

Article

Audit Report Lag. Differential Analysis between Spanish SMEs and Non-SMEs

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Abstract: Audit report lag is considered to be an indicator of audit punctuality and efficiency, while the existence of factors that may determine this lag has been signalled in previous studies. The objective of this study is to identify the determinants of audit report lag in Spanish SMEs, and to analyse the potential singularities of these factors with regards to non-SMEs. With this aim in mind, a set of factors has been analysed; in the previous literature, a relationship has been observed between these factors and the characteristics of the audited company, the auditor and the audit exercise. Additionally, the possible influence of financial crisis and recovery periods is analysed. The sample analysed is made up of 3217 unlisted Spanish firms for the years 2008–2015. Multiple linear regression analysis is used, modelling the audit report lag based on the independent variables related to the characteristics of the audited company, the auditor and the audit exercise. Based on the results obtained, we can support the existence of differences among the independent variables responsible for the audit report lag based on company type (SME/non-SME), with a larger number of factors impacting the audit report lag in SMEs. It is worth noting the significant relationship between audit report lag and opinion and crisis variables, both for the SME and non-SME models. In the case of SMEs, links between audit report lag and the likelihood of bankruptcy, auditor type, number of economic activities carried out by the audited company, the industry to which the audited company pertains, and audit fees were also observed. Furthermore, we can conclude that audit report lag is greater in SMEs and that the independent variables explaining report lag differ according to whether the company is an SME or not.

Keywords: audit report lag (*ARL*); SMEs; non-SMEs; crisis



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1. Introduction

For the users of accounting data to be able to access the information contained in financial statements, this needs to meet the “opportunity” requirement, that is, it should be available as soon as possible; if not, the data presented may no longer be of use [1]. The previous literature has stated that the punctual availability of audit financial statements is singularly important. Thus, researchers have been interested in examining audit report lag (herein referred to as *ARL*), considering it to be an indicator of audit punctuality and efficiency. Moreover, the study of *ARL* is an area of special interest for auditors, regulators, company directors and investors [2–4].

Existing research offers a variety of justifications for the importance of studying *ARL*. Afify [5] states that issuing an audit opinion “opportunistically” can contribute towards improving investor decision making, reducing data skewness, and it can dictate the timing of the announcement of earnings by the audited company. Companies may experience negative market reactions and greater data skewness if there is a considerable delay in the publication of the audited financial statements [4,6]. Furthermore, greater *ARL* may result in the interested parties having to make investment decisions without availing of adequately verified accounting data [7], or access to financing may be compromised [8]. Therefore, an

excessive delay in presenting audit reports negatively impacts the relevance, reliability and utility of the reported financial statements, potentially leading to a loss of trust on the part of the investors [9,10]. A better understanding of the factors which determine *ARL* will thus provide interested parties with a deeper knowledge of audit efficiency.

Furthermore, there is a significant interrelation between *ARL* and company sustainability. The previous literature has noted that those companies with greater delays in audit report presentation tend to have greater financial difficulties; that is, their financial results are worse, pointing to the existence of losses [11,12], high leverage ratio [11,13], lower profitability [14,15] or a greater likelihood of failure [16,17]. Therefore, and as pointed out by Lukason and Camacho-Miñano [18] (p. 2), a greater delay in the presentation of financial data could be taken to be an indicator of the company's unsustainability.

Most of the existing research on *ARL* focusses on large companies and generally listed companies, as this information bears no cost and is easily accessible. On the other hand, there is less evidence available for unlisted companies, and specifically for small- and medium-sized companies (SMEs). SMEs play a highly relevant role in national socio-economic development. SMEs play an important role as the engine of the Spanish economy, as they are the driving force behind job creation and economic growth, as well as guaranteeing social stability. SMEs play an essential role as the engine of the Spanish economy, as they are the driving force, promote job creation and economic growth, and guarantee social stability. In Spain, 99.8% of all companies are SMEs, representing 62% of the Gross Domestic Product (GDP) and 66% of total business employment. Specifically, Spanish SMEs with employees account for 46% of companies and employ more than 8 million workers, which represents 53.3% of total business employment [19].

In comparison to non-SMEs, SMEs have specific characteristics that could go some way towards explaining the differences in *ARL* and their determinants. SMEs are smaller, with different organisational structures, investment and financing decisions and type of data users. Moreover, in times of crisis, it is SMEs who suffer the most and have the greatest risk of failure due to their limited options regarding access to funds [20]. Regarding auditor type, the previous literature has observed that SMEs are audited by smaller auditing firms, thus allowing us to widen the study to include a more competitive and poorly explored submarket [21].

The aim of this study is to compare the determinants of *ARL* for a sample of Spanish unlisted companies based on company type, SMEs and non-SMEs. With this aim in mind, a set of factors was analysed, factors related to the characteristics of the audited company, auditor attributes and variables referring to the audit exercise. Furthermore, the potential impact on *ARL* during the years of financial crisis was analysed. Thus, by means of the results of our study, we have observed the existence of differences among the independent variables explaining *ARL* based on company type (SME/non-SME), with more factors affecting audit report delay in SMEs. Additionally, *ARL* is higher in SMEs.

This study attempts to further consolidate the empirical evidence on the study of *ARL*, extending the scarce literature on determinants of *ARL* for unlisted companies and specifically SMEs on the one hand, and aiming to offer new evidence in periods of crisis on the other.

From the introduction onwards, this article is organised as follows: the second section presents the existing previous literature related to determinants of *ARL* and the hypothesis development. The third section specifies the methodology used, detailing the sample selection, defining the model and variables used. The results obtained in the empirical study are presented in the fourth section, followed by the discussion, main conclusions, limitations and suggestions for future lines of research.

2. Literature Review and Hypothesis

ARL is defined as the length of time from a company's fiscal year-end to the audit report date. Regulation of the maximum legal period for issuing the audit report varies from country to country, although there is a trend of reductions in legal periods for both

the presentation of financial statements (a company's financial statements comprise the balance sheet, income statement, statement of changes in equity, statement of cash flows and the notes therein) and issuance of audit reports.

In the case of Spain—the object of this study—company directors have a 3-month deadline from the end of the fiscal year to draw up the financial statements. The financial statements by the partners/shareholders must be approved within the first 6 months from the fiscal year-end. The auditors will have a minimum of one month from handover of the financial statements to issue the audit report, which in turn must be delivered and therefore dated before the partners/shareholders approve the financial statements. Hence, the audit report should be made available to the partners/shareholders from the moment in which the date of the general shareholders meeting is announced [22].

Meanwhile, a later deadline for the company administrators to deliver the financial statements could mean a delay in issuing the audit report. The causes and determining factors regarding delays in drawing up the financial statements in SMEs have been dealt with in the recent literature [18,23,24].

Given its direct impact on the timeliness and relevance of financial statements, there is no doubt as to the importance of studying the factors associated with audit report lag. The first studies to be carried out on *ARL* considered potential causes for the delay, including corporate characteristics of the audited company such as company size [25,26] industry [27] or the degree of internal control [1], with size being the variable studied the most often [28]. Over the years, new variables have been brought in related to performance and financial conditions of the audited company [13,16,29–32], company complexity [17,31] or corporate governance [2,5].

Other variables pinpointed as possible causes of *ARL* are related to both auditor characteristics and audit exercise. Numerous studies include factors such as auditor type [12,13,33], auditor tenure [25,34] or auditor switching [35] in relation to *auditor characteristics*. The most studied variable is auditing company type, particularly whether the audit is carried out by one of the large multinationals, named the BIG N. More recently, certain personal auditor characteristics such as gender [36] or experience [37] have been included in a few studies as possible causes of *ARL*. Regarding *characteristics related to audit exercise*, the first variables introduced relate to audit opinion. A qualified or unqualified opinion, the inclusion of reserves in the audit report or mention of going concern problems have all been studied as explanatory variables of *ARL* [15,38,39]. Another potential determining factor for *ARL* is the closing date for financial statements, making a distinction between those companies closing on 31 December and those closing on a different date [15,40]. A relationship has also been established between *ARL* and the audit and non-audit fees charged by auditors [25,41]. Finally, there have recently been a few studies including the possible effect of the financial crisis context, although they have been unable to establish a significant relationship with *ARL* [42,43].

The studies published on variables affecting *ARL* have yielded different, and sometimes contradictory, results between countries. In this sense, the meta-analysis technique carried out by Abernathy et al. [2], Durand [28] or Habib et al. [44] is especially suitable when finding a balance between the results. These authors make different classifications of the determinants of *ARL*, and it should be noted that they coincide on a large proportion of the variables.

The review carried out by Abernathy et al. [2] encompasses the main determiners of *ARL* into two categories. The first category is related to the characteristics of the audited company, while the second category refers to audit characteristics. Regarding the first, these authors identified an association between company performance and *ARL*, pointing to a lower *ARL* for those companies with better results and stronger corporate governance, and greater *ARL* for those firms in a situation of economic and financial risk, with industry risk or with internal control weakness. Regarding the second category, audit characteristics, Abernathy et al. highlight the association of *ARL* with auditor attributes

regarding specialisation and the audit firm (BIG N), as well as the type of opinion issued in the audit report.

Durand [28] classifies the main determiners of *ARL* into three groups, referring to the characteristics of the audit, incentives to reduce *ARL* and auditor attributes. Regarding the first, the characteristics or scope of the audit work, Durand confirms the association between *ARL* with the variables related to auditor business risk, audit complexity and audit opinion type, highlighting the absence of any association between *ARL* and the variables referring to ownership concentration, as well as the lack of conclusive results for an association between *ARL* and corporate governance characteristics. With reference to the second group, incentives to reduce *ARL*, Durand emphasises the association between *ARL* and client size and type of news regarding earnings. Lastly, for the third group regarding auditor attributes, an association between *ARL* and audit tenure is pointed at, as well as auditor industry specialisation and the provision of additional services on the part of the auditor, highlighting the absence of any association between *ARL* and the very commonly studied variable audit firm size.

Finally, the study carried out by Habib et al. [44] made a classification of the possible determiners of *ARL* into three types or categories. In the first category pertaining to audit characteristics, these authors made note of a positive association between *ARL* and variables related to auditor switching, audit fees, busy season, modified audit opinion and the presence of internal control weaknesses. On the other hand, they observed a negative relationship between *ARL* and the audit fees received for non-audit services. Regarding the second type, corporate governance characteristics, they observed lower *ARL* in those companies with a greater proportion of independent members in the Board of Directors. They also noted lower *ARL* in those companies with greater ownership concentration. As far as the third type (variables related to the characteristics of the audited company) is concerned, they point to the existence of a greater *ARL* the greater the complexity and risk of the company.

Using the aforementioned studies as a starting point, we shall analyse which factors are determinants of *ARL* for SMEs and non-SMEs. The factors considered in our study are defined and justified in the following section, while the general hypothesis to be confirmed is as follows:

Hypothesis: *The determinants of audit report lag are different for SMEs and non-SMEs.*

3. Research Methodology

3.1. Sample

The population under study here are unlisted Spanish companies audited (the Spanish legislation establishes that companies have an obligation to be audited when, for two consecutive years and at the close of one of them, they meet at least two of the following three circumstances: (i) total assets in excess of 2,850,000 euros, (ii) a net annual turnover in excess of 5,700,000 euros, and (iii) an average number of employees during the year in excess of 50) between 2008 and 2015. In order to gather a representative sample of the population under study, we used the ARDÁN database, a business support service that is part of the Consortium of the Duty-Free Zone of Vigo. The sample choice was made via stratified sampling according to industry with replacement. An initial population of 131,195 firms was used as a starting point, with an initial sample of 3217 companies made up of both SMEs and non-SMEs, and randomly selected. In order for a company to be classified as an SME, the parameters conforming to the definition of SME as stipulated in Annex I of Council Regulation (EU) No. 651/2014 [45] were used. Consequently, of the 3217 companies making up the sample, 2568 are SMEs and the remaining 649 are non-SMEs.

The information incorporated into our database was obtained from the files provided by the Consortium of the Duty-free Zone of Vigo, while the figures and ratios were retrieved from the SABI (Iberian Balance Sheets Analysis System) database. The figure relating to

auditor seniority was provided by the ROAC (Official Register of Account Auditors) of Spain.

Table 1 presents the characteristics of the companies in the sample for the 8 years analysed, based on size; to this end, the total assets of the company have been referenced, as well as whether the company is an SME or a non-SME. We observe that for every year, around 80% of the companies are SMEs, and the mean total assets for this type of company are around 23 million euros.

Table 1. Description of the sample companies, SMEs and non-SMEs, according to size (total assets).

	2008			2009			2010			2011			2012			2013			2014			2015			Total		
	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean	No.	%	Mean
SMEs	75	18.75%	357.32	82	20.55%	546.96	90	21.74%	154.48	83	20.19%	476.31	80	20.00%	400.83	77	18.92%	898.60	82	20.81%	248.43	80	20.41%	299.05	649	20.17%	417.01
Non-SMEs	325	81.25%	23.86	317	79.45%	22.75	324	78.26%	25.28	328	79.81%	21.35	320	80.00%	21.93	330	81.08%	25.90	312	79.19%	25.60	312	79.59%	21.67	2568	79.83%	23.55
Total	400	100%	86.38	399	100%	130.48	414	100%	53.37	411	100%	113.23	400	100%	97.71	407	100%	191.01	394	100%	71.98	392	100%	78.28	3217	100%	102.93

Note: Mean in millions of euros.

3.2. Data Analysis

Descriptive statistics were calculated. The next step was to carry out a means analysis using Student's t-test for dichotomous variables and the analysis of variance (ANOVA), followed by the Bonferroni post hoc test for polytomous variables. In order to establish the relation between the scale variables, Pearson's correlation was also calculated. Finally, to identify the determinants of *ARL*, a multiple linear regression analysis was carried out (method: enter). All the analyses were carried out with a confidence level of 95%.

3.3. Model for Audit Report Lag

In order to be able to contrast the hypothesis posed, an audit report lag model was put forward, with the following functional form:

$$\begin{aligned} LN_ARL = & \beta_0 + \beta_1 LN_TA + \beta_2 LOSS + \beta_3 PROB_ZFC + \beta_4 DEBT + \beta_5 LIQ + \beta_6 ROA + \beta_7 SR_SUBS - FO \\ & + \beta_8 SR_SUBS - SP + \beta_9 SR_SIC + \beta_{10} SR_EAT + \beta_{11} INDUSTRY + \beta_{12} OPINION \\ & + \beta_{13} BUSY + \beta_{14} LN_AF + \beta_{15} LN_NOAF + \beta_{16} CRISIS + \beta_{17} AUDITOR + \beta_{18} SEX \\ & + \beta_{19} EXP + \varepsilon \end{aligned}$$

Table 2 presents the variables used in the model and the expected sign for each one in relation to the response variable. The expected sign for each variable was determined based on the previous literature; however, bearing in mind that most of the existing research has focussed on large, generally listed companies, differences in the results are to be expected.

Table 2. Description of the model variables and expected sign.

Variables	Definition	Expected Sign
Dependent variable		
LN_ARL	Natural logarithm of number of days between the end of accounting period and the signing of audit report.	
Independent variables related to the audited company		
LN_TA	Natural logarithm of total assets.	-
LOSS	1 if the company had losses in the year; 0 otherwise.	+
PROB_ZFC	1 indicates probability of bankruptcy; 0 otherwise. This probability is calculated using the probability of bankruptcy of the Zmijewski model (1984).	+
DEBT	Total debt divided by total assets.	+
LIQ	Current assets divided current liabilities.	-
ROA	Return on assets. Calculated as operating income divided by total assets.	-
SR_SUBS-SP	Square root of the number of Spanish subsidiaries.	+
SR_SUBS-FO	Square root of the number of foreign subsidiaries.	+
SR_SIC	Square root of the number of Standard Industrial Classification of Economic Activities (SIC).	+
SR_EAT	Square root of the number of Economic Activities Tax (EAT).	+
INDUSTRY	4, Services; 3, Retail; 2, Construction; 1, Industrial; 0, Agriculture.	¿?
Independent variables related to audit exercise		
OPINION	1 Qualified; 0 Unqualified	+
BUSY	1 if the firm's economic year-end is December 31, and 0 otherwise.	+
LN_AF	Natural logarithm of audit fees, euros.	-
LN_NOAF	Natural logarithm of no audit fees, euros.	-
CRISIS	1, Years of crisis (2008 to 2013); 0, Years of recovery (2014 and 2015)	-
Independent variables related with auditor characteristics		
AUDITOR	3, Individual auditor; 2, Society; 1, Multinational; 0, BIG 4.	+
SEX	1, Woman; 0, Man.	+
EXP	Number of years from the date of registration of the auditor in the Official Register of Account Auditors to the closing date of the financial statements.	-

The dependent variable, *ARL*, is calculated as the number of days between the closing date for financial statements and the date when the auditor signs the audit report. The

independent variables are related to characteristics of the audited company, the auditor and the audit exercise.

As Table 2 shows, the dependent variable and some of the independent variables have been transformed via the natural logarithm or the square root, in order to limit variability and obtain more robust results [46].

3.3.1. Variables Related to the Audited Company

- Size

Larger firms tend to be audited by larger auditing companies which have more available auditing personnel, thus leading to shorter auditing times [47]. In addition, larger companies under audit have more experienced employees in charge of internal control, which contributes to a faster auditing process given that they can make the relevant information readily available to the auditor [13]. Other studies have pointed out the fact that larger companies have the incentive to reduce the duration of the audit so as to avoid uncertainties that could affect the investors' decision making [48]. In line with other authors [11,35], we have included the variable *LN_TA* as a measure of the size of the audited company. This variable is defined as the natural logarithm of total assets. We expect an inverse relationship between *ARL* and the size of the audited company.

- Financial conditions. Risk indicators

To a large extent, audit risk is influenced by the client's financial situation [27]. Indicators of a bad financial situation such as the existences of losses [11], high debt levels [49] or the potential risk of bankruptcy [16,17] increase audit risk; consequently, auditor effort is incremented, which in turn could lead to longer *ARL*. Companies could have an interest in hiding such risk by delaying the issuance of their annual corporate reports and the audit report [10,49].

The results obtained by Ahmed and Hossain [14] or Khoufi and Khoufi [15] also suggest that profitability (*ROA*) impacts *ARL*; thus, companies with greater profitability have a shorter *ARL*. Another indicator of financial situation is the liquidity ratio; a higher liquidity ratio implies greater payment capacity and a healthier financial situation, which may reduce auditing needs and audit duration [29]. Faced with this situation, a company's management is likely to want to accelerate issuance of the good news to investors and other interested parties [50,51].

The variables *LOSS*, debt (*DEBT*), likelihood of bankruptcy (*PROB_ZFC*; bankruptcy Prediction Index according to the Zmijewski model [52]. The model could be described by the following formula [53] (p. 287): $Z = -4.336 - 4.513 \times \text{EAT}/\text{TA} + 5.679 \times \text{TL}/\text{TA} + 0.004 \times \text{CA}/\text{CL}$ where: *EAT*—earnings after taxes, *TA*—total assets, *TL*—total liabilities, *CL*—current liabilities, *CA*—current assets. The model provides results in the form of a probability of bankruptcy (*P*). This probability is given by the formula: $P = 1/(1 + \exp(-Z))$. For $P > 0.5$, the company is considered threatened by bankruptcy), profitability (*ROA*) and liquidity (*LIQ*) have been included as measures of the audited company's financial situation, with an expected positive association for the first three, and the opposite for *ROA* and *LIQ*.

- Complexity

Previous studies have observed that those companies with more business segments have more complex business operations, thus leading to an increased audit risk [27,54]. In response to this greater risk, auditors would carry out additional auditing procedures which could impact *ARL* [47,55]. Previous studies on *ARL* have used the number of economic activities, number of subsidiaries or the existence of foreign operations [28], among others, as measures of business segments. We have included the number of company subsidiaries in Spain (*SR_SUBS-SP*) and abroad (*SR_SUBS-FO*), the number of classification of economic activity codes (*SR_SIC*), and the number of classification of economic activities tax codes (*SR_EAT*) as measures of company complexity. A positive relationship is expected between these variables and *ARL*.

Another measure related to complexity is the industry in which the audited company belongs. Certain industries are more difficult to audit due to factors such as greater volume of inventory and accounts payable [56]. Other studies highlight the fact that those industries that are subject to greater regulatory pressure, such as the financial or energy industries, experience shorter delays in audit report issuance [1,57]. Following previous classifications used in audit research in the Spanish context [58], the variable *INDUSTRY* has been coded in five categories (agriculture, industrial, construction, retail and services). Given the variability of the results in previous research, we will not make any predictions regarding the association of this variable with *ARL*.

3.3.2. Variables Related to Audit Exercise

- Opinion

Previous research has suggested that when an audit report has a modified opinion or makes reference to situations related to ongoing problems in the company, the delay will be greater [15,38,59].

Faced with the likelihood of irregularities, auditors increase their effort by carrying out additional audit procedures in order to protect themselves from future litigation [55]. Other authors have pointed out that the possibility of receiving an unfavourable opinion will result in discussions or negotiation with the audited company, which in turn would imply time added to the auditing process [38]. In line with other studies [15,31], we have included the variable *OPINION*, expecting an association with *ARL*.

- Busy season

Some researchers include a variable related to the closing date of financial statements [15,40]. The most common closing date for financial statements in Spain is the 31 December; it would therefore be logical to expect auditors to have heavy workloads in the following months, which could lead to scheduling difficulties [1] and limitations on resources during this period, resulting in greater delays [25]. We have included the variable *BUSY*, expecting an association between the variable and *ARL*.

- Audit fees and Non-Audit fees

Greater speed in issuing a report demands more auditing resources and time dedication. Audited companies may be willing to pay higher audit fees in order to speed up the auditing process and issuance of the audit report. In their research, Lee et al. [25] or Khoufi and Khoufi [15] identified a negative and statistically significant association between audit fees and *ARL*, suggesting that “fast” audit reports are linked to audit fees premium.

Some studies have also looked into the relationship between *ARL* and non-audit fees charged by auditors also carrying out auditing services in the same company. Thus, Lee et al. [25] or Knechel et al. [41] identified a negative association between non-audit services and *ARL*, pointing out that carrying out both audit and non-audit services may reduce duplicated tasks and therefore *ARL*.

We have included the variables *LN_AF* and *LN_NOAF* expecting an inverse relationship between these variables and *ARL*.

- Financial crisis

The financial crisis of 2008 prompted the publication of several studies that attempted to establish whether the crisis could affect *ARL*. Authors such as Xu et al. [43] postulated that auditors extend auditing time in response to increased risk resulting from the crisis, although they did not observe any impact from the variable crisis on audit report delay. Alexeyeva and Svanstrom [42] highlight the absence of greater delays in issuing audit reports in the context of an economic crisis. We have included the variable *CRISIS* expecting no association with *ARL*.

3.3.3. Variables Related with Auditor Characteristics

- Auditor

Recent studies have argued that the BIG N auditing firms perform audits faster [12,13]. Large audit firms have more employees, as well as access to more powerful technology and more efficient resources, which leads to higher quality and faster audits [60]. We have included the variable *AUDITOR*, coded in four categories: individual auditor, companies, multinationals and BIG 4. This is in line with the more diverse structure of the Spanish auditing market for unlisted companies [61]. An association between auditor type and *ARL* is expected.

- Gender of auditor

The previous research has not shown great interest in studying the effect auditor gender may have on *ARL*. The studies that have, however, have highlighted that female auditors take longer to complete an audit, bearing in mind their tendency to be more reflexive, their lower tolerance of risk and the greater effort made to minimise the likelihood of fraud [62,63]. Ocak and Özden [36] reported auditor gender as having a positive impact on *ARL*, although this relationship was limited to audits carried out by non-BIG 4 auditing companies. We have included the variable *SEX* in our study expecting an association between auditor gender and *ARL*.

- Auditor experience

There are references in the previous literature to more experienced auditors being more competent and able to identify problematic situations in financial statements more swiftly. Equally, they can plan their work more efficiently and perform it faster [64,65]. As with the case of auditor gender, there is very little research on the impact of auditor experience on *ARL*. Payne and Jensen [37] suggest a negative, significant association, while more recently, a study by Ocak and Özden [36] produced a negative but not significant, coefficient. We have included the variable *EXP* expecting an inverse relationship between *ARL* and auditor experience.

4. Results

4.1. Descriptive Statistics and Univariate Analysis

As shown in Table 3, almost 80% of the sample is made up of SMEs. Student's t-test showed the existence of significant differences at 1% in the audit report lag variable (*LN_ARL*) based on company type (SME or non-SME). The average *LN_ARL* is higher among SMEs.

Table 3. Descriptive statistics for the variable *LN_ARL* for SMEs and non-SMEs.

	N	Min	Max	Mean	SD	t	Sig.
SMEs	2568	2.48	5.98	4.90	0.364	−5.005	0.000 **
No SMEs	649	2.71	5.90	4.80	0.438		

** $p < 0.01$.

On the other hand, we aimed to determine the existence of significant differences for the dependent variable—Napierian logarithm of the audit report lag (*LN_ARL*)—according to whether the company was an SME or a non-SME. Tables 4 and 5 present these results. Regarding SMEs, Table 4 shows that there are significant differences for 3 of the 6 independent variables analysed. We observed that, for the *CRISIS* variable, that is significant to 5%, the mean value of *LN_ARL* was greater during the recovery years 2014 and 2015 (4.92) than during the financial crisis period itself, 2008 to 2013 (4.89). With respect to the variable *OPINION*, that is significant to 1%, the average value of *LN_ARL* is greater for reports with unfavourable opinions (4.97) than for those with favourable opinions (4.87). The average value of *LN_ARL* for variable *PROB_ZFC* is greater when there is likelihood of

bankruptcy (4.95), significant at 1%. The other three variables studied were not significant, *LOSS* (Sig. = 0.058), *SEX* (Sig. = 0.487) and *BUSY* (Sig. = 0.236).

For non-SMEs, only significant differences were observed for variables *CRISIS* and *OPINION*, both significant at 1%; as with SMEs, the average value of *LN_ARL* in the variable *CRISIS* is greater during the recovery years (4.89) than the period of financial crisis itself (4.77). The average value of *LN_ARL* for the variable *OPINION* is greater for reports with unfavourable opinions than for those with favourable opinions (4.88 and 4.77, respectively). The other four variables studied were not significant, *LOSS* (Sig. = 0.328), *PROB_ZFC* (Sig. = 0.078), *SEX* (Sig. = 0.751) and *BUSY* (Sig. = 0.596).

As shown in Table 5, significant differences were found in the polytomous variables for the variable *AUDITOR* in both SMEs and non-SMEs, significant at 1%. The average value of *LN_ARL* was greater in both cases, when issued by an individual auditor (4.99 and 5.02, respectively).

The Bonferroni test reveals in which groups the significant differences lie for both SMEs and non-SMEs. It is worth nothing that there are significant differences for SMEs between the different *AUDITOR* types in the sample, with multinationals being the auditing companies with the lowest average *LN_ARL* value (4.78), ahead of the BIG 4 (4.87). Significant differences were only noticed for non-SMEs in the multinational category, which had the lowest average value (4.56) in comparison with the other typologies.

The *INDUSTRY* variable is significant for SMEs at 1%, with the agriculture and construction sectors presenting the highest average values of *LN_ARL* (4.99), while the services industry presented the lowest average values (4.84). No significant differences were observed for the *INDUSTRY* variable for the non-SMEs (Sig. = 0.481).

Table 4. T-student results for *LN_ARD* as a function of the independent variables, for SMEs and non-SMEs.

Variable	Codification	N	SMEs				Non-SMEs				
			Mean	SD	t	Sig.	N	Mean	SD	t	Sig.
CRISIS	Years of crisis	1944	4.89	0.37	2.252	0.024 *	487	4.77	0.46	3.470	0.001 **
	Years of recovery	624	4.92	0.34			162	4.89	0.34		
OPINION	Qualified	604	4.97	0.39	−5.636	0.000 **	175	4.88	0.47	−2.707	0.007 **
	Unqualified	1964	4.87	0.35			474	4.77	0.42		
LOSS	Yes	603	4.92	0.36	−1.899	0.058	167	4.83	0.45	−0.978	0.328
	No	1965	4.89	0.36			482	4.79	0.43		
PROB_ZFC	Yes	541	4.95	0.37	−4.002	0.000 **	187	4.85	0.47	−1.766	0.078
	No	2027	4.88	0.36			462	4.78	0.42		
SEX	Woman	346	4.88	0.31	0.696	0.487	104	4.81	0.39	−0.317	0.751
	Man	2222	4.90	0.37			545	4.80	0.45		
BUSY	December 31	2423	4.89	0.36	1.185	0.236	604	4.80	0.44	−0.531	0.596
	Otherwise	145	4.93	0.37			45	4.77	0.43		

*, ** $p < 0.05$, 0.01; SME: N = 2568; non-SME: N = 649.

Table 5. ANOVA for *LN_ARD* as a function of the independent variables *AUDITOR* and *INDUSTRY*, for SMEs and non-SMEs.

AUDITOR	SMEs					Non-SMEs				
	N	Mean	F	Sig.	Bonferroni	N	Mean	F	Sig.	Bonferroni
Individual auditor	292	4.99	15.113	0.000 **	Individual auditor and Society ($p = 0.000$ **).	24	5.02	7.110	0.000 **	Individual auditor and Multinational ($p = 0.000$ **).
Society	1450	4.90			Individual auditor and BIG 4 ($p = 0.000$ **).	142	4.85			Society and Multinational ($p = 0.001$ **).
Multinational	206	4.78			Society and Multinational ($p = 0.000$ **).	46	4.56			BIG 4 and Multinational ($p = 0.003$ **).
BIG 4	620	4.87			Multinational and BIG 4 ($p = 0.008$ **).	437	4.80			
INDUSTRY	N	Mean	F	Sig.	Bonferroni	N	Mean	F	Sig.	Bonferroni
Services	633	4.84	9.800	0.000 **	Agriculture and Industrial ($p = 0.011$ *).	26	4.86	0.870	0.481	
Retail	778	4.91			Agriculture and Services ($p = 0.000$ **).	188	4.82			
Construction	213	4.99			Industrial and Construction ($p = 0.003$ *).	59	4.83			
Industrial	807	4.89			Construction and Retail ($p = 0.049$ *).	119	4.83			
Agriculture	137	4.99			Construction and Services ($p = 0.000$ **).	257	4.76			
					Retail and Services ($p = 0.007$ **).					

*, ** $p < 0.05$, 0.01; SME: N = 2568; non-SME: N = 649.

4.2. Multivariate Analysis

Table 6 presents the correlation between the quantitative variables studied here, observing that the correlation levels are low, most having values below 0.60.

In order to contrast the stated hypothesis, we estimated two models, one for SMEs and other for non-SMEs, applying a multiple linear regression analysis, the results of which are presented in Table 7. Only those independent variables that demonstrated a statistically significant relationship with the dependent variable (*LN_ARL*) in previous studies have been included in the regression.

In order to establish model validity, the K-S test was used to check the normal distribution of the sample (SMEs p -value = 0.111; non-SMEs p -value = 0.087). As seen in Table 7, the independence of the errors has been verified, since the Durbin-Watson value is between 1.5 and 2.5 (SMEs = 2.017; non-SMEs = 2.047). Bearing the Variance Inflation Factor (VIF) in mind, this indicator is always below 10 in all cases, thus there are no problems of collinearity. Furthermore, the homoscedasticity supposition has been checked, with uniform residuals variance; likewise, linearity has been verified in this supposition [66,67].

Thus, in Table 7, we can see the expected sign for each variable in relation to the dependent variable (*LN_ARL*). On the other hand, the estimated (unstandardised) model coefficients are included; in this case, the sign indicates whether it corresponds to the expected sign for each variable. We can also distinguish the typified coefficients (standardised) named β , which reflect the specific weight of each variable in the model, as well as indicating which variable has the greatest influence among the whole set of independent variables. Columns "t" and "Sig." present the values of the statistic and its significance. The statistic presents values with a degree of significance lower than 5%. The last column shows values VIF.

The value of the adjusted coefficient of determination R^2 is 3.9% for SMEs and 8% for non-SMEs, that is, the model is capable of explaining approximately 4% and 8%, respectively, of the variations of the dependent variable (*LN_ARL*) for a confidence level of 95%. The adjusted coefficient of determination R^2 is low, albeit significant, since the ANOVA result for both SMEs ($F = 11.388$; p -value = 0.000) and non-SMEs ($F = 8.000$; p -value = 0.000) is significant. While some of the previous studies present values higher than those obtained here, similar coefficients were obtained in other research [68,69]. A low value for adjusted R^2 indicates the existence of strange variables intervening in the model [70].

Variable *LN_ARL* is shown to be statistically significant (p -value = 0.000) in both regression models. The expected sign was obtained in all the significant variables.

In the SMEs model, a statistically significant relationship at the 1% level was observed between dependent variable *LN_ARL* and the *CRISIS*, *OPINION*, *PROB_ZFC*, *INDUSTRY*, *LN_AF* and *RC_IAE* variables, while a statistically significant relationship at 5% was observed between *LN_ARL* and the *AUDITOR* variable. Of all these factors, the *OPINION* variable has the greatest specific weight ($\beta = 0.110$) over the response variable.

In the non-SMEs model, a statistically significant relationship at the 1% level was observed between the dependent variable *LN_ARL* and variables *CRISIS*, *LN_TA* and *DEBT*, while a statistically significant relationship at 5% was observed between *LN_ARL* and the *OPINION* variable. Of all these variables, the *LN_TA* variable has the greatest specific weight ($\beta = -0.191$) over the response variable.

Table 6. Correlations for SMEs and non-SMEs.

		(1)	(2)	(3)	(4)	(5)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
LN_ARL (1)	SME	1											
	Non-SME	1											
LN_AF (2)	SME	−0.098 **	1										
	Non-SME	−0.166 **	1										
LN_NOAF (3)	SME	−0.034	0.326 **	1									
	Non-SME	−0.111	0.509 **	1									
LN_TA (4)	SME	−0.062 **	0.424 **	0.140 **	1								
	Non-SME	−0.229 **	0.653 **	0.454 **	1								
EXP (5)	SME	0.014	−0.085 **	−0.099	−0.016	1							
	Non-SME	−0.026	−0.106 **	−0.043	−0.078 *	1							
ROA (7)	SME	−0.056 **	−0.012	0.001	−0.004	0.011	1						
	Non-SME	−0.025	−0.041	−0.027	0.047	−0.008	1						
LIQ (8)	SME	−0.018	−0.060 **	−0.054	0.066 **	−0.002	0.086 **	1					
	Non-SME	0.009	−0.097 *	−0.112	−0.046	0.016	0.181 **	1					
DEBT (9)	SME	0.046 *	0.056 **	0.048	−0.057 **	−0.074 **	−0.334 **	−0.380 **	1				
	Non-SME	0.098 *	0.105 **	0.086	0.068	−0.045	−0.406 **	−0.400 **	1				
SR_SUBS−FO (10)	SME	−0.007	0.205 **	0.176 **	0.246 **	0.002	0.037	−0.035	−0.003	1			
	Non-SME	−0.121 **	0.356 **	0.294 **	0.424 **	−0.084 *	0.033	−0.035	−0.035	1			
SR_SUBS−SP (11)	SME	0.039	0.110 **	0.090	0.336 **	0.015	0.066 **	−0.019	−0.069 **	0.275 **	1		
	Non-SME	−0.094 *	0.226 **	0.223 **	0.397 **	0.021	0.030	−0.055	0.039	0.563 **	1		
SR_SIC (12)	SME	0.016	−0.036	0.111 *	−0.062 **	−0.049 *	0.022	0.006	0.026	0.020	−0.009	1	
	Non-SME	0.049	−0.096 *	−0.119	−0.154 **	0.000	0.065	0.055	−0.041	−0.026	0.013	1	
SR_EAT (13)	SME	0.048 *	0.082 **	0.083	0.147 **	0.018	0.008	−0.050 *	0.014	0.111 **	0.230 **	0.148 **	1
	Non-SME	−0.046	0.213 **	0.108	0.213 **	−0.051	−0.003	−0.035	−0.097 *	0.204 **	0.283 **	0.054	1

*, ** $p < 0.05, 0.01$; 1: SME: all variables have an $N = 2568$ except, *LN_NOAF*, where $N = 380$; 0: non-SME: all variables have an $N = 649$ except, *LN_NOAF*, where $N = 241$.

Table 7. Results of linear regression models for SMEs and non-SMEs.

	Model for SMEs						Model for Non-SMEs				
	Expected Sign	Model Coefficient	B	t	Sig.	VIF	Model Coefficient	B	t	Sig.	VIF
(Constant)		5.502		34.479	0.000 **		6.124		22.795	0.000 **	
CRISIS	-	-0.048	-0.057	-2.908	0.004 **	1.010	-0.128	-0.127	-3.352	0.001 **	1.008
OPINION	+	0.094	0.110	5.577	0.000 **	1.032	0.090	0.092	2.414	0.016 *	1.018
PROB_ZFC	+	0.068	0.076	3.053	0.002 **	1.674					
AUDITOR	+	0.020	0.053	2.394	0.017 *	1.319	-0.012	-0.027	-0.607	0.544	1.348
INDUSTRY	?	-0.017	-0.060	-3.055	0.002 **	1.045					
LN_AF	-	-0.044	-0.070	-2.928	0.003 **	1.506	-0.031	-0.066	-1.207	0.228	2.091
LN_TA	-	-0.016	-0.042	-1.930	0.054	1.260	-0.056	-0.191	-3.571	0.000 **	2.012
ROA	-	-0.053	-0.022	-1.074	0.283	1.170					
DEBT	+	-0.008	-0.007	-0.291	0.771	1.709	0.164	0.117	3.052	0.002 **	1.034
SR_SUBS-FO	+						-0.007	-0.026	-0.544	0.586	1.636
SR_SUBS-SP	+						0.003	0.013	0.275	0.784	1.598
SR_SIC	+										
SR_EAT	+	0.042	0.065	3.308	0.001 **	1.032					
Durwin-Watson				2.017					2.047		
R ²				0.043					0.091		
R ² Adjusted				0.039					0.080		
N				2568					649		

*, ** $p < 0.05, 0.01$; Dependent variable: LN_ARL.

5. Discussion

Our results show that for SMEs there are significant differences between the *LN_ARL* variable and the *CRISIS*, *OPINION*, *PROB_ZFC*, *AUDITOR*, *SR_EAT*, *INDUSTRY* and *LN_AF* variables.

With regards to the *CRISIS* variable, our results are the opposite of what we had predicted, with a statistically significant and positive association observed in the *ARL* variable with respect to the recovery years. A possible explanation for the greater speed in issuing the audit report during the crisis might be the increased pressure from the audited company and its creditors to avail of the audit reports as swiftly as possible, given that many debt contracts are signed on the basis of prior knowledge of the information contained in the audited financial statements [8].

Additionally, there are differences with *ARL* in relation to the variable *OPINION*. Our result is consistent with the widely documented evidence in previous investigations, with a greater delay for companies receiving a modified opinion, or when going concern problems are evidenced in the report [39]. Auditors need more time if differences are found between the accounts to be audited and the accounting records and declarations [60]; the more additional procedures or work needed to support the opinion, the greater the delay will be [14]. Furthermore, the audited company itself might take longer to meet the requests made by the auditor as a symptom of conflict between management and the auditor, thus further delaying issuance of the audit report [38].

Our results point to an association between the probability of bankruptcy (*PROB_ZFC*) and greater *ARL*. The likelihood of bankruptcy that can be detected in the financial statements may demand more extensive sampling or further auditing processes to verify the company's true status; thus, the greater precaution and additional measures taken by the auditor may consequently lead to a longer audit [71]. In the same way, Jaggi and Tsui [17] or Henderson and Kaplan [16] noted an association between the likelihood of bankruptcy and *ARL*.

Regarding the *AUDITOR* variable, differences in *ARL* were also observed based on auditor, with the highest average delay in the category of individual auditors, followed by small- and medium-sized audit companies, the BIG 4, and finally, multinationals. In this sense, there are numerous studies based on a dichotomous categorisation of auditor type (BIG N and non-BIG N) which provide evidence of a shorter *ARL* for those audits carried out by BIG N [55]. This is explained by the provision of more personal [72] and technological resources [73] and greater incentive to complete the audit in less time to ensure that reputation is maintained [5]. Our study presents a more detailed breakdown of auditor type, differentiating three categories of non-BIG N and putting forward that audit reports are issued faster by multinationals, ahead of the BIG 4.

A positive association was also established between the variable *SR_EAT* and the *ARL*. The number of economic activities in which the audited company is registered (*SR_EAT*) is the indicator of complexity most suited to SMEs when compared with other frequently used indicators in other research, as is the case of number of subsidiaries. This discovery matches the results of previous studies wherein client complexity, measured by the number of business segments, increases audit report lag [28].

Regarding the results for *INDUSTRY*, SMEs belonging to certain sectors were observed to have greater *ARL*. Specifically, those sectors with the greatest delay were construction and agriculture, while the lowest delay was seen in the service sectors. The lower *ARL* for the service sector is in line with the results obtained by Bamber et al. [27], who support the hypothesis of lower *ARL* for Banks and public service companies, bearing in mind the smaller degree of complexity (inventory and fixed assets). The greater *ARL* in the construction sector could be justified by the circumstances of the business cycle, bearing in mind that this sector was one of the hardest-hit by the economic crisis in Spain. Increased risk and going concern problems may have led to greater *ARL*.

In terms of the audit fees variable (*LN_AF*), the higher the audit fees, the lower the *ARL*. In line with the results obtained by Khoufi and Khoufi [15], the results point to the

possibility of an audit fee premium associated with greater punctuality and speed in audit report issuance in the SMEs model.

No statistical significance was established in this SMEs model for variables *LN_TA*, *ROA* and *DEBT*. While the significant association between *ARL* and the company size variable is widely documented in the literature on listed companies, it may be that its effect in unlisted companies is only evidenced above a certain size, greater than what was earlier believed to be the threshold for SMEs.

While both informing the public of good news [40] and delaying bad news [26] are more pressing issues for more profitable companies, these are not as relevant in the case of SMEs, given the lower number of external users; therefore, this may go some way towards explaining the absence of a significant association between *ROA* and *ARL*.

As far as debt (*DEBT*) is concerned, the absence of any association for SMEs may stem from less pressure on the part of creditors to speed up the presentation of the financial statements [32]. Those studies which identified a positive association highlighted the impact on *ARL* in the case of high debt levels [74] or a large number of debtors [26]; thus, less debt and/or fewer creditors in the case of SMEs may justify this result.

With respect to the non-SMEs model, a significant relationship between the variables *CRISIS* and *OPINION* was identified (as with the SMEs model), as well as an association between *ARL* and the variables related to audited company size (*LN_TA*) and debt (*DEBT*). With non-SMEs, the larger the audited company, the lower the *ARL*. Larger companies have their own resources and capacities in terms of implementing more efficient internal control systems [32], which might help to simplify the scope of the audit tests [75], thus enabling the audit report to be issued faster. Furthermore, larger companies have the resources to cover relatively high audit fees [5], and can put more pressure on the auditor to begin and end the audit on time [26].

A positive relationship was also identified between debt level (*DEBT*) and *ARL*, in line with other studies which associate high debt levels with greater risk of litigation [17,31], thus demanding greater caution on the part of the auditor when auditing companies with high debt levels [76,77].

No statistical significance was found in the non-SMEs model for the *AUDITOR*, *LN_AF*, *SR_SUBS-SP* and *SR_SUBS-FO* variables. Regarding the *AUDITOR* variable, the fact that there is high demand from non-SMEs for large auditing firms and less economic dependence on this type of client for the BIG 4, this could mean less pressure to reduce the delay in issuing audit reports, focussing more effort on large clients.

As far as audit fees (*LN_AF*) are concerned, there is general consensus in the previous literature on the association of this variable with *ARL*. Nevertheless, almost all of these studies refer to listed companies. Additionally, it is worth noting that some studies [78,79] found no statistical significance.

In terms of complexity, some research point to the absence of an association between *ARL* and the number of subsidiaries [55]. This result could be explained by the higher level of control in highly complex companies, which limits problems of potential audit risk, thus reducing its impact in the publication of the audit report [50].

6. Conclusions and Implications

The aim of this study is to identify the determiners of *ARL* in audit report issuance for Spanish SMEs, and the singularity or differentiation of these factors depending on the company type (SMEs or non-SMEs). These factors are related to characteristics of the audited company, auditor attributes, audit exercise and periods of financial crisis or recovery.

Thanks to the results obtained, we can state that *ARL* is higher for SMEs and the independent variables that explain *ARL* are different depending on the type of company. It should be noted that only two of the variables with a significant association (*OPINION* and *CRISIS*) coincide in both models, while the other factors vary, with more in the case of SMEs.

In the case of the non-SMEs model, as well as the association between *ARL* and *OPINION* and *CRISIS*, our results indicate a significant relationship with another two variables that have been well-documented in the literature, audited company size (*LN_TA*) and debt (*DEBT*).

In contrast to non-SMEs, the size of the audited company (*LN_TA*) in SMEs does not affect *ARL*. Those factors which show a statistically significant association with *ARL* in SMEs are *OPINION*, *CRISIS*, *AUDITOR* type, complexity factors that best adapt to this type of company (number of economic activities (*SR_EAT*) and *INDUSTRY*), and the financial risk factors likelihood of bankruptcy (*PROB_ZFC*) and audit fees (*LN_AF*).

The aim of our study is to make a contribution to the literature on the determining factors of *ARL*, broadening the scope of such research which has traditionally focussed on large, generally listed, companies. Thus, the existence of differences in the determining factors of *ARL* for SMEs in contrast with non-SMEs has been identified, as well as new evidence for periods of crisis.

Finally, the results of this work have thrown up implications that could be useful, not only for academics, but also for various groups of interest. Thus, armed with the awareness of the delay in audit report issuance, company management and administration boards could strive to reduce said delay. In this sense, supplying the auditors with the information needed to carry out the audit as thoroughly and quickly as possible would result in the company economic-financial information being published faster. This improvement in terms of publishing time increases the information's value and boosts the outwards impression of rigorousness and trust. It can also have a positive impact on obtaining and negotiating bank financing, a point of particular relevance in the current climate caused by the pandemic, in which access to loans and other sources of financing may be critical for a company's survival.

On the other hand, publishing audited financial information as quickly as possible may help to attract investment. If the investors know what the average audit report lag is, they would be able to estimate approximately when the audited financial information would be available, and would thus contribute to improved decision-making, as well as reducing information skewness.

Furthermore, the results of this study could provide the auditors with information about the average audit report lag and the factors impacting the lag according to company type. This in turn could help them to plan their work more efficiently and therefore reduce the audit report lag, thus making the audited financial information available to both the company and interested parties earlier. Lastly, it could also be of use to regulatory bodies to verify whether audit information is being made available to users within the legal timeframe established by Spanish regulations.

7. Limitations and Future Lines of Research

In conclusion, reference needs to be made to the potential limitations of this study with regards to three fundamental premises: limitations of the variables used, the geographical area analysed here, and the time constraints inherent to the chosen sample. Regarding the first premise, the absence of certain variables previously documented in the literature should be noted, such as those related to auditor tenure, specialisation or governance. In terms of geographical range, it is worth bearing in mind that this analysis has been carried out on a sample of companies operating in Spanish territory. While it is true that Spain has similar characteristics to the average European Union country in terms of the importance and representativeness of its SMEs, there may be differences regarding regulation and operation that could limit the potential to generalise the results. Lastly, reference needs to be made to the time constraints of the period used for our sample, given that only the first years of recovery after the financial crisis have been included.

Given the differences among the determining factors of *ARL* for SMEs pointed to in our study, as well as the scarcity of research on this type of company, it would be worth

focussing future investigations on SMEs in other countries, extending the time range to include longer periods, and including some of the variables not covered in this study.

The impact of COVID-19 on both the organisational models and digitalisation of work of audit companies, as well as the financial situation and potential going concern problems in SMEs could lead to changes in the analysis of ARL in audit reports for SMEs and incidence factors. Similarly, focusing research on the year 2020 and beyond could lead to worthwhile future lines of investigation.

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