opinion were dummy variables, so the values were 0 and 1; other variables, including: quality of internal control, complexity of business operations, complexity of financial situation, complexity of electronic data processing, and type of reports are variables represented on a scale of 1 to 5. Research results have shown that it takes a long time to publish reports if audit results are qualified, including companies that are unlisted, whose fiscal year does not end in December, whose quality of

internal control is poor, and whose application of modern technology to accounting data processing is limited.

Ashton et al. (1989) continued conducting research on factors affecting the audit time of annual financial statements for companies listed on the Toronto Stock Exchange of Canada. The research sample includes 465 companies listed on the Toronto Stock Exchange in the period from 1977 to 1982. There were eight factors included in the research model: company size, industry, month end of the accounting period, type of audit firm, results of operations, the existence of unusual items, uncertainty items, and auditor's opinion. The research results showed that the explanatory power of the variables in the model was quite low, in which company size had a negative effect on the auditing time. Moreover, the auditing time for companies operating in the financial services sector is lower than for other sectors. At the same time, for companies whose month end of the accounting period is December or January (busy season of auditing firms), the time it takes to audit will be shorter. In addition, companies with loss and extraordinary items will need a long audit time. Moreover, if the auditing company belongs to the Big9, the report will be audited faster than those audited by non-Big9 companies.

Carslaw and Kaplan (1991) studied the factors affecting the number of auditing days in New Zealand from 1987 to 1988. Nine independent variables were included as studied by Ashton et al. (1989) and two more variables added were the characteristics of control (owner control or manager control) and the ratio of debt to total assets. Research results were presented in detail in each year, 1987 and 1988. Specifically, with the 1987 data sample, business results, existence of unusual items, auditor's opinion, company size, and ownership control characteristics were found to be influencing factors. Meanwhile, with the data sample in 1988, variables that were statistically significant were: company size, business results at a loss, industry type, and ratio of debt to total assets. Combining the samples for both 1987 and 1988, only two variables were significant, namely, the size of the company and the business results of the loss company in which the size of the company has a negative effect, and business results at a loss have a positive effect.

Haw et al. (2000) studied the relationship between the company's business performance and the time to perform audits and release audited reports of companies listed in the Chinese stock market, in the period from 1994 to 1997. Research results showed that companies with good business performance will be more active and will accelerate the release of financial statements compared to companies with poor business results. In addition, companies will promote the disclosure of good information and delay the disclosure of bad information.

Turel (2010) conducted a study in Turkey on the factors affecting the time of publication of annual financial statements. There are 211/319 corporations (66%) listed on the Istanbul Stock Exchange in 2007 included in the sample. In his study, the author divided the time to receive the report into ranges: 0–30, 31–40, 41–50, 51–60, 61–72, over 73 days. According to the regulations in Turkey in 2007, the time for submitting annual reports is 73 days for companies with single reports and 101 days for consolidated reports. The factors included in this research are company size, type of audit firm, as Big-4 or nonBig-4, profitability of the company, type of the audit opinion given, and industry. Most variables are dummy variables with values of 0 and 1 except company size. Research results showed that the reporting period will be reduced if the company is profitable and receives a standard (clean) opinion from the auditors. Furthermore, the publication time will be extended if audited by Big4 and at manufacturing companies. Finally, firm size is not statistically significant in the model.

Khasharmeh and Aljifri (2010) conducted a study to compare the publication time with two samples in two countries, Bahraini and UAE. Sample 1 included 32/34 companies (accounted for 94% population) listed in the Bahrain Stock Exchange Market in 2004. Sample 2 comprises 51 listed companies (accounted for 82% population) in the UAE stock market and is divided into four sectors. The influencing factors on the number of days for firms to receive the audited report were size, industry type, auditing firm type, debt to

total assets, profitability, and dividend payout ratio. Research results in Bahrain showed that profitability, debt to total assets, dividend payout ratio, and industry type affected the reporting time; profitable enterprises disclose early to give a good signal to shareholders; enterprises with high debt will disclose faster than companies with less debt to reduce the cost of negotiating loan contracts. On the contrary, company size, type of audit firm, and dividend payout ratio were not significant. In the UAE, the results showed that companies with high debt ratio, audited by Big4, will receive their audit report sooner, while the rest of the factors in the model were insignificant.

[Modugu et al. \(2012\)](#) studied a sample of 20 listed companies from 2009–2011 in Nigeria. According to Nigerian regulations, the reporting period is from 30 days to 276 days after year end. The author used the OLS regression method and the main research results indicated the following: big companies publish reports slower than small companies; companies with a high debt-to-equity ratio report earlier than companies with a low ratio; profitable companies make announcements earlier than companies with losses; companies with multiple branches in different countries publish reports earlier than domestic companies; companies audited by large auditing firms with foreign elements publish reports earlier than other companies; companies with low audit fees publish reports earlier than those paying high audit fees; companies with diversified products will have a slower release of reports than other companies.

[Vuran and Adiloglu \(2013\)](#) studied the factors affecting the late submission of annual reports. The sample included 178 manufacturing companies listed on the Istanbul Stock Exchange in 2009. Of the 178 companies studied, 111 companies prepared consolidated financial statements, and 67 companies prepared single financial statements. The dependent variable was the number of days later than prescribed. Independent variables were dummy variables (receiving values of 0 and 1), including equity/total assets; profitability (measured through ROA and ROE ratios); liquidity, cash flow from operating activities divided by interest expense, listing status, auditing firm, auditor's opinion, and development prospects of the company. The author used Chi-square tests to test independence. For the group of single report companies, the research showed shown that net profit, profitability, liquidity, and auditor's opinion have a relationship with submission time. As for the consolidated group, the research results showed that equity to total assets ratio and cash flow from operating activities to interest expenses ratio correlate with publishing time.

[Sakka and Jarbouli \(2016\)](#) studied the factors affecting the number of days to make financial reports public. The numbers of days were divided into three groups: the number of days from year end to publishing day (publication date), the number of days from when the auditor signs the audit report to the publishing day, and the number of days from year end to the day the auditor signs the audit report. The independent variables in the model were auditing characteristics, corporate governance characteristics, company size, and debt to total assets ratio. The sample included 28 companies listed on the Tunisian stock exchange for 8 years (from 2006 to 2013). The research results showed that corporate governance factors have a close relationship with publishing time. While the size of the company and leverage negatively affected reporting time, financial performance was positively related to reporting time, and the external auditor's characteristics were not significant.

[Khuong and Vy \(2017\)](#) studied the factors affecting the number of days for reporting financial statements on a sample of 100 companies listed on the Vietnamese stock market in the period from 2012 to 2014. The author used OLS regression for data including eight independent variables: gender of CEO, age of CEO, net profit, company size, number of branches, complexity of business operations, and opportunity growth (measured by the stock's market value to book value). Research results showed that: gender of CEO, company size, number of branches, and complexity in business activities have a positive relationship with the number of days for report publication. Meanwhile, CEO's age, net profit, and growth opportunity were negatively related. That is, the more profit, the higher the growth opportunity, and thus the faster the report will be published.

In another study in Vietnam, [Ha et al. \(2018\)](#) studied the factors affecting the timeliness of annual reports. The research sample included 214 companies listed from 2012 to 2016 in Vietnam. Four independent variables and two control variables were presented in the research model: type of financial statements (consolidated financial statements or single statements), type of auditing firm, profitability (measured by ROA), company size, financial leverage, and industry type. The GLS regression method was used to process the data and the research results indicated that: type of audit firm, firm size, and ROA have a negative relationship with timeliness of reporting, while the type of financial statements was positively related to reporting. Besides, financial leverage and industry type were not statistically significant.

[Lukason and Camacho-Miñano \(2019\)](#) studied the factors affecting late submissions in Estonia between 2000 and 2014. The independent variables were retained earnings, earnings before interest and taxes, liquidity (measured by working capital divided by total assets), financial leverage, and bankruptcy risk. Control variables included company size, number of years operating, and industry type. Research results showed that increasing liquidity, profit, and retained earnings reduces the possibility of late filing; specifically, increasing retained earnings has the greatest impact. Financial leverage was not statistically significant if industry type (control variables) was not taken. At the same time, larger companies with greater bankruptcy risk have a higher risk of late reporting. However, the more the years of operating, the lower the risk of late filing. Given these results, the authors concluded that financially distressed companies often hide the reason for poor performance, and try to delay the announcement.

[Dewi et al. \(2019\)](#) studied the timeliness of reporting for 396 companies listed on IDX from 2015 to 2017. The results showed that only about 11% of companies provided late submissions of reports. The predictive power of the whole model was very low at 0.4%. In addition, audit tenure and financial crisis had no effect on the delay of the reporting.

[Raihani et al. \(2019\)](#) studied 36 companies listed on Indonesia Stock Exchange from 2016 to 2018. The author hypothesized the factors affecting the timeliness of annual reports are company size and profitability (measured by ROA). The results showed that both proposed factors were not accepted. Company size and profitability had no impact on timely reporting.

[Khamisah et al. \(2021\)](#) examined the effect of financial distress on audit report lag and how the size of auditing firms moderates the relationship between financial distress and audit report lag. This study was held at manufacturing companies listed on the IDX between 2017 and 2019. The variable representing financial distress was Z Score developed by Altman. The size of an auditing firm was measured by dummy variables, given a value of 1 if it is a Big4 firm and 0 if it is not a Big4. The results indicated that financial distress had a negative and significant effect on report lag. That is, companies with financial distress will provide audit reports early and with less delay than other companies. This negative relationship between financial distresses is strengthened by the size of the auditing firm.

Through the research overview, the following research gaps can be found:

Firstly, research on factors affecting the publication of financial statements has not yet reached a consensus on the results of the direction of effect.

Secondly, research data have not been updated in recent years in the context of global business and extensive international economic integration, especially in Vietnam.

3. Hypothesis Development

First, the relationship between the company's retained earnings and the time to publish annual reports.

For users of accounting information, retained earnings are one of the most attractive items on financial statements. Companies will publish high earnings figures sooner because this information will have a positive influence on the stock price ([Iyoha 2012](#)). Thus, there is a relationship between a company's earnings and the time of publication. This issue has attracted the attention of researchers around the world such as [Gulec \(2017\)](#), [Ha et al.](#)

(2018), Lukason and Camacho-Miñano (2019), and Raihani et al. (2019). However, the research results have not been consistent in the direction of returns and publication date. According to Gulec (2017) and Ha et al. (2018), retained earnings (returns) have a negative relationship with the time of publication. In addition, Lukason and Camacho-Miñano (2019) also suggested that the higher the return on assets, the lower the possibility of the reports being published late. However, in the study by Raihani et al. (2019), the returns on assets of the company had no effect on the timeliness of financial statements. To supplement empirical evidence on the relationship between returns/retained earnings and reporting time, this study proposes hypothesis 1 as follows:

Hypothesis 1 (H1). *Retained earnings have a positive effect on the number of days to publish annual reports of non-financial listed companies on the Vietnamese stock market.*

Second, the relationship between the company's income in the reporting year and the time to publish reports.

Operating income for the year is the difference between the revenue achieved during the year and the expenses incurred during the year. That kind of income is the most important indicator to make business decisions. Signaling theory suggests that the more profitable firms are, the earlier reports are released (Ismail et al. 2005). The relationship between net income and the time of publication has been studied by many scholars such as Turel (2010), Modugu et al. (2012), Khuong and Vy (2017), and Lukason and Camacho-Miñano (2019).

This paper proposes hypothesis 2 as follows:

Hypothesis 2 (H2). *A company's income in the reporting year has a positive effect on the number of days to publish annual reports of non-financial listed companies on the Vietnamese stock market.*

Third, the relationship between the company's liquidity and time taken to publish annual reports.

The company's liquidity is also a major concern to investors such as banks, credit institutions and creditors, suppliers, and employees. To borrow money from a bank or buy goods on credit from a supplier, companies must submit audited financial statements in a timely manner to creditors in order for them to assess the solvency of the companies. Many scholars around the world have studied the relationship between the company's liquidity and time taken to publish annual reports, such as Vuran and Adiloglu (2013) and Lukason and Camacho-Miñano (2019). The research results of Vuran and Adiloglu (2013) confirmed that there is a relationship between the company's liquidity and the time of publication. Meanwhile, the research results of Lukason and Camacho-Miñano (2019) confirmed that the higher the liquidity, the faster the report publication time. Therefore, this study put forward the following research hypothesis:

Hypothesis 3 (H3). *Liquidity has a positive effect on the number of days to publish annual reports of non-financial listed companies on the Vietnamese stock market.*

Fourth, the relationship between capital structure and the time taken to publish annual reports.

The company's assets are formed from equity and debt. The proportion of equity to debt is called capital structure. There is competition between companies to get loans from banks based on how well the capital structure meets the requirements of the loan contract. The relationship between capital structure and reporting time has attracted scholars such as Khasharmeh and Aljifri (2010), Gulec (2017), and Lukason and Camacho-Miñano (2019). However, the research results of Gulec (2017) and Lukason and Camacho-Miñano (2019) suggested that there is no relationship between debt-to-total assets, debt-to-equity ratio, and time disclosure if it does not consider the influence of the industry group, whereas Khasharmeh and Aljifri (2010) showed that firms with high debt will publish reports faster

than firms with low debt to reduce the negotiation costs on loan contracts. Therefore, this paper proposes hypothesis 4 as follows:

Hypothesis 4 (H4). *Capital structure has a positive effect on the number of days to publish annual reports of non-financial companies listed on the Vietnamese stock market.*

Fifth, the relationship between company size and the time taken to publish annual reports.

Firm size is one of the factors included in many studies (Davies and Whittred (1980), Dyer and McHugh (1975), Carslaw and Kaplan (1991), Wu et al. (2008), Turel (2010), Sakka and Jarbouï (2016), and Gulec (2017)). There are studies measuring firm size by total asset value, such as those by Davies and Whittred (1980), Dyer and McHugh (1975), Carslaw and Kaplan (1991), Turel (2010), and Hout (2012). Studies in the past measured the size by total revenue in the year, such as those by Aubert (2009) and Sakka and Jarbouï (2016). Reasons for the association between company size and report publication are vast. Foremost, in large-scale companies, internal control systems are often well-built (Ng and Tai 1994) and thus facilitate audit work, shortening real-time taken for auditors to assess the quality of the internal control system, culminating in earlier publication of publishing reports relative to other companies. In addition, large companies are often the object of public interest, and are under pressure to disclose information to analysts, so they will release financial statements in a timely manner (Owusu-Ansah and Yeoh 2005), Ahmed (2003). The research results, however, are not consistent among researchers. While Khuong and Vy (2017) stated that the larger the company, the longer it takes to publish reports, Sakka and Jarbouï (2016), Gulec (2017), and Ha et al. (2018) agreed that the larger the company size, the sooner the time to publish. In contrast, Turel (2010), Hout (2012), Raihani et al. (2019) argued that there is no relationship between company size and the publication of annual financial statements. In juxtaposition, this paper proposes research hypothesis 5 as follows:

Hypothesis 5 (H5). *The size of a company has a positive effect on the number of days to publish annual reports of non-financial companies listed on the Vietnamese stock market.*

Sixth, the number of operating years and time to publish annual reports.

The number of operating years was considered in many studies such as Iyoha (2012) and Hieu and Anh (2020). The relationship between firm age and the time to publish annual reports, similarly, have been addressed in many studies: Iyoha (2012), Ha et al. (2018), and Lukason and Camacho-Miñano (2019). Iyoha (2012) concluded that the age of the company has a positive impact on timeliness. In contrast, Ha et al. (2018) found that firm size is negatively related to report publication. Lukason and Camacho-Miñano (2019) showed that the longer the company is in operation, the lower risk of late submission. Therefore, this study proposes hypothesis 6 as follows:

Hypothesis 6 (H6). *The number of operating years has a positive effect on the number of days to publish annual reports of non-financial companies listed on the Vietnamese stock market.*

Seventh, the characteristic of company's financial statements and time to publish annual reports.

Companies in the process of doing business can contribute capital to many other companies. When the contributed capital of a company accounts for more than 50% of the capital of the receiving company or the control of a company in another company is more than 50%, that company is called the parent company, and the controlled companies are its subsidiaries. Parent companies must prepare and disclose consolidated financial statements. In fact, in Vietnam, most of the companies submitting their annual reports late indicated the cause to be by complications of consolidated statements (Lien 2016; Suong 2018). Vuran and Adiloglu (2013) did not find a relationship between late submission and

the type of reports but Gulec (2017), and Ha et al. (2018) argued that companies preparing consolidated reports take a longer time to publish reports than other companies.

Therefore, this study proposes hypothesis 7 as follows:

Hypothesis 7 (H7). *The characteristics of annual reports have a positive effect on the number of days to publish annual reports of non-financial companies listed on the Vietnamese stock market.*

Eighth, the type of auditing firm and time to publish annual reports.

Khsharmeh and Aljifri (2010), Modugu et al. (2012), Hout (2012), Vuran and Adiloglu (2013), Sakka and Jarboui (2016), Gulec (2017), and Ha et al. (2018) all discussed the relationship between the time it takes to publish annual financial statements and the type of auditing firms. The type of auditing firm is divided into Big4 firms or foreign element firms and nonBig4 firms. Khsharmeh and Aljifri (2010) showed that when companies are audited by Big4, they publish audit reports earlier than other companies. Modugu et al. (2012) and Gulec (2017) argued that large auditing firms with foreign elements are likely to complete audit reports earlier than auditing firms without foreign elements. However, Hout (2012) and Vuran and Adiloglu (2013) did not find a relationship between Big4 and late submission of any type of annual reports. Therefore, this study proposes hypothesis 8 as follows:

Hypothesis 8 (H8). *The type of auditing firm has a positive effect on the number of days to publish annual reports of non-financial companies listed on the Vietnamese stock market.*

Ninth, the company's bankruptcy risk and time to publish annual reports.

Financial distress is a situation when a company experiences difficulties in meeting or paying its current financial obligations. Altman tried to combine several financial ratios into a predictive model with statistical techniques, specifically discriminant analysis that can be used to predict company bankruptcy risk. The bankruptcy prediction model has been developed by Altman over the years, shown in the following studies: Altman (1968), Altman et al. (1977), Altman (1983), Altman and Hotchkiss (2006), Altman et al. (2010), Altman (2013), and Altman et al. (2014). Through many developmental steps, studies on Altman's bankruptcy forecasting model have helped investors identify bankruptcy risk to make reasonable decisions. The relationship between bankruptcy risk and financial reporting time has been studied by many authors. Some authors argued that financially distressed companies often hide the reason for poor performance, and thus try to delay the release of financial statements (Whittred and Zimmer 1984; Luypaert et al. 2016; Lukason and Camacho-Miñano 2019). However, some authors argued that bankruptcy risk and the publication of annual financial statements have a negative relationship, and companies facing financial crisis will publish financial statements early (Siahaan et al. 2019 cited in Khamisah et al. 2021; Himawan and Venda 2020 cited in Khamisah et al. 2021).

Therefore, this study proposes hypothesis 9 as follows:

Hypothesis 9 (H9). *Bankruptcy risk has a positive effect on the number of days to publish annual reports of non-financial companies listed on the Vietnamese stock market.*

4. Research Methodology

4.1. Research Models

Determinants of time to publish annual reports of non-financial listed companies on the Vietnamese stock market are examined and described in equations below:

$$\text{TIME}_{it} = b_0 + b_1 \text{RETA}_{it} + b_2 \text{EBITTA}_{it} + b_3 \text{WCTA}_{it} + b_4 \text{BVETD}_{it} + \varepsilon_{it} \quad (1)$$

$$\text{TIME}_{it} = b_0 + b_1 \text{RETA}_{it} + b_2 \text{EBITTA}_{it} + b_3 \text{WCTA}_{it} + b_4 \text{BVETD}_{it} + b_5 \text{SIZE}_{it} + b_6 \text{AGE}_{it} + b_7 \text{CONSO}_{it} + b_8 \text{AUDIT}_{it} + \varepsilon_{it} \quad (2)$$

Variable names and measurements in Equations (1) and (2) are explained in Table 1.

Table 1. Measurement of variables used in research models.

No	Variables	Measurement
1	TIME	Days to publish annual reports = Date of publishing report – Closing date of fiscal year.
2	RETA	Retained Earnings/Total Assets
3	EBITTA	Earnings before interest and income tax/Total assets
4	WCTA	This variable represents liquidity of company. Working capital to total assets = (Current Assets – Current Liabilities)/Total Assets
5	BVETD	This variable represents capital structure of company. Book value of Equity/Total Debt
6	SIZE	This variable represents size of company. This variable is measured by natural logarithm of total assets
7	AGE	Years of operations = Reporting year – Beginning year of operations
8	CONSO	Dummy variable. CONSO has value = 1 if the company prepares a consolidated report, otherwise 0.
9	AUDIT	Dummy variable. AUDIT has value = 1 if company is audited by Big4 (E&Y, KPMG, Deloitte, PWC), otherwise 0
10	ZSCORE	This variable represents risk of bankruptcy. This research used the bankruptcy risk ratio in a transformed logit format, namely, $0 \leq ZSCORE \leq 1$, where larger values indicate higher bankruptcy risk. $ZSCORE = 1/(1 + e^{-L})$, of which $L = 0.035 - 0.495 \times WCTA - 0.862 \times RETA - 1.721 \times EBITA - 0.017 \times BVETD$ (Source: Altman et al. 2014, Model 2)

(Source: compiled by the authors).

ZSCORE and the independent variables: RETA, EBITTA, WCTA, and BVETD in model (1) and model (2) are related to each other by the formula to calculate the value of ZSCORE. Thus, to avoid multicollinearity, the authors studied the effect of bankruptcy risk (ZSCORE) to time of publishing annual reports in models (3) and (4) as follows.

$$TIME_{it} = b_0 + b_1 ZSCORE_{it} + \epsilon_{it} \tag{3}$$

$$TIME_{it} = b_0 + b_1 ZSCORE_{it} + b_2 SIZE_{it} + b_3 AGE_{it} + b_4 CONSO_{it} + b_5 AUDIT_{it} + \epsilon_{it} \tag{4}$$

In Equations (3) and (4), ZSCORE represents risk of bankruptcy. This research used the bankruptcy risk ratio in a transformed logit format used in Altman et al. (2014). In model 2, namely, $0 \leq ZSCORE \leq 1$, where larger values indicate higher bankruptcy risk. $ZSCORE = 1/(1 + e^{-L})$, of which $L = 0.035 - 0.495 \times WCTA - 0.862 \times RETA - 1.721 \times EBITA - 0.017 \times BVETD$.

Figures 1 and 2 describe research model 1 and 2 on determinants of days to publish annual reports.

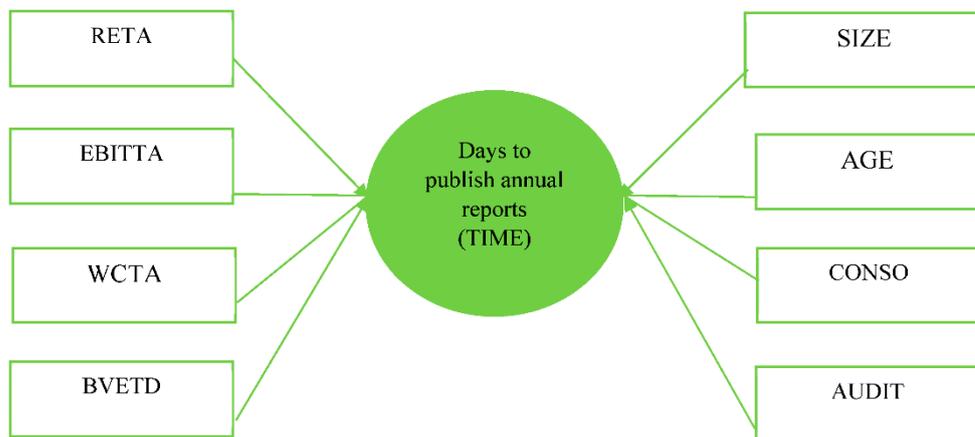


Figure 1. Research model of determinants of time for publication annual reports (source: proposed by the authors).

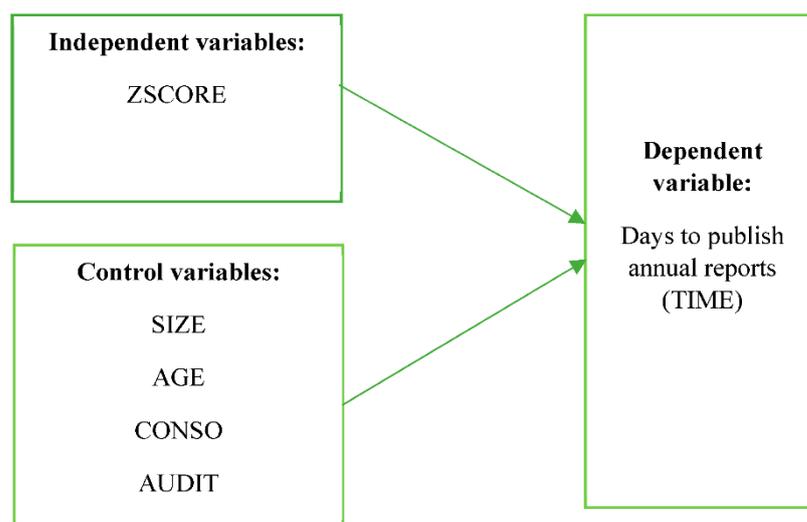


Figure 2. Research model of effect of bankruptcy risk to time for publication annual reports (source: proposed by the authors).

4.2. Data Collection

The data were collected from audited reports of 654 non-financial listed enterprises from 2016 to 2020 on the Vietnamese stock exchange. The companies studied all have fiscal years starting on January 1 and ending on December 31. The accounting information used in this paper was taken from the audited financial statements for the period from 2016 to 2020. Days to publish financial statements are obtained from the database of the State Securities Commission for the period from 2016 to 2020. Collected data were calculated and outliers winsorized for analysis purposes. The data were processed by STATA software.

4.3. Data Processing Method

This study used quantitative analysis methods with panel data. Descriptive statistics techniques were used to assess the status of the research variables in the model. Regression analysis with fixed effect model (FEM) and random effect model (REM) were used in the study. Because of the characteristic of panel data with two factors of space and time, the analysis of OLS regression model was considered not suitable.

Moreover, Hausman test was used to find the model that fits the research data. Regression results were considered reliable if the following conditions were satisfied: (i) The model does not have autocorrelation; (ii) the model does not have variable error variance. In case the regression results contain the defects mentioned above, the authors proceeded to use correction models. Details of the model tests as well as the appropriate calibration model are shown in the regression results sections.

5. Empirical Results

5.1. Descriptive Statistics

Statistical results in Table 2 show that the average TIME was 69.471 (days), and the maximum was 94 (days). Thus, the company submits the report as soon as 70 days from the end of the year, and the company submits the report no later than 94 days from the end of the fiscal year. According to regulations in Vietnam, companies must submit reports within 90 days from the end of the financial year. It can be said that most companies adhere to the regulations strictly.

The mean AGE was 10.336 (years), the maximum was 15 (years), and the smallest was 3 (years). The mean WCTA was 0.22, the maximum was 0.615, and the smallest was -0.109 . The average RETA was 0.074, the maximum was 0.236, and the smallest was -0.077 . The average BVETD was 2034 of which the largest was 9.73, and the smallest was 0.215.

The average ZSCORE was 0.543, the largest was 0.629, and the smallest was 0.476. According to Altman et al. (2014), ZSCORE has value $0 \leq \text{ZSCORE} \leq 1$, where larger values indicate higher bankruptcy risk. Compared with the Mean (ZSCORE) of companies listed on the Vietnamese stock market, it can be seen that the bankruptcy risk of companies is at an average level.

A summary of descriptive statistics is shown in Table 2.

Table 2. Summary of statistics of variables.

Variables	Obs	Mean	SD	Median	Lower Quartile (Q1)	Upper Quartile (Q3)	Min	Max
TIME	3270	69.471	29.263	81.000	64	89	0.000	94.000
AGE	3270	10.336	3.930	11.000	7	14	3.000	15.000
WCTA	3270	0.220	0.205	0.189	0.059	0.368	−0.109	0.615
RETA	3270	0.074	0.076	0.060	0.026	0.114	−0.077	0.236
EBITTA	3270	0.067	0.058	0.055	0.023	0.098	−0.022	0.192
BVETD	3270	2.036	2.485	1.041	0.529	2.306	0.215	9.733
ZSCORE	3270	0.543	0.042	0.536	0.510	0.571	0.476	0.629
SIZE	3270	27.447	1.430	27.381	26.34	28.38	25.029	30.265

Notes: Definitions of the variables in Table 2 are presented in Table 1. (Source: compiled from data processing by the authors).

5.2. Correlation Analysis

Pearson single correlation coefficient in Table 3 shows that TIME is correlated with EBITTA, AGE, and SIZE.

Table 3. Correlations between variables (Pearson correlation coefficient).

	TIME	WCTA	RETA	EBITTA	BVETD	ZSCORE	SIZE	AGE
TIME	1							
WCTA	−0.010	1						
RETA	−0.011	0.350 *	1					
EBITTA	−0.071 *	0.171 *	0.623 *	1				
BVETD	−0.014	0.519 *	0.242 *	0.107 *	1			
ZSCORE	−0.017	0.862 *	0.674 *	0.367 *	0.673 *	1		
SIZE	0.107 *	−0.263 *	0.045 *	−0.030 *	−0.331 *	−0.217 *	1	
AGE	0.073 *	0.012	−0.046 *	−0.037 *	0.001	−0.016	−0.021	1

Notes: Definitions of the variables in Table 3 are presented in Table 1. * Representing for significance, $* p < 0.1$. (Source: compiled from data processing by the authors).

Pearson single correlation coefficient in Table 4 shows that TIME is correlated with WCTA, RETA, EBITTA, BVETD, ZSCORE, and SIZE.

Table 4. Correlations between variables (Spearman correlation coefficient).

	TIME	WCTA	RETA	EBITTA	BVETD	ZSCORE	SIZE	AGE
TIME	1							
WCTA	−0.058 *	1						
RETA	−0.092 *	0.360 *	1					
EBITTA	−0.164 *	0.130 *	0.620 *	1				
BVETD	−0.056 *	0.586 *	0.415 *	0.181 *	1			
ZSCORE	−0.080 *	0.872 *	0.672 *	0.320 *	0.706 *	1		
SIZE	0.178 *	−0.267 *	0.012	−0.009	−0.368 *	−0.214 *	1	
AGE	−0.005	0.004	−0.045 *	−0.037 *	−0.004	−0.018	0.013	1

Notes: Definition of the variables in Table 4 are presented in Table 1. * Representing for significance, $* p < 0.1$. (Source: compiled from data processing by the authors).

The Spearman correlation coefficient between TIME and other independent variables in the model was larger than the Pearson coefficient. For panel data, the use of Spearman’s coefficient can be considered appropriate for non-normally distributed data. For the Spearman correlation coefficient, TIME had the strongest correlation with SIZE (0.178) and the weakest correlation with BVETD (0.056).

5.3. Regression Analysis

In Models (2) and (3), we applied both FEM and REM regression techniques to evaluate the effects of independent variables and control variables on TIME. Hausman test showed that the REM model fit the research data (*p*-values of Hausman test were all greater than 0.05). However, both model (2) and (3) had autocorrelation, so we used adjusted REM to overcome autocorrelation for the models.

Model (1) and Model (4) both apply FEM and REM regression techniques to evaluate the effects of independent variables on TIME. Hausman test showed that the FEM model fit the research data (*p*-values of Hausman test were all less than 0.05). However, Endogeneity existed in Model (1) and Model (4), so this study used the adjusted GMM to adjust the endogeneity for model (1) and model (4).

5.3.1. Regression Results of Retained Earnings, Earnings before Interest and Tax, Liquidity, and Capital Structure to Time of Annual Reports Publication

Analysis results of model (1) showed that RETA had a positive effect on TIME (beta coefficient = 201.9 has statistical significance) (Table 5 and Figure 3) This result indicates that if RETA increases, the TIME will increase. This means that companies with more retained earnings take longer to complete their annual reports than other businesses. EBITTA has a negative effect on TIME (beta coefficient = −790.6 and is statistically significant). This result showed that an increase in EBITTA will reduce the TIME (Table 3 and Figure 3). Companies with profitable results during the year will quickly issue reports, and the time to publish their reports will be faster than companies with poor performance. The variables WCTA and BVETD did not affect TIME, showing that changing WCTA or BVETD does not change TIME (see Table 5). Regression results provided evidence that liquidity and capital structure have no effects on time for disclosure of annual reports.

Table 5. Regression results of effects of retained earnings, earnings before interest and tax, working capital, and book value of equity to total debt to time of annual reports publication (model 1).

Variables	VIF	OLS	FEM	REM	GMM
RETA	3.58	23.43 **	97.66 ***	34.82 ***	201.9 **
EBITTA	3.13	−53.39 ***	−75.62 ***	−59.34 ***	−790.6 *
WCTA	2.83	−0.657	−13.41 **	−2.634	65.10
BVETD	2.24	−0.179	−0.282	−0.174	15.13
Constant		71.79 ***	70.77 ***	71.77 ***	69.18 *
Observations		3270	3270	3270	2616
Number of i			654	654	654
F-stats			0.000		
R-squared		0.0072	0.0138	0.0067	
Hausman test				0.0117	
Autocorrelation’s test				0.000	
Heteroskedasticity test				0.000	
AR(2)					0.051
Hansen test					0.292

Notes: Definition of the variables in Table 5 are presented in Table 1. *** *p* < 0.01, ** *p* < 0.05, * *p* < 0.1. (Source: compiled from data processing by the authors).

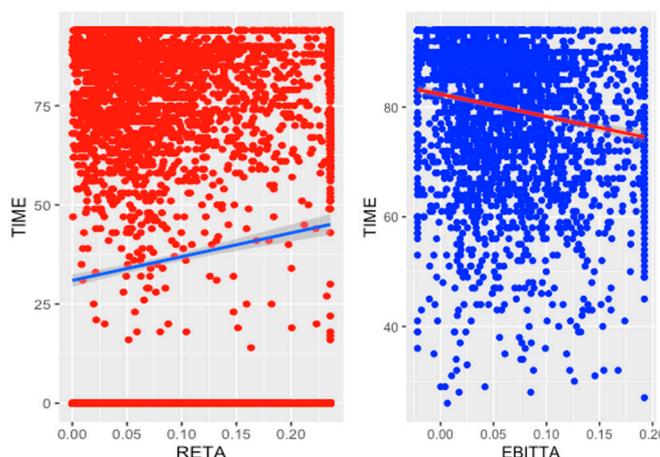


Figure 3. Influencing direction of RETA (retained earnings to total assets) and EBITTA (earnings before interest and tax to total assets) on time to publish annual reports (source: compiled from data processing by the authors).

5.3.2. Regression Results of Retained Earnings, Earnings before Interest and Tax, Liquidity, Capital Structure, and Control Variables to Time of Annual Reports Publication (Research Model 2)

In addition to Model 1, the study also examined the impact of firm size (SIZE) and operating time (AGE), financial reporting characteristics (CONSO), and type of audit firm (AUDIT) on TIME in Model 2 (See Table 6).

Table 6. Regression results of retained earnings, earnings before interest and tax, liquidity, capital structure, and control variables including firm size, firm age, consolidated reports, and auditing firm type to time of annual reports publication (research model 2).

Variables	VIF	OLS	FEM	REM	Adjusted REM
RETA	1.67	14.77	54.86 ***	26.05 **	24.04 **
EBITTA	2.60	−44.34 ***	−47.41 **	−51.25 ***	−46.97 ***
WCTA	2.50	2.760	−6.620	1.202	1.672
BVETD	2.18	0.169	1.427 **	0.227	0.150
SIZE	6.69	2.562 ***	23.67 ***	3.225 ***	3.066 ***
AGE	4.47	0.590 ***		0.601 ***	0.641 ***
CONSO	1.75	1.282		0.398	0.650
AUDIT	1.36	−3.293 **		−4.180 ***	−4.145 **
Constant		−5.767	−582.6 ***	−23.55	−20.91
Observations		3270	3270	3270	3270
F-stats			0.000		
R-squared		0.2556	0.0185	0.0454	0.0468
Number of i			654	654	654
Hausman test				0.3329	
Autocorrelation’s test				0.000	

Notes: Definition of the variables in Table 6 are presented in Table 1. *** $p < 0.01$, ** $p < 0.05$. (Source: compiled from data processing by the authors).

Research results showed that SIZE has a positive effect on TIME (beta coefficient = 3066 and was statistically significant), meaning the larger of business, the higher the TIME. AGE also had a positive effect on TIME (beta coefficient = 0.641 and was statistically significant). This means the higher the AGE, the higher TIME tended to be.

In contrast, AUDIT had a negative effect on TIME (beta coefficient = −4.145 and was statistically significant). The more companies audited by Big4, the shorter TIME tended to be.

5.3.3. Regression Results of Effects of Bankruptcy Risk to Time for Publication Annual Reports (Research Model 3)

As stated above, ZSCORE represents the bankruptcy risk of the business. The current situation of bankruptcy risk of non-financial companies listed on Vietnam’s stock market in the period from 2016 to 2020 is as follows (Figure 4).

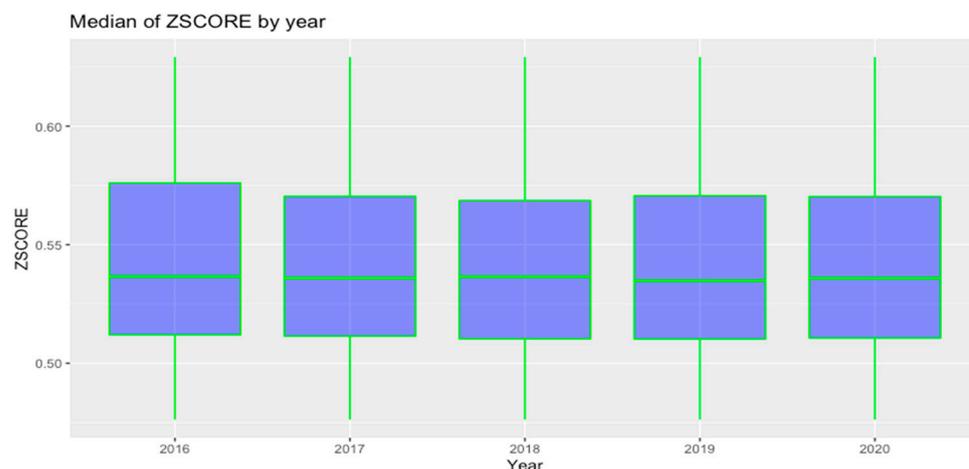


Figure 4. Median of bankruptcy risk coefficient (ZSCORE) by year (source: compiled from data processing by the authors).

Table 7 shows that non-financial listed enterprises in Vietnam are less likely to go bankrupt because larger values of ZSCORE indicate higher bankruptcy risk.

Table 7. Descriptive statistic bankruptcy risk of firm (ZSCORE) by year.

ZSCORE by Year	Mean	Median
2016	0.523	0.524
2017	0.519	0.522
2018	0.519	0.524
2019	0.520	0.525
2020	0.522	0.526

(Source: compiled from data processing by the authors).

Table 8 showed results to evaluate the effect of ZSCORE on TIME. ZSCORE had no effect on TIME. Therefore, the bankruptcy risk of enterprises does not affect the time to publish annual reports of non-financial listed companies.

Table 8. Regression results of effects of bankruptcy to time of publication annual reports in research model 3.

Variables	OLS	FEM	REM	GLS
ZSCORE	−11.69	−10.92	−11.60	−11.18
Constant	75.82 ***	75.40 ***	75.77 ***	74.27 ***
Observations	3270	3270	3270	3270
F-stats		0.000		
R-squared	0.0392	0.0559	0.0559	
Number of i		654	654	654
Hausman test			0.9778	
Autocorrelation’s test			0.000	

Notes: Definitions of the variables in Table 8 are presented in Table 1. *** representing statistical significance $p < 0.01$.

5.3.4. Regression Results of Effects of Bankruptcy Risk and Control Variables to Time for Publication Annual Reports (Research Model 4)

Regression results of model (4) provide evidence to evaluate the influence of ZSCORE, SIZE, AGE, CONSO, and AUDIT on TIME (See Table 9). They show that ZSCORE also had no effect on TIME, whereas AUDIT had a negative effect on TIME (beta coefficient = -3.437, statistical significance). These results clarify that enterprises using Big4 audit tended to have a lower number of days to publish reports than those using nonBig4. Besides, the risk of going bankrupt has not been illustrated through the time releasing annual reports. Meanwhile, SIZE and AGE had a positive effect on TIME (beta coefficients are 2.385 and 0.627 respectively).

Table 9. Regression results of effects of bankruptcy risk and control variables (firm size, firm age, consolidated report type, auditing firm type) to time of publication annual reports in research model 4.

Variables	VIF	OLS	FEM	REM	GMM
ZSCORE	1.09	9.146	37.65	12.72	3.770
SIZE	1.67	2.404 ***	23.89 ***	3.166 ***	2.385 ***
AGE	1.02	0.610 ***		0.615 ***	0.627 ***
CONSO	1.33	1.912		1.018	2.339
AUDIT	1.27	-3.295 ***		-4.168 ***	-3.437 **
Constant		-7.790	-606.6 ***	-30.02	-2.555
Observations		3270	3270	3270	3270
F-stats			0.000		
R-squared		0.020	0.054	0.0525	
Number of i			654	654	654
Hausman test				0.000	
Autocorrelation's test AR(2)				0.000	0.930
Hansen test					0.464

Notes: Definition of the variables in Table 9 are presented in Table 1. *** representing statistical significance $p < 0.01$, ** $p < 0.05$. (Source: compiled from data processing by the authors).

6. Discussion and Recommendations

6.1. Discussion

Hypotheses testing results are shown in Table 10.

Table 10. Summary of hypotheses testing results.

No	Hypotheses	Results
1	H1: RETA has a positive effect on TIME	H1 was accepted
2	H2: EBITTA has a positive effect on TIME	H2 was not accepted. EBITTA had a negative effect on TIME
3	H3: WCTA has a positive effect on TIME	H3 was not accepted. WCTA had no significant effect on TIME
4	H4: BVETD has a positive effect on TIME	H4 was not accepted. BVETD had no significant effect on TIME
5	H5: SIZE has a positive effect on TIME	H5 was accepted
6	H6: AGE has a positive effect on TIME	H6 was accepted
7	H7: CONSO has a positive effect on TIME	H7 was not accepted. CONSO had no significant effect on TIME
8	H8: AUDIT has a positive effect on TIME	H8 was not accepted. AUDIT had a negative effect on TIME
9	H9: ZSCORE has a positive effect on TIME	H9 was not accepted. ZSCORE had no significant effect on TIME

Note: TIME: Days to publish annual reports = Date of publishing report - Closing date of fiscal year; RETA: Retained Earnings/Total Assets; EBITTA: Earnings before interest and income tax/Total assets; WCTA (represents liquidity of company) = (Current Assets - Current Liabilities)/Total Assets; BVETD (represents capital structure of company) = Book value of Equity/Total Debt; SIZE (represents size of company) measured by natural logarithm of total assets; AGE (Number of years in operation) = Reporting year - Beginning year of operation; CONSO (Consolidated Reports) has value = 1 if the company prepares consolidated report, otherwise = 0; AUDIT (auditing firm) has value = 1 if company is audited by Big4 (E&Y, KPMG, Deloitte, PWC), otherwise = 0; ZSCORE represents risk of bankruptcy. This research used the bankruptcy risk ratio used in Altman et al. (2014) Model 2, namely, $0 \leq ZSCORE \leq 1$, where larger values indicate higher bankruptcy risk. $ZSCORE = 1 / (1 + e^{-L})$, of which $L = 0.035 - 0.495 \times WCTA - 0.862 \times RETA - 1.721 \times EBITA - 0.017 \times BVETD$. (Source: compiled from data processing by the authors).

Based on hypotheses testing results shown in Table 10, the findings are:

First, retained earnings had a positive effect on time to publish annual reports in model 1 and model 2. Thus, research hypothesis H1 was supported. The results are not consistent with the previous research such as those found by Gulec (2017), Ha et al. (2018), and Lukason and Camacho-Miñano (2019). The results of this study revealed that in the period from 2016 to 2020, the more retained earnings the enterprise had, the longer it took to publish annual financial statements.

Second, research results showed that earnings before interest and tax had a negative effect on disclosure of annual statements in both Model 1 and 2. Thus, research hypothesis H2 was not accepted. The results of this study coincide with the studies of Turel (2010), Modugu et al. (2012), Khuong and Vy (2017), and Lukason and Camacho-Miñano (2019). As such, most companies decided to report early when their business results for the reporting year were profitable.

Third, research results showed that liquidity of company has no statistically significant effect on publication of annual statements. Thus, the research hypothesis H3 is not accepted. That is, the liquidity (expressed in the value of net working capital) of non-financial companies listed on the Vietnamese stock market in the period 2016–2020 has no relationship with the time of publication. This result does not coincide with previous studies, by Vuran and Adiloglu (2013), and Lukason and Camacho-Miñano (2019).

Fourth, research results showed that capital structure of company had no effect on publishing annual reports. Capital structure or specifically the proportion of equity and debt had no statistically significant impact on TIME. Thus, the research hypothesis H4 was not accepted. The results of this study are consistent with those of Gulec (2017) and Lukason and Camacho-Miñano (2019) but not consistent with those of Khasharmeh and Aljifri (2010). This result showed that the way of using equity capital or borrowed capital is not influential on the publication time of public reports belonging to listed companies on the Vietnamese stock market.

Fifth, research results showed that firm size had a positive effect on numbers of day to publish annual reports. That means the larger the business, the longer it takes to publish financial statements. Thus, research hypothesis H5 was supported. A company's large scale and high volume of economic transactions require a lot of time to audit and publish reports. The results of this study are consistent with those of Khuong and Vy (2017) but not consistent with those of Sakka and Jarboui (2016), Gulec (2017), and Ha et al. (2018). This research result rationalizes why large companies such as REE and PNJ (listed on HOSE) send applications to the stock exchange committee for an extension day for submission of financial reports

Sixth, research results showed that firm age has a positive effect on number of days to publish annual reports. The older a company is, the longer it takes to publish financial reports. Thus, research hypothesis H6 was supported. The results of this study are consistent with those of Iyoha (2012) and disagree with Ha et al. (2018) and Lukason and Camacho-Miñano (2019). This result showed that, when they have been operating for a long time, enterprises seem to be more cautious about reporting information and slower to publish reports than younger enterprises.

Seventh, research results showed that feature of report (consolidated report) had no effect on number of days to publish annual reports. Thus, research hypothesis H7 was not accepted. The results of this study are consistent with the research results of Vuran and Adiloglu (2013) and not consistent with those of Gulec (2017) and Ha et al. (2018). This result supported the premise that complications in consolidated financial statements between 2016 and 2020 in Vietnam have not hindered the time taken to issue annual financial statements.

Eighth, research results showed that auditing firm type had a negative effect on number of days to publish annual reports. That is, Vietnam's Big4 audit firms facilitated faster auditing of reports for clients compared with nonBig4. This affirms the high level of professionalism and efficiency in service provision from the Big4 in Vietnam. Thus,

research hypothesis H8 was not accepted. The results of this study are consistent with those of [Khasharmeh and Aljifri \(2010\)](#), [Modugu et al. \(2012\)](#), [Gulec \(2017\)](#), and [Ha et al. \(2018\)](#).

Ninth, research results showed that bankruptcy risk (ZSCORE) had no effect on number of days to publish annual reports (TIME), under control variables AGE (firm age), SIZE (firm size), CONSO (consolidated reports), and AUDIT (auditing firm type). The factors AGE, SIZE, CONSO, and AUDIT had the same impact on TIME as in models 1 and 2, where we did not include the bankruptcy risk variable ZSCORE in the research model. The results of this study agree with the results of [Dewi et al. \(2019\)](#) in Indonesia. However, this result is contrary to the results of [Lukason and Camacho-Miñano \(2019\)](#). Thus, it can be said that companies in danger of bankruptcy shall not publish reports early.

6.2. Recommendations

Based on the analysis results, the authors' recommendations to individuals interested in annual financial statements are as follows:

- For Vietnam Securities Exchange Commission:

Statistical data showed that the average number of days for enterprises to publish annual reports is 69 days and the highest is 94 days, showing that most enterprises are complying with regulations. Some enterprises that submit reports late and give reasons for their lateness due to complications of consolidated statements should not be accepted, given the analysis results which indicate that the consolidated financial statements (CONSO) are not an important factor to the time of publication. The Securities Exchange Commission needs to be more drastic in its measure in approving applications for extending annual report submission deadlines. The increase in the number of enterprises extending financial statements makes the market more vulnerable, causing information asymmetry and lower transparency. Cases of late submission should have appropriate sanctions to help the Vietnamese capital market move towards the goal of more transparent and efficient exchange.

Although a fine ranging from VND 50,000,000 to VND 70,000,000 is imposed for disclosing information late or incomplete contents prescribed by law or at the request of the State Securities Commission, this fine is not absorbent, leading to violation cases increasing over years. Therefore, the State Securities Commission should issue a series of decisions with a higher fine rate to sanction violators.

- For investors:

Investors expect companies to issue annual reports early to understand their company's business performance over the past year and to answer a series of questions such as whether the investment capital is maintained is growing or not. Is there a risk of capital loss and bankruptcy or is there a sign of financial weakness exposed by the time of report publication? This study showed that there is no relationship between the risk of bankruptcy and the date that the company publishes its financial statements after the day of fiscal year-end. That is, not every company in danger of bankruptcy provides annual reports later than others. Therefore, this study recommends that investors should carefully consider the financial ratios after the report is published to properly assess the company's prospects rather than pay much attention to the duration of time taken to release annual reports.

- For enterprise managers:

Research results showed that the more years companies have been operating, the slower they are to publish their reports. Therefore, managers of old companies need to consider the fact that their businesses have been operating for a long time, and might be less dynamic than young businesses in disclosing information. Early disclosure of information will be beneficial for businesses, allowing the business to attract additional investments and gain greater access to capital. Therefore, managers need to take measures to decrease the occurrence of late report submissions. Additionally, managers should create favorable conditions for accountants to prepare annual financial statements on time.

- For auditing firms:

Currently in Vietnam, most listed companies are audited by Big4. Research results showed that companies audited by Big4 will provide reports faster than non-Big4 companies. It is the quality of Big4's audit services that has helped shorten the audit time, and the reports have been published earlier. This helps Big4 always maintain its reputation and continue to be selected to audit listed companies for many consecutive years. To compete with Big4, other auditing firms in Vietnam need to renovate their operations and improve auditors' professional competence, thereby shortening the time to provide financial statements, narrowing the information asymmetry in the market.

7. Conclusions

The article studied nine factors affecting the time to submit financial statements of 654 non-financial companies listed on Vietnam's stock market. Results obtained from regression analysis showed that the factors that have a positive influence on the time of publication are size, age, and retained earnings. On the contrary, factors that have a negative effect on the time of publication are audits conducted by Big4 and company profit before tax and interest. Other factors such as liquidity, capital structure, type of report (consolidated report), and bankruptcy risk did not have a statistically significant impact on the time of publication. From the research results, the authors recommend that the Vietnamese securities exchange commission should strictly reconsider approving the request for an extension of the reporting date. Furthermore, non-Big4 companies need to strengthen the training for auditors to enhance the audit quality and shorten the duration of an audit.

This study was conducted on a pooled data sample of non-financial companies listed on the stock market, so there is a limitation that these companies have not been classified in industrial group. The characteristics of the business can also be a potential factor affecting the time of publication annual statements. In addition, whether corporate governance factors such as board size, CEO duality, and CEO tenure potentially affect the release of reports has not been clarified by this study. In addition, this study has not yet provided evidence on annual reporting time across countries around the world due to data accessing limitation. Future studies may add research evidence on reporting time for specific industries and comparisons with many countries around the world with the use of other research variables, such as corporate governance and industry characteristics.

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