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TESIS DOCTORAL

The impact of auditing on financial distress prediction

**El impacto de la auditoría en el pronóstico del riesgo de
insolvencia**

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PRESENTADA POR

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THE IMPACT OF AUDITING ON FINANCIAL DISTRESS PREDICTION

**EL IMPACTO DE LA AUDITORÍA EN EL PRONÓSTICO DEL RIESGO DE
INSOLVENCIA**

Ph.D. Dissertation

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ABSTRACT

The aim of this PhD dissertation is to examine the external audit information of firms in the year prior to insolvency legal proceedings. We answer several research questions related to the association of auditing and financial distress situations. This topic is of interest in recent years because there has been an increasing number of bankruptcy failures due to the global financial crisis and some accounting scandals in which auditors failed to warn about imminent bankruptcies.

First, we start by analyzing the utility of the accounting data during legal proceedings in Chapter 1, which entitles *'The usefulness of financial information in the bankruptcy process'*, and results show that financial information is fundamental to recognize early stages of a bankruptcy situation, so accounting data may help during the pre-bankruptcy phase or to shorten the costly legal process.

Second, in Chapter 2 *'The audit report: classification and analysis of emphasis of matter and qualification paragraphs'* we focus on the content of audit reports in the year immediately preceding bankruptcy and develop a codification of audit report disclosures, as there is not a commonly used classification of the content of audit reports in the literature. Our evidence indicates that auditors signal viability issues in the report in the form of emphasis of matter sections and qualification paragraphs. Moreover, qualifications are more frequently disclosed than matter sections and,

regarding content, going concern uncertainties, initial phases of the legal process, accumulated losses and short-term financial investments' valuation are the most recurrent comments.

Third, using the codification created, in Chapter 3 *'The content of the audit report in the year prior to bankruptcy filing. Empirical evidence from Spain'* we examine different features from the auditor and the audited firm that may affect the content of the report. Interestingly, we find that the propensity to issue disclosures is significantly different depending on auditor size, firm's industry and financial condition, quarter on which the court order is imposed and type of resolution of the legal process.

Based on the idea that the nature of the auditors' qualified opinions gives rise to the belief that they can signal entities' failure, we study the association between the content of the audit report and financial distress. While there is a large body of literature on financial distress prediction using accounting ratios, there is only limited research on the association between financial failure and the content of audit reports. Therefore, in Chapter 4 *'Does audit report information improve financial distress prediction over Altman's traditional Z''-Score model?'* we examine whether audit report information incrementally predicts financial distress over accounting ratios. Results determine that a combined model of accounting and audit data exhibits a considerably higher accuracy (up to 87%) than a model only based on financial ratios. Specifically, we find that the number of disclosures included in the report, as well as disclosures related to going concern, firm's assets and firm's results contribute the most to the prediction.

Later on, in Chapter 5 *'The ability of audit report disclosures to explain insolvency: a comparison using traditional and artificial intelligence methodologies'* we test the predictive power of only audit report variables as indicators of financial distress, which has not been previously tested before in the literature. Although the predictive ability of solely audit information is slightly lower than its combination with accounting ratios, the discriminating power between distressed and non-distressed firms is still reasonable, staying around 80% using different methodologies. Consistent with prior

findings of this PhD dissertation, the most accurate predictors are the disclosures related to going concern uncertainties, assets' valuation, subsequent events and the start of insolvency proceedings.

Once the bankruptcy predictive power of audit report information has been demonstrated in Chapters 4 and 5, in Chapter 6 '*Do prior audit opinions affect next ones?*' we study how this information impacts next auditors' assessments. To do so, we conduct two between-subjects experiments to test whether the prior audit opinion might condition the subsequent auditor's reporting choice, and if this influence is diminished by auditor experience as a result of a learning curve effect. Consistent with our expectations, evidence suggests that unqualified and going concern prior opinions affect next auditors' judgments, although the effect is mitigated when auditor experience increases. These results have important implications for the auditing profession, as it indicates that auditors might find difficult to issue a report that deviates significantly from the one issued by the prior auditor.

Apart from this important implication, our findings have others. On the one hand, for the users of the audit report, as this short, well-structured and standardized document has proved to be effective for predicting financial difficulties. On the other hand, for the regulators, due to the current international auditing environment in which regulatory changes have recently occurred in Europe (in the International Standards on Auditing or ISAs), are being considered in the United States, and have been implemented in other countries such as the United Kingdom, the Netherlands, South Africa or Australia. The aim of these changes is to increase auditors' transparency in general and, specifically, through the auditors' reporting model. For this purpose, the audit report is changing dramatically. For instance, the ISAs require auditors to include key audit matters (KAM or matters involving significant attention in the audit process) and a separate section of material uncertainty related to going concern. Finally, this investigation might be of interest for bankruptcy administrators and other interested parties in legal proceedings, as it might assist during pre-bankruptcy phases to avoid the legal process that frequently ends with the firm's liquidation.

RESUMEN

Esta tesis doctoral tiene como principal objetivo el estudio de la información de auditoría externa que publican las entidades en el año inmediatamente anterior al comienzo del proceso legal concursal o concurso de acreedores. A lo largo de esta tesis, respondemos una serie de preguntas de investigación en relación a la asociación de la auditoría externa y las situaciones de riesgo de insolvencia empresarial. Este tema suscita gran interés en la actualidad ya que en los últimos años se han disparado el número de solicitudes concursales con motivo de la reciente crisis económica mundial y, además, han existido varios escándalos financieros en los que los auditores no dieron señal alguna en su informe previo de una posible situación de insolvencia.

En primer lugar, comenzamos con el análisis de la utilidad de la información financiera en el proceso legal del concurso de acreedores en el capítulo 1, titulado *'La utilidad de la información financiera en el procedimiento concursal'*. Nuestros resultados muestran que la información financiera es fundamental para reconocer las primeras señales de una posible situación de quiebra empresarial, por lo que los datos contables pueden ayudar al usuario durante la fase preconcursal o en el propio concurso, para intentar acortar el proceso y, con ello, minimizar sus elevados costes.

En segundo lugar, en el capítulo 2 *'La utilidad de la información financiera en el procedimiento concursal'* nos centramos en el contenido del informe de auditoría del año que precede la entrada en el concurso de acreedores y desarrollamos una codificación del contenido del informe de auditoría, ya que no hemos entrado en la literatura previa una clasificación comúnmente aceptada y utilizada. Nuestra evidencia indica que los auditores señalan problemas en cuanto a la viabilidad de la empresa en el informe tanto en forma de párrafo de énfasis como de salvedades, siendo más frecuentes las salvedades que los anteriores. Asimismo, en cuanto al contenido de estos párrafos, los que mencionan dudas a la gestión continuada, fases iniciales del proceso legal concursal, pérdidas acumuladas en la compañía y temas relacionados con la valoración de inversiones financieras temporales son los más frecuentes.

En tercer lugar, a partir de la codificación desarrollada, en el capítulo 3 *'El contenido del informe de auditoría en el año previo a la declaración del concurso de acreedores. Contraste empírico para el caso español'* examinamos diferentes características del auditor y de la empresa auditada que pueden afectar al contenido del informe de auditoría. Del análisis encontramos unos resultados interesantes que revelan que la propensión a emitir comentarios en el informe es significativamente diferente dependiendo del tamaño del auditor, del sector y la situación financiera de la auditada, del trimestre en que se declara el auto de concurso, así como del tipo de resolución legal del mismo.

En base a la idea de que la propia naturaleza de las opiniones de auditoría con salvedades puede dar lugar a la creencia de que muestran señales de una posible situación de fracaso empresarial, estudiamos también la relación entre el contenido del informe y el estrés financiero. Mientras que existen numerosos estudios sobre la predicción de insolvencia a través de ratios contables, los trabajos son mucho menos numerosos cuando se analiza la asociación entre fracaso empresarial e información sobre auditoría. Es por esto que, en el capítulo 4 *'Does audit report information improve financial distress prediction over Altman's traditional Z'-Score model in Spanish private firms?'* examinamos si la información del informe de auditoría mejora la predicción del riesgo empresarial sobre los ratios financieros. Nuestros resultados determinan que un modelo que combina datos contables y de

auditoría muestra considerablemente una mayor exactitud en la predicción (un 87% de grado de acierto) que uno basado únicamente en ratios financieros. Concretamente, encontramos que, tanto el número de comentarios en el informe como su contenido sobre dudas a la gestión continuada, activos y resultados de la empresa concursada, son los indicadores que muestran un mayor índice de predicción.

Más adelante, en el capítulo 5 *'The ability of audit report disclosures to explain insolvency: a comparison using traditional and artificial intelligence methodologies'* indagamos sobre el poder predictivo del uso únicamente de variables del informe de auditoría como indicadores de estrés financiero, predicción que no hemos encontrado desarrollada en literatura previa. Aunque la habilidad predictiva de variables de auditoría es algo menor que la combinación de éstas con ratios contables, el poder de clasificación es aun así razonable, alcanzando el 80% utilizando diferentes metodologías. En consistencia con resultados previos de esta tesis, los predictores más exactos son los que exponen dudas a la gestión continuada, cuestiones sobre valoración de activos de la concursada, hechos posteriores al cierre y el comienzo del proceso concursal.

Una vez corroborado el poder predictivo del informe de auditoría en los capítulos 4 y 5, en el capítulo 6 *'Do prior audit opinions affect the next one?'* estudiamos si esta información influye en la toma de decisiones del siguiente auditor. Para ello, realizamos dos experimentos comportamentales examinando si la opinión de auditoría del ejercicio inmediatamente anterior puede condicionar la opinión de auditoría siguiente, así como si esta influencia se ve disminuida con una mayor experiencia del auditor, por un efecto aprendizaje. De acuerdo con nuestras predicciones, la evidencia encontrada sugiere que los informes previos limpios o con una salvedad sobre dudas a la gestión continuada influyen en la opinión posterior del auditor, aunque este efecto disminuye cuando se incrementa la experiencia. Estos resultados constituyen una importante implicación para la profesión de auditor, ya que parecen indicar que es muy difícil para un auditor emitir una opinión muy diferente, o que vaya en la dirección opuesta, a la emitida en el informe previo.

A continuación, se señalan otras implicaciones relevantes. Por una parte, los resultados suponen implicaciones para los usuarios del informe de auditoría ya que, aunque este documento es corto, bien estructurado y totalmente estandarizado, ha demostrado tener un gran valor a la hora de predecir conflictos de insolvencia empresarial. Por otra parte, en el ámbito regulatorio, esta tesis doctoral constituye un importante y oportuno estudio debido a la reforma actual de la auditoría externa que se está llevando a cabo a nivel mundial. Estos cambios regulatorios están sucediendo en Europa (con la modificación de las Normas Internacionales de Auditoría (NIAs), se están considerando en Estados Unidos y ya han sido implementados en otros países como el Reino Unido, Países Bajos, Sudáfrica o Australia. El propósito de esta reforma normativa es incrementar la transparencia del trabajo del auditor en general y modificar el modelo del informe de auditoría en particular. Con ello, el formato del informe ha sido modificado drásticamente. Por ejemplo, las NIAs requieren a los auditores que se comuniquen las cuestiones clave del proceso de auditoría y una sección separada donde se haga mención expresa al riesgo financiero que pueda ocasionar dudas sobre la capacidad de la compañía para continuar como empresa en funcionamiento. Finalmente, los resultados constatan que el informe de auditoría puede servir de apoyo tanto durante la fase preconcursal, para librar a la empresa del estigma de “en concurso”, como durante el proceso legal para los administradores concursales y el resto de interesados, suponiendo una fuente de información esencial sobre la condición financiera de la empresa.

INTRODUCTION

This PhD dissertation focuses on the analysis of external audit information published by firms under financial distress in the year prior to begin an insolvency legal procedure. Along the dissertation, different aspects of audit information are examined and we address the following research questions: Is financial information relevant during insolvency proceedings? In firms under financial difficulties, is the audit opinion unqualified (clean opinion) or qualified? Which are the most frequent qualifications? If unqualified, does the audit report contain any emphasis of matter paragraphs? Are there significant differences in the content of these disclosures (matter sections and qualifications) depending on auditor size, change in auditor, industry and financial condition of the audited firm, the quarter on which the court order is imposed and the resolution of the bankruptcy procedure? Does audit report information improve financial distress prediction over traditional accounting models using logistic regression analysis? Which is the predictive ability of audit report information using different methodologies, such as artificial intelligence? Do prior audit opinions condition the next audit opinion when a company is under financial distress? Does auditor experience diminish this influence?

The motivation of studying the relationship between financial distress and auditing information relies on several reasons. Firstly, the increasing number of insolvency legal proceedings and the need to

improve the accuracy of financial distress prediction. In recent years, many companies are falling into an insolvent situation, mainly due to the financial crisis that started in the middle of the year 2007 and has caused economic and social costs worldwide (Wu, 2010). Consequently, insolvency legal proceedings are boosting and liquidation is usually their most common end¹. Therefore, the prediction of insolvency issues is an essential task that has been widely studied. However, improving accuracy of distress prediction studies continues to be an essential path to follow, as suggested in prior literature (Balcaen and Ooghe, 2006; Du Jardin, 2015). Secondly, the gap found in the literature regarding the usage of audit report information on financial distress prediction. Many different approaches have been applied to improve the accuracy of distress assessments, such as the use of different methodologies, the increase of the horizon in the prediction, and the use of other types of variables like market data or non-financial variables (Altman, Iwanicz-Drozowska, Laitinen and Suvas, 2015). Despite the vast literature on failure prediction, the majority of studies are accounting-based prediction models (Altman, Iwanicz-Drozowska, Laitinen and Suvas, 2016) and, although the auditing profession is crucial to ensure the quality of financial statements, very few studies use the information included in the audit report in financial distress prediction to complement accounting data (Piñeiro-Sánchez, de Llano-Monelos and Rodríguez-López, 2013). Thirdly, a need to codify the content of the audit reports and to examine the implication of the usefulness of this content in financially distressed firms' audit reports. The content involves any disclosures mentioned in the report, in the form of emphasis of matter sections or qualifications. According to our knowledge, there is not a commonly used classification of the content of audit reports in the literature yet (Firth, 1978; Sánchez-Segura, 2000; Herbohn and Rangunathan, 2008) and none of the existing classifications is built mainly focused on financially distressed firms and with a predictive purpose. Fourthly, and finally, the recent criticism to auditors. It is assumed that the auditing profession ensures that financial statements give a true and fair view in accordance with the financial reporting framework applicable.

¹ For instance, court proceedings in Spain increase from 1,001 in 2005 to 5,510 in 2015. In 90% of cases, liquidation is the legal resolution. Data extracted from INE (The Spanish Statistical Office). Last checked by the author in July 2016: <http://www.ine.es/jaxiT3/Datos.htm?t=2992>.

Auditors should identify and mention in the report any material misstatements contained in the financial statements, as well as any situations in which the company might not continue to exist in the foreseeable future. Thus, the auditor should provide information in the report about significant risks of insolvency. However, there have been a number of financial scandals in recent years, in which auditors failed to warn about impending bankruptcy and this has led to criticism of audit firms.

In conclusion, there is still scope for further investigation regarding the role of the auditing information in financial distress studies, the general topic of this thesis. The PhD dissertation comprises 6 chapters, which can also be considered as papers or articles, as some of them have already been accepted in journals and they all have a fully developed structure. The objective, methodology and main results of each chapter are summarized in the next pages.

Chapter 1 entitles *'The usefulness of financial information in the bankruptcy process'*. The aim of this article is to study the aspects of financial information that are considered relevant during an insolvency legal process in Spain. Regarding the methodology, we analyze the circumstances that may be indicative of an insolvency situation disclosed in the IAS 570² and past Spanish jurisprudence, where financial information is mentioned in the final court decision. Results show that comments about the going concern principle, the reasons to change to liquidation (or marked-to-market) values provided by the company or the auditor, the list of circumstances included in the IAS 570, and past jurisprudence that mentions the firm's financial condition are important sources of information for the legal process. Evidence suggests that financial information is considered fundamental to detect early stages of a distress situation, so it might assist during the pre-bankruptcy phase to avoid the legal process. Also, it seems to be useful for the bankruptcy administrator when valuing the companies' rights and obligations, to shorten the proceedings as much as possible.

The title of Chapter 2 is *'The audit report: classification and analysis of emphasis of matter and qualification paragraphs'*. In this article we examine the content (qualification and emphasis

² IAS 570, "Going concern", International Federation of Accountants [IFAC], 2013.

paragraphs) of audit reports in the year prior to a financial distress situation³. We manually identify and codify the disclosures in a sample of 795 Spanish private firms that file for bankruptcy in the period 2004-2014. Consequently, we develop a unique classification of audit report disclosures that shows (1) type of paragraph, (2) accounting elements mentioned, and (3) other circumstances highlighted by auditors. Evidence suggests that qualifications are more frequent than emphasis paragraphs, 20% of disclosures refer to initial phases of the legal process, and 40% are related to going concern uncertainties.

Chapter 3 is *'The content of the audit report in the year prior to bankruptcy filing. Empirical evidence from Spain'*. The objective of this paper is to study whether audit report disclosures in the year prior to bankruptcy filing present differences depending on auditor size, auditor rotation, firm industry and financial condition, quarter on which the court order is imposed and resolution type (either reorganization, liquidation or a firm still under court proceedings). In the methodology, we apply the codification developed in Chapter 2 of this thesis and we use a sample of 404 Spanish private firms that file for bankruptcy in the period 2004-2014. Compared to Chapter 2, the sample is reduced because of financial data requirements for the present paper. We apply the Chi-Square statistic and results determine that the propensity to issue disclosures is significantly different depending on all variables tested, with the exception of auditor rotation. Our evidence represents relevant implications for the regulatory context, as the current regulatory changes require auditors to *'provide a statement on any material uncertainty relating to events or conditions that may cast significant doubt about the*

³ In the PhD dissertation, we apply a narrow and legal definition of financial distress. We use the date of beginning the insolvency legal procedure as an indicator of financial distress, like in prior literature (Larrinaga Dallo, 1998; Piñeiro-Sánchez et al., 2013), because it is the time when a company fails to meet its financial obligations. We can use this definition as all firms analyzed along the thesis are Spanish companies, and they are regulated by a single court proceeding (Bankruptcy Act 22/2003 of July 9th) that starts when the company cannot pay its debts and finishes with the resolution of reorganization – if the firm is viable– or the liquidation, otherwise. Thus, for the above mentioned, the expressions “beginning of insolvency legal proceedings” and “filing for bankruptcy proceedings” will be considered as synonyms, as we do not consider bankruptcy as the final outcome, but the moment of failing to meet financial obligations.

entity's ability to continue as a going concern' (Directive 2014/56/EU⁴ and the new Spanish Audit Law⁵).

Along with the above, if the audit report is the sole way for auditors to inform about any misstatements that may concern financial statements' users, it is reasonable to assume that not only going concern uncertainties might be linked to bankruptcy, but also other comments contained in the audit report may represent a signal of viability concerns. Consequently, if there is a relationship between the causes that generate firms' viability uncertainties and the content of audit report disclosures, the inclusion of audit report disclosures as explanatory variables in failure prediction models could improve the predictive ability. Based on the idea that audit report information plays a key role in bankruptcy prediction, in the next two Chapters (4 and 5) we attempt to evaluate empirically whether or not the audit report information improves the accuracy of financial distress prediction.

Chapter 4 contains the paper '*Does audit report information improve financial distress prediction over Altman's traditional Z''-Score model?*'⁶ This study analyzes the usefulness of combining accounting and audit data to explain corporate financial distress. In this chapter, we investigate whether audit report information incrementally predicts distress over a traditional accounting model: the Altman's Z''-Score Model. We use the financially distressed sample of Chapter 3 (404 Spanish private firms) and we match the observations with 404 non-distressed firms, by industry, size and year. We present distress prediction logit models that combine auditing with accounting data. For auditing data, we use the audit opinion and the codification of audit report disclosures developed in Chapter 2 of this dissertation. Results show the usefulness of combining accounting and audit data in

⁴ Directive 2014/56/EU of the European Parliament and of the Council of 16 April 2014, amending Directive 2006/43/EC on statutory audits of annual accounts and consolidated accounts.

⁵ Audit Law 22/2015 of July 20th.

⁶ This paper is co-authored with Professor Erkki K. Laitinen and was partially written when the PhD student was a visiting scholar at the University of Vaasa (Finland). The authors acknowledge Complutense University of Madrid and CUNEF the financial support received for the research visit to Finland. The authors are grateful to the participants at the 2016 EAA Doctoral Colloquium, 2016 ASEPUC conference, Prof. Oliver Lukason and Prof. Eduardo Ramos Méndez for many helpful comments and suggestions.

explaining distress for private companies. While the only accounting model registers a classification accuracy of 77%, a combined model of accounting and audit data exhibits a considerably higher accuracy of 87%. Specifically, we find that the number of disclosures included in the report, as well as disclosures related to going concern, firm assets and firm results contribute the most to the prediction.

The title of the study in Chapter 5 is *'The ability of audit report disclosures to explain insolvency: a comparison using traditional and artificial intelligence methodologies'*⁷. The primary goal of this work is to investigate the predictive ability of audit report disclosures in insolvency situations using different methodologies, both parametric and non-parametric. The sample of this study is the same as the one used in Chapter 4 (a matched sample of 808 private firms). However, in this paper we compare the predictive power of only audit report variables as indicators of financial distress using two methodologies: a logit model (the methodology used in Chapter 4) and an artificial intelligence technique (the Rough Set). In order to obtain more accurate results with both methodologies, the codification of audit report disclosures is summarized to 11 items. Results suggest that disclosures in the audit report are able to predict distress with an accuracy of approximately 80%. Key comments are related to going concern, firm assets, subsequent events and the start of legal proceedings. As the prior study (Chapter 4), this paper contributes to the existing prediction literature by highlighting the interrelations with the role of the auditing profession. Moreover, auditors, regulators, investors and creditors could find our evidence interesting and timely, as it deals with the content of the audit report in a moment when the international auditing environment is also focusing all attention on the reporting model. Regulators are currently modifying the audit report to be more informative and transparent, by changes such as the explanation of key audit matters (KAM) in the report as well as an independent section of material uncertainty about going concern.

⁷ Professor María-Jesús Segovia-Vargas, from Complutense University of Madrid is a co-author of this paper and an expert in artificial intelligence methodologies. This paper was presented at the 24th AEFIN Finance Forum (Madrid, 2016) and the XXII Workshop Memorial Raymond Konopka (Orense, 2017), and authors are grateful to the discussants and participants for useful insight.

According to the results of the previous chapters, it seems that the information contained in audit reports is an accurate indicator of a financial distress situation. Nevertheless, with the last chapter of the dissertation (Chapter 6), we intent to determine if, when financial distress symptoms are not that explicitly interpreted by the accounting data, the audit opinion might be influenced by diverse factors. Chapter 6 questions the following: *'Do prior audit opinions affect next ones?'*⁸ This paper examines empirically whether the prior audit opinion might sway the next auditor's opinion, specifically in circumstances where financial distress is not easily predictable as the financial condition of the firm is not fully damaged. We also test if this influence is mitigated by an increase in auditor experience. To conduct this study, we apply the experimental methodology. We design two between-subjects behavioral experiments where the prior year audit opinion is manipulated in four levels (no prior audit opinion, unqualified, unqualified with an emphasis of matter section, and going concern opinion). Based on contrast tests, evidence suggests that unqualified and going concern prior year opinions influence auditors, affecting their next reporting choice. Additionally, when auditor experience increases, the effect of the prior opinion is mitigated.

⁸ One of the co-authors of this paper is Professor William Jr. Messier, from University of Nevada. This collaboration has been possible because the PhD student was a visiting scholar at the University of Vaasa (Finland). The authors express their gratitude to Complutense University of Madrid and CUNEF for financial support received for the research visit to Finland. Also, authors wish to thank participants at the III Research Forum on Challenges in Management Accounting and Control (Pablo de Olavide University, Seville, 2016), AECA Seminar (Vigo, 2016) and the XII International Accounting Symposium (Madrid, 2016).

CAPÍTULO 1:

LA UTILIDAD DE LA INFORMACIÓN FINANCIERA EN EL PROCESO CONCURSAL

I. INTRODUCCIÓN

La crisis que lleva azotando a España desde mediados del año 2007 ha provocado que el número de concursos haya experimentado un espectacular incremento desde la entrada en vigor de la actual Ley Concursal (en adelante, LC), pasando de los 927 concursos en 2005 hasta los 9.143 en el año 2013⁹. Sin embargo, el dato que pone en duda la eficacia de la legislación concursal es que, en dicho ejercicio económico 2013, el 94,05% de las empresas que finalizan el concurso lo hacen liquidándose (Anuario 2013 de Estadística Concursal).

La liquidación supone la desaparición de la empresa y, en definitiva, la destrucción de riqueza y puestos de trabajo, provocando un fuerte coste en detrimento no sólo de los propietarios o los acreedores del negocio en sí, sino un coste económico y social de la nación implicada (Wu, 2010). La principal causa del fracaso empresarial parece estar ligada a un componente cultural en el tejido empresarial español (Pulgar Ezquerro, 2014). En él, desde el momento en que el deudor con problemas de solvencia es declarado en concurso, un lastre comienza a perseguir su actividad empresarial. Circunstancias como las dificultades en el suministro por parte de proveedores, la caída en la demanda de los clientes o la puesta en marcha de ejecuciones por parte de las entidades de derecho público, pueden provocar graves consecuencias que van a imposibilitar la continuidad del negocio.

Habiéndose constatado que la liquidación es lamentablemente el final más frecuente de los concursos, el objetivo declarado de las últimas reformas legislativas ha sido la mejora tanto del marco legal preconcursal como de la finalización del convenio concursal, para apoyar el saneamiento de empresas que, pese a tener un elevado nivel de endeudamiento, siguen siendo potencialmente rentables. El precurso consiste en anticiparse a que la crisis empresarial no sea irreversible, a través de la refinanciación o reestructuración de la deuda de la sociedad (Fernández del Pozo, 2010). Acogiéndose

⁹ Datos obtenidos de la Estadística del Procedimiento Concursal elaborada por el Instituto Nacional de Estadística.

al precurso, el deudor insolvente logra una prórroga temporal en la que no está obligado a presentar el concurso, impidiendo asimismo que sus acreedores puedan presentarlo (Camacho-Miñano y Segovia-Vargas, 2012).

Este trabajo tiene por objeto analizar aspectos de la información financiera empresarial, por su especial incidencia con el concurso de acreedores, en cada una de las tres fases o etapas que éstos atraviesan: precurso, fase común y finalización del concurso en convenio o liquidación. Para conseguir nuestro objetivo este estudio se estructura como sigue: el reconocimiento y comunicación de los primeros síntomas o problemas de insolvencia, tanto por la dirección de la entidad afectada como por los auditores de la misma –en su caso–, es un tema extremadamente delicado por su trascendencia para la continuidad del negocio. Y, por ello, es objeto de debate casi permanente en los foros de contables y auditores, debate centrado en el alcance del principio de empresa en funcionamiento. Es por esto que los dos apartados que siguen (2 y 3) se destinan al análisis de este principio contable y, en particular, a las consecuencias de su abandono, así como al papel de los auditores de cuentas en estas situaciones. En el apartado cuatro nos referimos a la información que ha de comunicarse para desvelar las dudas e incertidumbres significativas sobre la viabilidad del negocio, destinando el siguiente apartado a relacionar y comentar un conjunto de hechos que pueden ser indicativos de problemas para la continuidad de la entidad. Se trata de un inventario de circunstancias recogidas, a título orientativo, por la Federación Internacional de Auditores en la Norma Internacional de Auditoría 570 (NIA 570) y que figuran, asimismo, en una reciente Resolución emitida por el Instituto de Contabilidad y Auditoría de Cuentas (ICAC)¹⁰. El trabajo concluye con un breve comentario y valoración de un grupo de sentencias añadidas al repertorio de jurisprudencia en los últimos años, donde la información financiera de las concursadas juega un papel preponderante en el fallo de las resoluciones judiciales.

¹⁰ «Resolución de 18 de octubre de 2013, del Instituto de Contabilidad y Auditoría de Cuentas, sobre el marco de información financiera cuando no resulta adecuada la aplicación del principio de empresa en funcionamiento», en *Boletín del Instituto de Contabilidad y Auditoría de Cuentas*, 96, diciembre 2013.

II. EL PRINCIPIO DE EMPRESA EN FUNCIONAMIENTO

Todos los empresarios están obligados a formular y publicar anualmente un conjunto de documentos e informes que en la normativa reciben el nombre de ‘cuentas anuales’, cuyo contenido se encuentra regulado en España en el Plan General de Contabilidad (en adelante, PGC). Las cuentas anuales comprenden cuatro estados financieros rigurosamente formalizados, dos estados primarios –Balance de situación y Cuenta de pérdidas y ganancias– y dos estados complementarios –Estado de cambios en el patrimonio neto y Estado de flujos de efectivo–, así como un documento de contenido no formalizado que consta de un conjunto de notas aclaratorias y descriptivas, denominado Memoria. Estos documentos forman una unidad informativa y han de mostrar la imagen fiel de la empresa, esto es, del patrimonio, de la situación financiera y de los resultados de la misma.

Con carácter general, la empresa prepara la información financiera contenida en sus cuentas anuales considerando que va a seguir operando en condiciones normales, esto es, asumiendo la plena vigencia del principio de empresa en funcionamiento, también denominado principio de continuidad o de gestión continuada (‘going concern principle’, en inglés). El principio de empresa en funcionamiento y el principio de devengo constituyen los dos principios fundamentales del sistema contable, motivo por el que a veces se alude a ellos con la expresión ‘hipótesis básicas’. Esta especial consideración se debe a que se trata de dos principios que sólo admiten posiciones antagónicas (AECA, 2012, p. 46). Así, en lo que respecta al principio de empresa en funcionamiento, un sistema contable o asume dicho principio o se encuentra en una situación de liquidación. En el PGC, este principio se define así: “Se considerará, salvo prueba en contrario, que la gestión de la empresa continuará en un futuro previsible, por lo que la aplicación de los principios y criterios contables no tiene el propósito de determinar el valor del patrimonio neto a efectos de su transmisión global o parcial, ni el importe resultante en caso de liquidación. (...)”. Pero, ¿cuáles son los efectos de la aplicación de este principio y, por tanto, qué consecuencias acarreará su quiebra o abandono? Si hay evidencias que hagan presuponer que la actividad de la empresa no continuará (por ejemplo, si se vienen produciendo pérdidas importantes y repetitivas, o cuando se considere improbable que la entidad pueda seguir operando con rentabilidad)

ha de informarse de tal circunstancia en una nota de la Memoria, así como de los criterios específicos utilizados en tal caso.

El principio de empresa en funcionamiento respalda el uso de criterios de valoración que presuponen el normal mantenimiento de la actividad productiva (adquisición de activos y liquidación de pasivos en las fechas acordadas) y, particularmente, dicho principio es consistente con el uso de costes históricos para valorar los activos, en contraposición a la utilización de valores de liquidación. En caso de interrupción de la actividad, como es el caso de una liquidación forzosa del negocio, buena parte de los procedimientos contables –en particular, ciertos criterios de valoración y la presentación de algunas partidas en las cuentas anuales– no serán aplicables por lo que, en una de las notas de la memoria, deberá indicarse esta circunstancia así como los criterios utilizados. A este respecto, el PGC señala que cuando no se pueda aplicar este principio, la empresa utilizará aquellos criterios que resulten más adecuados para la nueva situación encaminada a realizar el activo, cancelar las deudas y, en su caso, repartir el patrimonio resultante, suministrando en la memoria de las cuentas anuales toda la información significativa sobre los criterios aplicados.

Por lo tanto, la aplicación o no del principio de empresa en funcionamiento será fundamental en los procedimientos concursales, ya que la valoración de los elementos patrimoniales de la sociedad dependerá de la fase del proceso en que se encuentre la empresa. En el precurso, fase en la que todavía no existirá la figura del administrador concursal, la contabilidad de la sociedad se regirá por el principio de empresa en funcionamiento presuponiendo que el deudor, todavía con posibilidades de solvencia, se encuentra en un período de negociaciones con sus acreedores –a través de acuerdos de refinanciación y reestructuración de deudas– para evitar ir al concurso. Sin embargo, una vez comenzado el concurso, si la finalización del mismo se presupone que sea la liquidación empresarial, el principio de empresa en funcionamiento no será de aplicación y se valorarán los activos a valores de liquidación a efectos de su transmisión global o parcial. Los valores de liquidación deben ser tenidos en cuenta por la administración concursal, tanto en la elaboración de su informe, como cuando

se valora el inventario de bienes que integran el patrimonio del concursado –masa activa–, y cuando se preparan las cuentas anuales, si procede¹¹.

El tema de la no aplicación del principio de empresa en funcionamiento ha sido debatido entre los expertos contables. El contenido del PGC en este sentido se ha desarrollado en la Resolución de 18 de octubre de 2013, del ICAC, sobre el marco de información financiera cuando no resulta adecuada la aplicación del principio de empresa en funcionamiento¹² (ver Bueno Martín y Latorre Atance, 2014). Su finalidad consiste en establecer el marco de información contable para la formulación de cuentas anuales en el caso de ruptura del principio de empresa en funcionamiento, porque la empresa no vea alternativa más realista entre las hipótesis barajadas. Según esta Resolución, la empresa deberá comunicar todas las opciones, además de informar del abandono del principio de empresa en funcionamiento, y aclara los criterios contables que son de aplicación para la elaboración de las cuentas anuales cuando no sea posible aplicar dicho principio. En definitiva, en los casos en que se pone en entredicho la continuidad de la empresa por la existencia de incertidumbres importantes que parecen hacer tambalear su continuidad, la información financiera ha de seguir formulándose y publicándose, aunque sea aplicando criterios diferentes.

¹¹ Asimismo, en sucesivas ocasiones se refleja el vínculo entre las cuentas anuales y el concurso de acreedores. Por enumerar algunos ejemplos, tal es el caso de la solicitud de declaración de concurso por parte del deudor (art. 6.2), la oposición del deudor a la solicitud de concurso (art. 18.2), la elaboración del informe de la administración concursal (art. 75.1 y 75.2), la calificación del concurso como fortuito o culpable (art. 164.2) y la imposibilidad de formular solicitud para alcanzar acuerdos extrajudiciales de pagos (art. 231.3). En todos ellos, la presentación de la información financiera correctamente valorada representa un hecho clave en la resolución de las sentencias.

¹² Mediante esta Resolución se adaptó, para su aplicación en España, la Norma Internacional de Auditoría 570 – Empresa en funcionamiento.

III. AUDITORÍA CONTABLE Y PROCESO CONCURSAL

La actividad de la auditoría de cuentas anuales consiste en verificar si los documentos contables expresan la imagen fiel del patrimonio y de la situación financiera de la empresa o entidad auditada, así como el resultado de sus operaciones, de acuerdo con el Código de Comercio, PGC y demás legislación. Con carácter general, la obligación de sometimiento a auditoría afecta a las sociedades anónimas, a las sociedades de responsabilidad limitada y a las comanditarias por acciones, exceptuándose aquellas que tengan un tamaño reducido¹³.

La complejidad de la aplicación del principio de empresa en funcionamiento se manifiesta también en la auditoría de cuentas. Esto se debe a la dificultad a la hora de definir este precepto y las consecuencias de su aplicación (Alonso Pérez y Pousa Soto, 2014). El principio de empresa en funcionamiento no es aplicable cuando se estima que la empresa no será capaz de realizar los activos y liquidar los pasivos en el curso normal de sus operaciones. Y esta situación afectará al informe que debe emitir el auditor de las cuentas anuales formuladas en tal circunstancia. La Resolución de 20 de diciembre de 2013, del ICAC, por la que se publica la modificación de la Norma Técnica de Auditoría sobre la aplicación del principio de empresa en funcionamiento¹⁴, establece que los informes de auditoría que se emitan a partir del 1 de enero de 2014 presentarán una ‘opinión desfavorable’ si la empresa hubiese preparado sus cuentas anuales conforme a la hipótesis de empresa en funcionamiento pero el auditor considera que tal hipótesis es inadecuada. También se establece la forma de comunicar en el informe de auditoría cuando el auditor considera adecuada la aplicación de la hipótesis de empresa en funcionamiento, pese a la existencia de una incertidumbre significativa. En este caso, el

¹³ Conforme al artículo 263 de la Ley de sociedades de capital, no están sujetas a obligación de auditar sus cuentas las sociedades que, durante dos ejercicios económicos consecutivos, cumplan, al cierre de cada uno, dos de estos tres requisitos: un total de activo menor a 2.850.000 euros, un importe neto de la cifra de negocios inferior a 5.700.000 euros y una media de empleados contratados menor a 50.

¹⁴ Ver norma completa en Instituto de Contabilidad y Auditoría de Cuentas [ICAC], «Resolución de 20 de diciembre de 2013, del Instituto de Contabilidad y Auditoría de Cuentas, por la que se publica la modificación de la Norma Técnica de Auditoría sobre la aplicación del principio de empresa en funcionamiento, publicada por la Resolución de 31 de mayo de 1993», en *Boletín del Instituto de Contabilidad y Auditoría de Cuentas*, 96, diciembre 2013.

auditor deber determinar si en sus cuentas anuales la empresa describe adecuadamente los hechos o condiciones que pueden generar dudas sobre la viabilidad del negocio, y si revelan claramente que existe tal incertidumbre, pudiéndose plantear dos situaciones:

- Que el auditor considere adecuada la información publicada por la empresa. En tal caso emitirá una ‘opinión favorable’ (también denominada ‘informe limpio’ o ‘informe sin salvedades’) pero en dicho informe incluirá un ‘párrafo de énfasis’ con una doble finalidad: destacar la existencia de una incertidumbre significativa y remitir a la nota de la memoria donde la empresa informa de tal circunstancia.

- Que el auditor entienda que la información publicada por la empresa no es adecuada. En esta situación el auditor emitirá una ‘opinión desfavorable’ o ‘con salvedades’, según proceda de conformidad con las Normas Técnicas de Auditoría. En este caso, en el párrafo explicativo de la salvedad, se mencionará la existencia de circunstancias que generan dudas sobre la continuidad de la empresa.

En cuanto a las funciones del auditor, en la Resolución se establece que el informe de auditoría no refleja una garantía sobre la viabilidad futura de una entidad si bien es cierto que, con dicho informe, el auditor se responsabiliza de las evaluaciones que le hayan llevado a “alcanzar una convicción de que la entidad podrá continuar su actividad durante el siguiente ejercicio económico”. En el informe, el auditor concluirá si resulta aplicable el principio de empresa en funcionamiento y si existe una incertidumbre significativa para que las cuentas anuales presenten la imagen fiel. Este es un tema de especial trascendencia en la actualidad debido a los escándalos contables de empresas tales como las españolas Pescanova o Gowex, cuyos informes de auditoría no presentaban dudas de viabilidad. Sin embargo, ambas entraron en procesos concursales nada más destaparse sus problemas contables, lo que puede acarrear graves responsabilidades para los auditores.

IV. INFORMACIÓN FINANCIERA Y VIABILIDAD DE LA EMPRESA

En primera instancia, es a la dirección de la empresa a quien corresponde valorar si está en condiciones de continuar realizando normalmente su actividad y, en consecuencia, si procede presentar su información financiera de acuerdo con lo requerido por la hipótesis o principio de empresa en funcionamiento. Como se ha explicado con anterioridad, este principio contable es uno de los dos pilares –el otro es el principio del devengo– sobre los que se sustenta la información financiera publicada por la empresa cuando ésta se elabora en situaciones de normalidad, esto es, cuando se considera asegurada la continuidad del negocio. La presentación de la información financiera bajo el principio de empresa en funcionamiento supone, en esencia, que los activos y pasivos se registren considerando que la entidad será capaz de realizar sus activos y liquidar sus pasivos en el curso normal de la actividad; o, lo que es igual, cuando se asume que el negocio sobre el que se informa es viable en el futuro inmediato.

En las cuentas anuales no suelen figurar mensajes explícitos en positivo que hagan referencia a la viabilidad del negocio, ni tampoco las razones que –a juicio de la dirección– avalarían tal circunstancia. Apreciaciones de la dirección sobre la viabilidad de la empresa solo podrán encontrarse cuando existan dudas significativas y esto se recogerá en algún pasaje de la información narrativa incluida en la Memoria, especialmente en la nota 2.3. *Aspectos críticos de la valoración y estimación de la incertidumbre*, que es el lugar en donde la dirección debe comunicar la existencia de incertidumbres importantes que puedan impedir que la empresa siga funcionando normalmente. Asimismo, en el Informe de gestión, documento que acompaña a las cuentas anuales en el caso de medianas y grandes empresas, podrán también recogerse comentarios de los administradores sobre la continuidad de la empresa¹⁵. Tales mensajes figurarán en la descripción de los principales riesgos e incertidumbres a los que se enfrenta la sociedad, así como en el análisis que obligatoriamente ha de

¹⁵ Es importante advertir que no están obligadas a formular el Informe de gestión las sociedades que elaboren Balance y Estado de cambios en el patrimonio neto abreviados. Se trata de sociedades que, a fecha de cierre de los dos últimos ejercicios, no superen los límites siguientes: un activo total de 4 millones de euros, una cifra de negocios de 8 millones de euros y una media de 50 empleados (art. 257 de la LSC).

presentarse sobre la evolución del negocio y de la situación financiera de la empresa, así como los indicadores financieros clave¹⁶.

Por tanto, como en las cuentas anuales no se informa explícitamente sobre la viabilidad de la entidad, es al lector de las mismas a quien corresponde formarse su propia opinión al respecto. Este cometido solo puede alcanzarse analizando el conjunto de informaciones y datos que aparecen en tales cuentas, así como cualquier otro tipo de información que se conozca, tanto si procede de la propia empresa como de fuentes externas. La Resolución de 18 de octubre de 2013, del ICAC, recoge en su introducción, a título meramente enunciativo, una relación de ejemplos de hechos y circunstancias, que recogemos y comentamos en el siguiente apartado, que “(...) individual o conjuntamente pueden generar dudas significativas sobre la continuidad de la empresa y que los responsables de ésta deben ponderar”.

En el caso de que la sociedad haya sido declarada en concurso de acreedores, cobran una relevancia capital las informaciones específicas relativas al mismo, por lo que habrá de dedicar especial atención a los mensajes de la Memoria y del Informe de gestión antes señalados, así como al informe que pueda ser preparado por la administración concursal.

¹⁶ Estas indicaciones han de presentarse obligatoriamente en dicho informe de conformidad con el art. 262 de la LSC.

V. PROBLEMAS DE VIABILIDAD DE UN NEGOCIO: INDICIOS POTENCIALES

Los hechos o condiciones que parecen representar indicios sobre la existencia de problemas, que pueden llegar a afectar a la viabilidad de un negocio o empresa, son muy variados y de muy distinta naturaleza. Una relación de tales hechos, que se recogen y comentan a continuación, figuran en la Norma Internacional de Auditoría 570 (NIA 570) advirtiéndose que se trata de una relación no exhaustiva y que la existencia de uno o más de los elementos de esta relación no siempre supone que exista una incertidumbre relevante. Tal advertencia significa que, en cualquier circunstancia, el experto que evalúe esta situación (economista, abogado, auditor, administrador concursal, etc.) necesitará realizar indagaciones adicionales que le permitan formarse su propia opinión. De todos modos, y pese a la presencia de otras posibles causas que dificulten la continuidad del negocio, los hechos que a continuación se presentan constituyen un importante inventario de indicios que pueden esclarecer, en gran medida, el diagnóstico sobre la viabilidad y solvencia empresarial. En el caso del administrador concursal, por ejemplo, sería de gran utilidad que en su informe evaluase tales indicios para fundamentar su propuesta sobre la viabilidad o no de la empresa objeto de su análisis.

1. Indicios financieros

En este apartado (véase Tabla 1.1) se relacionan indicadores contables y de naturaleza esencialmente histórica (patrimonio neto negativo, capital circulante negativo o ratios financieros clave desfavorables) junto a otros –más numerosos– que desvelan potenciales problemas de liquidez (flujos de efectivo de explotación negativos, atrasos en el pago de dividendos, existencia de deudas vencidas, etc.) o cambios en las condiciones de pago a proveedores.

Tabla 1.1. Problemas de viabilidad: indicios financieros

- Posición patrimonial neta negativa o capital circulante negativo.
- Préstamos a plazo fijo próximos a su vencimiento sin perspectivas realistas de reembolso o renovación; o dependencia excesiva de préstamos a corto plazo para financiar activos a largo plazo.
- Indicios de retirada de apoyo financiero por los acreedores.
- Flujos de efectivo de explotación negativos en estados financieros históricos o prospectivos.
- Ratios financieros clave desfavorables.
- Pérdidas de explotación sustanciales o deterioro significativo del valor de los activos utilizados para generar flujos de efectivo.
- Atrasos en los pagos de dividendos o suspensión de estos.
- Incapacidad de pagar al vencimiento a los acreedores.
- Incapacidad de cumplir con los términos de los contratos de préstamo.
- Cambio en la forma de pago de las transacciones con proveedores, pasando del pago a crédito al pago al contado.

Algunos de estos indicios financieros –flujos de efectivo de explotación negativos prospectivos o indicios de retirada de apoyo financiero– apuntan a expectativas de futuro, noción acorde con la plasmada en el propio texto legal cuando se define el *estado de insolvencia* como aquella situación en la que el deudor no puede hacer frente regularmente a sus obligaciones exigibles (art. 2.2 LC). Si en la solicitud del concurso es necesario fundamentar el estado de insolvencia –tanto por parte del concursado como de los acreedores–, la consideración de los anteriores indicios puede ser de gran ayuda para adoptar decisiones que eviten su empeoramiento.

Otras de las circunstancias relacionadas en la Tabla 1.1, como es el excesivo endeudamiento a corto plazo o las dificultades para atender o renovar próximos vencimientos, representan claros indicios de problemas de insolvencias en la situación actual. Normalmente, cuando es el deudor quien solicita el concurso (art. 2.3 LC), apoyará su solicitud en la negativa posición que describen este tipo de indicadores. Otro claro indicio de la aparición de obstáculos financieros es la existencia de una situación de dependencia excesiva de préstamos a corto plazo utilizados para financiar inversiones permanentes o a largo plazo. El recurso abusivo a la financiación ajena es un indicador de riesgo de crédito y se interpreta como una señal de que el deudor puede llegar a tener dificultades para el cumplimiento regular de sus obligaciones exigibles.

También pueden manifestarse problemas de insolvencia financiera, actual o inminente, cuando la entidad es incapaz de hacer frente a los términos de contratos de financiación en vigor, con el especial agravante de que, en numerosos casos, estos contratos llevarán aparejada una garantía real. Por las consideraciones anteriores, es fundamental realizar un examen integral de todos los indicios mencionados para conocer con la mayor exactitud posible la situación real y buscar soluciones eficaces (renovación de préstamos vencidos, reestructuración, etc.), máxime si se trata de préstamos vinculados a una garantía real.

El cálculo de los indicadores anteriores ha de realizarse utilizando la información financiera publicada por la propia entidad analizada, y preferiblemente con la información recogida en las cuentas anuales auditadas (si existiesen) del ejercicio actual y de ejercicios anteriores, a fin de conocer su tendencia y evolución temporal. Existen estudios referidos a la predicción de insolvencia empresarial que no sólo consideran una serie de ratios fijos en la elaboración de sus modelos de predicción, sino que también tienen en cuenta las variaciones que experimentan tales ratios entre períodos (Laitinen y Lukason, 2014). Los indicadores y datos calculados han de interpretarse siempre de manera conjunta y con la máxima cautela, teniendo muy presentes, a efectos comparativos, tanto los datos del sector económico en el que la empresa desempeña su actividad como la situación económica general. Hay que tener presente que no existen cifras de referencia o valores ideales que permitan establecer la adecuación o no de un determinado ratio o indicador financiero, contrariamente a lo que en ocasiones se ha mantenido hasta fechas no muy lejanas. Al contrario, el valor adecuado de cualquier ratio será diferente para cada empresa y en cada momento, dependiendo de numerosos factores tales como el tamaño de la empresa, su estructura de capital o el sector en el que desarrolla su actividad.

Siendo las cuentas anuales el principal medio de comunicación de la información financiera empresarial, el analista de dicha información –cualquiera que sea el motivo de su análisis– ha de intentar complementarla con cualquier otro tipo de datos que pueda conseguir, tanto si tienen su origen en la propia empresa (informe de gestión, informes dirigidos a los analistas, etc.) como en entidades ajenas (bases de datos sectoriales o sociedades de calificación de riesgos, por ejemplo).

2. Indicios operativos

Los hechos relacionados en este apartado por la NIA 570 figuran en la Tabla 1.2. Esencialmente, las circunstancias de esta naturaleza están relacionadas con:

- a) Potenciales problemas relacionados con la *adecuación de los recursos humanos*, tanto en el equipo directivo (salidas y cambios de miembros clave de la dirección) como por la existencia de conflictividad laboral, o
- b) Probabilidad de que se produzcan importantes caídas en las ventas (debidas al abandono de mercados, pérdida de clientes clave o aparición de competidores exitosos), problemas de aprovisionamiento y pérdida de proveedores importantes.

Tabla 1.2. Problemas de viabilidad: indicios operativos

- | |
|--|
| <ul style="list-style-type: none">– Intención de la dirección de liquidar la entidad o de cesar en sus actividades.– Salida de miembros clave de la dirección, sin sustitución.– Pérdida de un mercado importante, de uno o varios clientes clave, de una franquicia, de una licencia o de uno o varios proveedores principales.– Dificultades laborales.– Escasez de suministros importantes.– Aparición de un competidor de gran éxito. |
|--|

Algunos de estos indicios, de naturaleza operativa, podrán ser detectados analizando la información publicada por la propia entidad en la Memoria que forma parte de las cuentas anuales así como, en su caso, en el Informe de gestión. Por ejemplo, en una de las notas de la Memoria la empresa puede estar obligada a informar del importe neto de la cifra de negocios, correspondiente a sus actividades ordinarias, desglosado tanto por categorías de actividades como por mercados geográficos.

No obstante, buena parte de estos indicios no es preceptivo recogerlos en la información financiera pública por lo que, para conseguirlos, será imprescindible acudir a otro tipo de fuentes.

3. Indicios legales y de otra índole

Estos se relacionan en la Tabla 1.3 e incluyen, además de posibles incumplimientos relativos a la cifra de recursos propios requeridos –que vienen establecidos por la legislación mercantil de aplicación general o por determinadas regulaciones sectoriales–, las potenciales consecuencias negativas por cambios normativos y las secuelas derivadas de riesgos insuficientemente asegurados.

Tabla 1.3. Problemas de viabilidad: indicios legales y otros

- | |
|--|
| <ul style="list-style-type: none">– Incumplimiento de requerimientos de capital o de otros requerimientos legales.– Procedimientos legales o administrativos pendientes contra la entidad que, si prosperasen, podrían dar lugar a reclamaciones que es improbable que la entidad pueda satisfacer.– Cambios en las disposiciones legales o reglamentarias o en políticas públicas que previsiblemente afectarán negativamente a la entidad.– Catástrofes sin asegurar o aseguradas insuficientemente cuando se producen. |
|--|

En efecto, la insuficiencia de recursos o capitales propios, máxime cuando el déficit viene motivado por la acumulación de pérdidas, debe interpretarse como un indicador relevante cuando se intenta obtener evidencia de la viabilidad de un negocio.

Asimismo, deben ser consideradas y evaluadas las probables responsabilidades que pudieran derivarse de procesos judiciales en marcha; la insuficiente cobertura de riesgos o eventuales cambios en disposiciones legales o administrativas que puedan llegar a afectar negativamente y de manera importante al normal desempeño de la actividad.

VI. INFORMACIÓN FINANCIERA Y JURISPRUDENCIA CONCURSAL

La llevanza de una rigurosa contabilidad permite agilizar los procedimientos concursales. Actuaciones tales como la elaboración del informe del administrador concursal –con su análisis del estado de la contabilidad del deudor, la determinación de la masa activa y la lista de acreedores e incluso, cuando corresponda, la propia elaboración de las cuentas anuales–, la calificación del concurso, o la resolución de las fases de convenio o liquidación, dependen de la calidad de la información financiera presentada por la sociedad concursada.

Para constatar la importancia de la información contable en la jurisprudencia concursal, hemos consultado una serie de sentencias a partir de una búsqueda bibliográfica en la base de datos electrónica de la ‘Revista de Derecho Concursal y Paraconcursal’. Acotando por el término ‘contabilidad’, en la sección de jurisprudencia encontramos siete sentencias cuyos fallos hacen hincapié en la información financiera, entre los años 2012 y 2014, y que pasamos a comentar a continuación¹⁷.

Cuatro de las sentencias señaladas están relacionadas con la calificación del concurso. En primer lugar, encontramos una sentencia del Tribunal Supremo que anula la calificación de culpabilidad de la sentencia de apelación, declarando fortuito el concurso, la STS 122/2014 de 1 de abril¹⁸. Su decisión se basa en el uso de información financiera confusa de las dos sentencias de instancia, aclarando que el concepto de insolvencia¹⁹ no es el mismo que el de pérdidas acumuladas. A partir de la definición

¹⁷ A partir de una búsqueda bibliográfica en la base de datos electrónica ‘Aranzadi Insignis’ acotando por los términos ‘concurso de acreedores’ y ‘contabilidad’, se obtienen 151 sentencias de jurisprudencia. Se pone de manifiesto la frecuente relación entre contabilidad y concursalidad, que tratamos a partir del estudio de las siete sentencias de la base de datos de la ‘Revista de Derecho Concursal y Paraconcursal’ [consultado 10 octubre 2014].

¹⁸ Tribunal Supremo (Sala de lo Civil, Sala 1ª): Sentencia núm. 122/2014, de 1 de abril (rec. 541/2012).

¹⁹ Para medir el estado de insolvencia, los analistas financieros utilizan diversos ratios o cocientes de magnitudes. Un ratio relevante de medición de la solvencia del deudor es la ratio de garantía (‘Activo total / Pasivo exigible’), que mide la capacidad de la empresa para atender, con el activo total, las deudas contraídas. Por lo general, el valor de este ratio será superior a la unidad y, en el caso de que fuera menor, estaríamos ante una situación de insolvencia técnica. El ratio de garantía debe interpretarse con suma cautela, debido principalmente a la importante incidencia que los criterios de valoración de las magnitudes pueden tener sobre el numerador del mismo. Por ejemplo, los activos suelen estar valorados a costes históricos, muy alejados de sus valores actuales. En el proceso concursal, en el caso de que una empresa consiga la reorganización, su activo seguirá valorado a valores históricos por lo que este ratio será fiable. Sin embargo, si se llega a la liquidación,

de insolvencia del texto legal, de acuerdo al art. 2.2 LC, la sentencia indica que aunque el patrimonio contable de la concursada sea inferior a la mitad del capital social, no se le considerará una entidad insolvente si puede cumplir regularmente con sus obligaciones de pago porque obtenga financiación a partir de otros medios. Según el Tribunal Supremo en la sentencia anterior, lo que determina el dolo o la culpa del deudor por no solicitar el concurso es la insolvencia, no la concurrencia de la causa legal de disolución por pérdidas agravadas (art. 363 LSC).

En segundo lugar, la calificación del concurso como culpable es mantenida por el Tribunal Supremo en su sentencia STS 534/2012 de 13 de septiembre²⁰. En este caso, la culpabilidad del concursado se fundamenta en el informe de la administración concursal (art. 164.2), en el que se alega que se hallaron irregularidades contables relevantes que ocultaban el estado de insolvencia y complicaban la comprensión de su situación patrimonial y financiera, así como inexactitudes graves en las cifras presentadas en el balance de situación de la sociedad deudora.

Otras dos resoluciones se añaden al repertorio de jurisprudencia sobre el art. 164.2, la SAP 536/2012 de 20 de diciembre y la SAP 154/2011 de 23 de abril²¹. En la primera de ellas, la Audiencia Provincial de Alicante coincide con el Juzgado de lo Mercantil en señalar que el concurso es calificado como culpable porque la empresa concursada tiene una clara irregularidad contable, ya que dispone de garantías a favor de una empresa participada en un 50% del capital social que no aparecen en las cuentas anuales de dos ejercicios consecutivos. La omisión de las garantías en las cifras contables supone una infracción de los principios y normas de contabilidad generalmente aceptados que impide conocer la imagen fiel del patrimonio y de la situación financiera de la sociedad. En el caso de la segunda sentencia, es la Audiencia Provincial de Barcelona quien avala la sentencia de instancia de

la concursada valorará sus activos por su valor de liquidación o valor de mercado, con lo que este ratio carecerá de la fiabilidad reconocida a las cifras que proporciona la contabilidad.

²⁰ Tribunal Supremo (Sala de lo Civil, Sala 1ª): Sentencia núm. 534/2012, de 13 de septiembre (rec. 1197/2009).

²¹ La primera de ellas consiste en una sentencia de la Audiencia Provincial de Alicante (Sección 8ª): Sentencia núm. 536/2012, de 20 de diciembre (rec. 364/2012). La segunda sentencia procede de la Audiencia Provincial de Barcelona (Sección 15ª): Sentencia núm. 154/2012, de 23 de abril (rec. 608/2011).

calificación de culpabilidad, determinando de nuevo la existencia de graves irregularidades contables detectadas por la administración concursal.

Otro pronunciamiento reciente que se refiere a la declaración de concurso es la SAP 106/2014 de 4 de abril²². Al caer en concurso una de las dos sociedades integrantes de una UTE (Unión Temporal de Empresas), tras haber finalizado el trabajo para el que la UTE se había constituido, la Audiencia Provincial de las Islas Baleares discrepa en que la liquidación se haga bajo las normas concursales para la totalidad de la UTE. La concursada intenta hacer uso de la figura contable de la UTE alegando que, pese a tener contabilidad separada, la UTE carece de patrimonio propio que le permita hacer suyos los rendimientos registrados de su actividad y decidir autónomamente su destino, por lo que sus movimientos contables se imputan directamente a sus miembros. Sin embargo, la Audiencia Provincial da la razón a la demandante, condenando a la demandada a liquidar la sociedad con la demandante mediante el pago a sus acreedores y repartiendo posteriormente el haber resultante entre ambas.

El interés en reseñar la SAP 332/2013 de 7 de julio²³ reside en que aborda la separación del cargo del administrador concursal. La Audiencia Provincial de Valencia casa la sentencia del Juzgado de lo Mercantil por entender que el apelante, separado de su cargo de administrador concursal, debe quedar rehabilitado. Este Tribunal no observa evidencias de hechos determinados que impliquen la mala gestión en sus labores. Detalla, en su argumentación, que el administrador concursal ha cumplido con los trámites legales, analizando la contabilidad y cuentas anuales de la concursada, advirtiendo de claros problemas para la continuidad de la empresa desde el primer informe.

Por último, la evidencia de la información contable en la finalización de los procedimientos concursales se ilustra a través de una sentencia del Tribunal Supremo²⁴. Cuando la concursada

²² Audiencia Provincial de Las Islas Baleares (Sección 5ª): Sentencia núm. 106/2014, de 4 de abril (rec. 38/2014).

²³ Audiencia Provincial de Valencia (Sección 9ª): Sentencia núm. 332/2013, de 7 de julio (rec. 301/2013).

²⁴ Tribunal Supremo (Sala de lo Civil, Sala 1ª): Sentencia núm. 608/2012, de 24 de octubre (rec. 785/2009).

incumple el convenio logrado con los acreedores, la fase de liquidación queda abierta por quebrantar los requerimientos de información financiera: no presentación de libros contables ni cuentas anuales en varios ejercicios económicos, así como justificantes de las anotaciones contables requeridos. Se elevan las actuaciones al Tribunal Supremo, con motivo de recursos de casación por parte de la TGSS (Tesorería General de la Seguridad Social) y recursos extraordinarios por infracción procesal y de casación por el administrador, siendo incuestionable para el Tribunal la apertura de la fase de liquidación.

VII. CONSIDERACIONES FINALES

Son pocos los días en los que no aparece en las páginas de información financiera de los periódicos alguna noticia sobre una nueva sociedad en concurso, lo que suele venir acompañado por la liquidación de la entidad, y la consiguiente destrucción de puestos de trabajo. Esta situación ha propiciado sucesivas reformas en la legislación concursal –reformas criticadas, en ocasiones, por precipitadas e improvisadas– con el objetivo de favorecer el saneamiento del mayor número posible de empresas en dificultades y que puedan seguir haciendo frente a sus compromisos en el tráfico económico (Conde Fuentes, 2014). De este conjunto de reformas destacan las centradas en la fase preconcursal, cuyo propósito es incentivar las negociaciones extrajudiciales que la experiencia ha señalado como cruciales para evitar la entrada masiva de empresas al proceso concursal (Marina García Tuñón, 2013; Pavón, Blázquez y Querol, 2014). De esa manera, las posibilidades de supervivencia en el mercado son mayores, al no presentarse la deudora como entidad ‘en concurso’, estigma que solo acarrea consecuencias negativas: desconfianza de clientes, empeoramiento de la imagen comercial y problemas con los suministros de proveedores, entre otras.

El presente estudio revela que la información financiera publicada por el deudor concursado, a pesar de tratarse de una información escasamente normalizada y de naturaleza previsional, puede proporcionar datos esenciales para que cualquier agente externo interesado en evaluar el alcance de los problemas planteados sobre la viabilidad del negocio. En este ámbito adquieren especial relevancia los mensajes emitidos –tanto por la dirección de la entidad como por los auditores de la misma– sobre los motivos para el mantenimiento o el abandono del principio de empresa en funcionamiento. Se examinan, asimismo, el conjunto de hechos y circunstancias recogidos en la Norma Internacional de Auditoría (NIA 570) agrupados en tres categorías: financieros, operativos y legales o de otra índole. Aunque sea éste un listado meramente orientativo, puede constituir un buen punto de partida a la hora de evaluar los indicios de problemas de viabilidad así como para la adopción de medidas tendentes a su prevención. La consideración de los anteriores indicios puede ser también de gran ayuda para la administración concursal.

El administrador concursal debe tener en cuenta las exigencias de la normativa contable sobre la valoración de las partidas del deudor en función de los diferentes criterios existentes. En efecto, los bienes del deudor –la masa activa–, y sus obligaciones –la masa pasiva–, se valorarán siguiendo el principio de empresa en funcionamiento en el precurso o en la fase de convenio, esto es, cuando se asume que la empresa continuará su actividad. En cambio, si se presume que el destino final de la concursada es el cierre, se hará uso de los valores de liquidación o de mercado de sus activos y pasivos. De igual modo, los indicios que generan dudas sobre la viabilidad empresarial pueden representar también una base para agilizar las labores del administrador concursal en el desarrollo de su informe en el procedimiento concursal abreviado. Con el deber de presentar el inventario de bienes y derechos de la masa activa en un plazo de quince días y la obligación de elaborar en un mes el informe completo, de acuerdo a lo dispuesto en el art. 191 LC, la rapidez y el apremio cobran protagonismo, al mismo tiempo que la rigurosidad y exactitud de los cálculos, explicaciones y detalles de la masa activa y pasiva siguen estando presentes, al igual que si de un concurso ordinario se tratara. Asimismo, desde la perspectiva de la administración concursal, una inspección rigurosa de estas circunstancias podría ser motivo de éxito a la hora de plasmar en su informe los riesgos e incertidumbres que pueden perjudicar la situación financiera de la sociedad. Incluso, estas señales financieras, operativas y legales, representarían un complemento a la información financiera de ejercicios anteriores –cuentas anuales y otros documentos de que se disponga– en los casos en que sea la administración concursal la que deba formular las cuentas anuales, esto es, cuando el deudor no haya presentado las cuentas del ejercicio anterior a la declaración del concurso, a tenor del art. 75.2 LC.

En definitiva, se justifica que la rápida detección de las señales que manifiestan problemas cercanos de insolvencia permitirá poner en marcha los mecanismos preconcursales a la mayor brevedad, dirigiendo las decisiones hacia la reorganización sin necesidad de entrar en el concurso, o bien, una vez comenzada la fase común, contribuirá a la finalización del concurso en convenio concursal.

CAPÍTULO 2:

INFORME DE AUDITORÍA: CLASIFICACIÓN Y ANÁLISIS DE ÉNFASIS Y SALVEDADES

Resumen

Este trabajo analiza las salvedades y párrafos de énfasis contenidos en los informes de auditoría de compañías en concurso de acreedores, en el año anterior a su entrada en el proceso legal de insolvencia. Los resultados revelan que más de la mitad de los informes no contienen ninguna salvedad o párrafo de énfasis. Del total de advertencias emitidas –la mayoría en forma de salvedades–, un 20% comunican la solicitud de declaración de concurso voluntario o que la sociedad se encuentra inmersa en cualquier fase del proceso concursal, y un porcentaje superior al 40% alertan sobre la continuidad de la empresa auditada. Sin embargo, se espera un incremento de estas advertencias en los próximos años con la nueva Ley 22/2015 de Auditoría de Cuentas y su requerimiento de incluir mención expresa de la existencia de dudas significativas sobre la gestión continuada de la entidad auditada.

Palabras clave: concurso de acreedores, informe de auditoría, párrafos de énfasis, salvedades de auditoría, gestión continuada.

Abstract

This paper analyses audit qualifications and emphasis of matter paragraphs included in audit reports of bankrupt firms, in the year prior to legal insolvency proceedings. Results show that more than half of reports do not contain any of these paragraphs. Out of all comments made by auditors –the majority of them are qualifications–, 20% refer to the declaration of voluntary insolvency or any other phase of legal proceedings, and more than 40% are related to going concern uncertainties. However, an increase in this type of messages is expected in the next few years with the new Spanish Audit regulation (Law 22/2015), which implements the obligation to issue a specific alert when there is evidence of going concern uncertainties.

Keywords: bankruptcy, audit report, emphasis of matter paragraphs, audit qualifications, going concern.

I. INTRODUCCIÓN

El papel de la auditoría externa ha vuelto a cuestionarse recientemente con motivo de la aparición de varios casos de empresas que se han visto obligadas a solicitar el concurso de acreedores, y para las que sus auditores no dieron señal alguna de problemas de viabilidad en sus informes de auditoría en los ejercicios económicos previos, como el caso de la empresa Gowex. En este ejemplo, el auditor independiente señalaba que la empresa reflejaba en sus estados financieros la imagen fiel de sus resultados cuando el 90% de sus ingresos eran falsos. Desde mediados del año 2007, debido al comienzo de la crisis económica mundial, las situaciones de insolvencia empresarial han aumentado exponencialmente, lo que ha supuesto costes a todos los interesados en el funcionamiento de las empresas, tanto a sus gestores como a sus acreedores –bancarios y comerciales–, clientes y trabajadores.

En el intento de paliar o suavizar los efectos de la insolvencia, muchos países disponen de mecanismos legales de protección al deudor y/o al acreedor, tales como el concurso de acreedores en España, regulado por la Ley Concursal (LC)²⁵. La finalidad originaria de la LC era la satisfacción de los acreedores, si bien en sus sucesivas reformas los legisladores se han propuesto la conservación de la actividad del concursado. Sea como fuere, este proceso legal se considera largo, costoso e ineficiente ya que menos del 10% de los deudores concursados consiguen sobrevivir (Anuario 2014 de Estadística Concursal), lo que incentiva el intento de evitar dicho mecanismo a aquellos interesados en la supervivencia de una compañía.

Desde los estudios pioneros de Altman y Beaver de predicción de la quiebra empresarial de los años 60 (Beaver, 1966; Altman, 1968), se han realizado multitud de investigaciones para pronosticar con tiempo la insolvencia, haciendo uso tanto de información financiera de las entidades como de datos de mercado, cifras macroeconómicas y variables comportamentales. Sin embargo, recientes estudios ponen de manifiesto que los datos contables procedentes de los estados financieros han sido, y siguen

²⁵ Ley 22/2003, de 9 de julio, Concursal.

siendo, los más utilizados (Altman, Iwanicz-Drozdowska, Laitinen y Suvas, 2016). No obstante, dicha información contable requiere de la credibilidad que proporcionan los auditores en sus informes. La auditoría externa²⁶ consiste en la verificación, por parte de expertos independientes, de la información económico-financiera publicada por la empresa y su resultado se refleja en el informe de auditoría, donde el auditor expresa su opinión sobre la razonabilidad de dichos estados financieros. Si la credibilidad ofrecida por la auditoría externa incrementa la fiabilidad de los estados financieros, parece razonable suponer que los informes de auditoría de los años previos a la entrada en concurso deberían recoger algunas “señales” o “indicios” que advirtiesen de problemas de viabilidad. Korol (2013) señala que los primeros indicios de insolvencia pueden intuirse cinco o seis años antes de que la quiebra se haga efectiva, por lo que los auditores deberían avisar sobre los problemas de continuidad por los que pasa la compañía, mencionándolos en sus informes.

En este trabajo se reflexiona sobre el papel del informe de auditoría en la detección de problemas de viabilidad, a través de un estudio empírico de las salvedades²⁷ incluidas en los informes de auditoría del año previo a la entrada en concurso. Se analizan las advertencias de los auditores con anterioridad al concurso de acreedores, con el objetivo de elaborar una clasificación de las salvedades en diferentes categorías, de acuerdo (i) al tipo de párrafo utilizado, (ii) a los elementos contables mencionados o (iii) a cualquier otra circunstancia señalada por los auditores. Para llevar a cabo el análisis propuesto se utiliza una muestra compuesta de casi 800 empresas obtenidas de la base de datos SABI²⁸ que solicitaron el concurso de acreedores, durante el período 2004-2014, pertenecientes a todos los sectores económicos. Los resultados señalan que más de la mitad de los informes analizados no contienen ninguna salvedad ni párrafo de énfasis. Asimismo, predominan las salvedades sobre los

²⁶ Las sociedades están obligadas a auditar sus cuentas anuales. Conforme al artículo 263.2 del Texto Refundido de la Ley de Sociedades de Capital (TRLSC), sólo se exceptúa de esta obligación a las que cumplan dos de las circunstancias siguientes durante dos ejercicios consecutivos: que su activo no supere los dos millones ochocientos cincuenta mil euros, el importe neto de su cifra anual de negocios no supere los cinco millones setecientos mil euros y su número medio de empleados no sea superior a cincuenta.

²⁷ En el contexto de este trabajo, el término ‘salvedades’ se refiere a la totalidad de mensajes recogidos tanto en los párrafos de énfasis como en los párrafos de salvedades, cuya definición se expone más adelante.

²⁸ Base de datos cuyas siglas significan “Sistema de Análisis de Balances Ibéricos”.

párrafos de énfasis. Además, del total de informes que incluyen algún comentario –párrafo de énfasis o salvedad–, un 40% apunta dudas sobre su viabilidad y un 20% ya mencionan la declaración de solicitud del concurso voluntario. No obstante, con la entrada en vigor de la nueva Ley de Auditoría de Cuentas en julio de 2015²⁹, se espera que estas advertencias se incrementen en los próximos años, ya que el texto legal precisa que el auditor deberá hacer mención obligada al riesgo financiero cuando existan dudas significativas sobre la gestión continuada de la entidad auditada.

La principal contribución de este trabajo es el desarrollo de una clasificación pormenorizada de las salvedades de auditoría de empresas concursadas, en el año inmediatamente anterior a la solicitud del procedimiento legal concursal. Si bien existe una amplia literatura referente al uso de la auditoría en el pronóstico del fracaso empresarial, no tenemos constancia de que se haya realizado hasta ahora una clasificación detallada de salvedades en empresas concursadas, por lo que este artículo representa una importante contribución en el uso de la información de auditoría en empresas que atraviesan problemas de viabilidad.

²⁹ Ley 22/2015, de 20 de julio, de Auditoría de Cuentas.

II. REVISIÓN DE CLASIFICACIONES DE SALVEDADES DE AUDITORÍA EN ESTUDIOS PREVIOS

El informe de auditoría es una herramienta de información que ha sido utilizado en distintas ramas de investigación y con diferentes propósitos. Por ejemplo, existe literatura previa que incorpora la información de auditoría externa al pronóstico del fracaso empresarial (Peel y Peel, 1987; Altman, Sabato y Wilson, 2010). La mayoría de estos estudios incluyen únicamente el tipo de opinión de auditoría, esto es, si se trata de un informe favorable, con salvedades, desfavorable o denegado (Kim, Kim y McNiel, 2008). Otros trabajos analizan si los informes mencionan o no dudas sobre la gestión continuada o ‘going concern’ (GC), sobre todo en el contexto de Estados Unidos (Piñeiro-Sánchez, De Llano-Monelos y Rodríguez-López, 2012).

En lo referente al contenido del informe de auditoría, hemos encontrado estudios que han utilizado las observaciones de los auditores en sus informes con finalidades diferentes. Los primeros trabajos que hicieron uso del contenido de las salvedades contrastaron los efectos del informe de auditoría con opinión calificada en distintos mercados de valores (Firth, 1978; Ball, Walker y Whittred, 1979; Elliott, 1982; Del Brío-González, 1998). Posteriormente, otros trabajos han argumentado las decisiones de financiación en base a varias tipologías de salvedades (Firth, 1980; Duréndez Gómez-Guillamón, 2003). También se ha tratado de pronosticar la emisión de diversas salvedades (Dopuch, Holthausen y Leftwich, 1987; Monroe y Teh, 1993) o si éstas afectan a la manipulación de resultados (Herbohn y Ragnathan, 2008). Estudios recientes comparan las salvedades de los informes de auditoría con características específicas tanto de la empresa auditada (Ruiz-Barbadillo, Gómez-Aguilar y Aguilar-Contreras, 2002) como del propio auditor, tales como el tamaño (Arnedo-Ajona, Lizarraga-Dallo y Sánchez Alegría, 2008), el retraso en la emisión del informe de auditoría o el cambio de auditor (Sánchez-Segura, 2000; 2003)³⁰. Estos dos últimos estudios contienen la

³⁰ En ambos estudios (Sánchez-Segura 2000 y 2003) el término ‘salvedad’ alude a cualquier información, incluida por el auditor en su informe, que implique discrepancias con las cuentas anuales formuladas por la compañía auditada.

clasificación más completa del contenido de las salvedades que hemos encontrado. Utilizando la información de auditoría de grandes empresas españolas entre 1991 y 1995 que presentaron su información contable y de auditoría en la Comisión Nacional del Mercado de Valores (CNMV), Sánchez-Segura tipifica las salvedades en función de su gravedad, distinguiendo cuatro niveles: muy graves (gestión continuada, opiniones adversas y denegadas), graves (incumplimientos relacionados con inventarios, cuentas a cobrar, provisiones, activos por impuestos diferidos, ingresos y gastos), moderadas (salvedades que afectan al principio de uniformidad) y leves (omisión de información en la memoria, revalorizaciones de activos y exceso de provisiones y amortizaciones). Sin embargo, no se centra en clasificar salvedades emitidas a empresas con problemas de viabilidad, ni en analizar si en dichas situaciones la auditoría externa manifiesta dudas sobre la continuidad empresarial.

III. CLASIFICACIÓN DE SALVEDADES DE AUDITORÍA DE EMPRESAS EN CONCURSO DE ACREEDORES

1. Muestra de compañías

Para realizar la clasificación de salvedades propuesta disponemos de una amplia muestra compuesta por 795 sociedades españolas que entraron en concurso de acreedores entre los años 2004 y 2014, sociedades no financieras y auditadas, con información contable y de auditoría disponible en la base de datos SABI. Para su obtención se realizó una búsqueda en SABI a finales de enero de 2015. Después de las necesarias eliminaciones –280 empresas que no aparecían en el Registro Público Concursal³¹ y 746 sociedades que no contenían suficiente información contable y de auditoría–, la muestra final está formada por 795 compañías³². Como características principales, se trata de empresas con experiencia –su edad media es de 22 años y su desviación típica de 12– y de tamaño mediano –su activo total del año anterior al concurso asciende a 50 millones de euros, con una desviación típica de 201 millones–. Todas son sociedades no cotizadas, a excepción de 4 de ellas que cotizaban en bolsa a principios del año 2015.

³¹ Se trata de una herramienta gestionada por el Colegio de Registradores de la Propiedad, Mercantiles y de Bienes Muebles de España que recoge las diferentes resoluciones judiciales de cada deudor concursado. Se puede consultar en: www.publicidadconcursal.es.

³² La base de datos SABI no recoge los informes de auditoría completos sino solamente algún párrafo o párrafos de los mismos, disponible en el campo “Opinión auditor”, que contiene un máximo de 991 caracteres. El contenido de dicho campo, que es el utilizado en nuestro trabajo, incluye generalmente los párrafos de énfasis y/o de salvedades que figuran en el informe de auditoría. La limitación en el número de caracteres y en la extensión del texto tabulado, impuesta por la configuración de la base de datos, puede suponer que en ocasiones no se disponga de la redacción completa de aquellos párrafos o incluso que alguno se haya omitido en su totalidad. En los casos en que aquel campo de la base de datos aparece vacío interpretamos que el informe del auditor recogía una opinión favorable o no calificada. Es posible, asimismo, que en la muestra existan empresas con informes calificados o no favorables en los cuales, por error u omisión de la base de datos, los párrafos de énfasis o de salvedades no estén disponibles.

2. Clasificación de salvedades

A partir de nuestra muestra, hemos desarrollado la siguiente clasificación del contenido de los informes de auditoría en tres grandes bloques o agrupaciones primarias (A, B y C) y veinte ítems repartidos en ellas, como se muestra en la Tabla 2.1. Es importante destacar que ninguno de los veinte ítems de la clasificación es, a priori, excluyente del resto. Es decir, que la información de auditoría de cada empresa utilizada puede contener observaciones referidas a varios de estos ítems, incluso dentro de cada uno de los bloques, puesto que en el informe de auditoría pueden figurar uno o más párrafos de énfasis y uno o más párrafos de salvedades que, normalmente, aludirán a una o más partidas contables de las que figuran en el bloque B y a alguna o algunas de las circunstancias que se relacionan en el bloque C.

Tabla 2.1. Clasificación de las salvedades

<p><i>Bloque A:</i> <i>Tipos de párrafos utilizados</i></p>	<ol style="list-style-type: none"> 1. Párrafos de énfasis 2. Párrafos de salvedades por limitación al alcance 3. Párrafos de salvedades por incumplimiento de principios y criterios contables
<p><i>Bloque B:</i> <i>Partidas contables afectadas</i></p>	<ol style="list-style-type: none"> 4. Inmovilizado material e intangible 5. Inmovilizado financiero 6. Inmovilizado - Activos por impuestos diferidos 7. Activo corriente - Existencias 8. Activo corriente - Créditos a corto plazo y tesorería 9. Pasivo - Deudas 10. Pasivo - Contingencias 11. Resultado del ejercicio 12. Pérdidas acumuladas 13. Omisión de información
<p><i>Bloque C:</i> <i>Otras circunstancias señaladas por el auditor</i></p>	<ol style="list-style-type: none"> 14. Fondo de maniobra negativo 15. Hechos posteriores al cierre 16. Efectos normativos 17. Coyuntura económica 18. Plan de negocio 19. Incertidumbre sobre viabilidad 20. Concurso de acreedores

3. Explicación de la clasificación de salvedades

En este epígrafe se incluye la definición o significado de cada ítem de la clasificación.

Bloque A: Tipos de párrafos utilizados

En función del tipo de observación que el auditor comunica en su informe, utilizará uno de estos tres tipos de párrafos: énfasis, salvedad por limitación al alcance o salvedad por incumplimiento de principios y criterios contables. A continuación se describe el cometido de cada uno de estos párrafos.

1. Párrafo de énfasis. La Norma Internacional de Auditoría 706 (NIA 706) “Párrafos de énfasis y párrafos sobre otras cuestiones en el informe emitido por un auditor independiente”, norma que ha sido adaptada para su aplicación en España mediante Resolución del Instituto de Contabilidad y Auditoría de Cuentas, de 15 de octubre de 2013 (NIA-ES 706), contiene la siguiente definición de párrafo de énfasis: «un párrafo incluido en el informe de auditoría que se refiere a una cuestión presentada o revelada de forma adecuada en los estados financieros y que, a juicio del auditor, es de tal importancia que resulta fundamental para que los usuarios comprendan los estados financieros». La existencia de párrafos de énfasis en un informe no modifica la opinión del auditor, es decir, pueden existir párrafos de énfasis en cualquier tipo de informe de auditoría (informes favorables o informes con opinión modificada), ya que simplemente representan llamadas de atención del auditor a los lectores del informe. En consecuencia, este tipo de párrafo lo utiliza el auditor para destacar algún aspecto que juzga muy relevante y que ya está adecuadamente reflejado en la información preparada por la entidad auditada. Por ejemplo, la existencia de una cifra importante de pérdidas o si se ha producido la solicitud voluntaria de concurso.
2. Párrafos de salvedades por limitación al alcance. La NIA 705 “Opinión modificada en el informe emitido por un auditor independiente”, adaptada para su aplicación en España mediante Resolución del Instituto de Contabilidad y Auditoría de Cuentas, de 15 de octubre de 2013 (NIA-ES 705), indica que el auditor expresará una opinión modificada cuando los

estados financieros presenten: (a) incorrecciones materiales; o (b) cuando el auditor no pueda obtener evidencia para concluir que los estados financieros están libres de incorrección material. Por otra parte, la NIA 705 establece tres tipos de opinión modificada: con salvedades, desfavorable (o adversa) y denegación (o abstención) de opinión. La decisión sobre el tipo de opinión modificada depende del hecho que origina la opinión (que se trate de una incorrección material o de la imposibilidad de verificar la inexistencia de incorrección) y del juicio del auditor sobre el grado de materialidad y generalización de sus efectos en los estados financieros. Por lo tanto, frente a la normativa española anterior, las Normas Internacionales de Auditoría contienen un mayor grado de detalle a la hora de exigir al auditor responsabilidades sobre el tipo de opinión que emita. No obstante, las Normas Internacionales de Auditoría no recogen una clasificación explícita de la tipología de salvedades. Para ello, es necesario consultar la normativa española anterior, resumida en la Resolución de 19 de enero de 1991, del Instituto de Contabilidad y Auditoría de Cuentas, por la que se publican las Normas Técnicas de Auditoría, por ser ésta la normativa vigente durante los años disponibles en la muestra tratada. Nos basamos en ella para clasificar los párrafos de salvedades en las dos categorías que establece: párrafos de salvedades por limitación al alcance y párrafos de salvedades por incumplimiento de principios y criterios contables. El auditor utiliza este recurso para informar de la concurrencia de situaciones que le han impedido aplicar los procedimientos requeridos por la normativa u otros adicionales necesarios, a juicio del propio auditor. Por ejemplo, la imposibilidad de presenciar la toma de inventarios debido a la fecha de contratación de la auditoría.

3. Párrafos de salvedades por incumplimiento de principios y criterios contables. A través de esta segunda tipología de salvedades, el auditor deja constancia en su informe de la existencia de errores e incumplimientos materiales del marco normativo aplicable, así como la omisión de informaciones obligatorias. Ejemplos de ello son la existencia de activos por impuestos

diferidos de muy difícil recuperación, deficiente dotación de provisiones y deterioros o la omisión de pasivos contingentes.

Bloque B: Partidas contables afectadas

En este bloque se recoge una clasificación de las partidas contables señaladas por el auditor en los párrafos anteriores. Como en muchas ocasiones estas observaciones afectan a dos partidas –una de balance y otra de resultados–, para evitar duplicidades se ha optado por señalar la partida explícitamente indicada por el auditor, que es en la mayoría de los casos la partida de balance. El contenido de los diez ítems establecidos se explica a continuación.

4. Inmovilizado material e intangible. Discrepancias apuntadas por el auditor en relación con el reconocimiento y valoración (amortización, deterioros, etc.) de los elementos patrimoniales incluidos en esta partida.
5. Inmovilizado financiero. Observaciones referidas a las inversiones financieras a largo plazo, siendo los reparos más frecuentes los referidos a las participaciones en el capital de las sociedades vinculadas (empresas del grupo, multigrupo y asociadas).
6. Inmovilizado – Activos por impuestos diferidos. Cuando el auditor, de acuerdo con la normativa fiscal, considera muy improbable que la empresa llegue a recuperar los créditos reconocidos por este concepto.
7. Activo circulante – Existencias. Cuando el auditor ha obtenido evidencia sobre la incorrecta valoración de esta partida, por no haberse contabilizado su deterioro por un importe adecuado o si manifiesta que, por el motivo que fuere, no pudo presenciar la toma de inventarios.
8. Activo corriente – Créditos a corto plazo y tesorería. Discrepancias comunicadas por el auditor en relación con los créditos a corto plazo –de naturaleza comercial o financiera–, las inversiones financieras temporales o la tesorería.
9. Pasivo – Deudas. Observaciones del auditor referidas a cualquiera de las partidas representativas del endeudamiento de la entidad auditada, excluidos los pasivos contingentes.

10. Pasivo – Contingencias. Cuando en el informe de auditoría se informa de la existencia de circunstancias que, previsiblemente, originarán en el futuro obligaciones de pago para la entidad auditada.
11. Resultado del ejercicio. Observaciones referidas a los ingresos y gastos del ejercicio (en cuanto a su valoración, reconocimiento y periodificación) o directamente a la cifra de resultados.
12. Pérdidas acumuladas. Cuando el auditor señala la existencia de pérdidas significativas, con origen en el ejercicio actual y/o en ejercicios anteriores, y tanto si tales pérdidas obligan a reducir capital o a disolver la sociedad como si no acarrearán estas exigencias legales.
13. Omisión de información. Si el auditor manifiesta que la entidad auditada ha omitido informaciones, tanto financieras como no financieras, requeridas por la normativa contable vigente.

Bloque C: Otras circunstancias señaladas por el auditor

En esta última agrupación figuran un conjunto de situaciones o circunstancias, de carácter general, que pueden igualmente ser señaladas por el auditor en párrafos de énfasis o en párrafos de salvedades. Pueden darse simultáneamente a las variables consideradas en el apartado B, ya que en algunos casos guardan una estrecha relación con ellas –como la existencia de un fondo de maniobra negativo–, y en otros son acciones emprendidas para intentar sanear las cuentas –la aprobación de un plan de negocio o la solicitud de concurso voluntario de acreedores– o factores externos que afectan a la compañía, como cambios regulatorios o de coyuntura económica.

14. Fondo de maniobra negativo. Si el auditor menciona que la sociedad presenta un fondo de maniobra con signo negativo, es decir, cuando su pasivo corriente –obligaciones de pago con un vencimiento a corto plazo– supera a su activo corriente –derechos de cobro a corto plazo–, advirtiendo de un claro indicio de dificultades en el desempeño de la actividad ordinaria y en la liquidez.

15. Hechos posteriores al cierre. Cuando el auditor recoge en su informe la existencia de hechos significativos acaecidos después de la fecha de cierre del ejercicio, aunque no afecten a las cuentas anuales auditadas, tales como notificaciones de procedimientos judiciales o variaciones relevantes en determinadas partidas contables con posterioridad al cierre.
16. Efectos normativos. Cuando el auditor informa de cambios normativos que han podido afectar a las cuentas auditadas o que pueden afectar significativamente en el futuro al sector económico en el que la empresa desempeña su actividad. Ejemplos: restricciones aduaneras, modificación en los términos de una concesión administrativa, tramitaciones de expedientes de regulación de empleo, etc.
17. Coyuntura económica. Menciones del auditor al comportamiento negativo de la coyuntura económica general y/o del sector en el que opera la entidad auditada (crisis financiera global, caída del consumo, etc.) y sus previsibles consecuencias sobre los resultados y posición financiera de la empresa.
18. Plan de negocio. Si el auditor comunica acciones emprendidas por la empresa para solventar algún problema de viabilidad del negocio. Con estas actuaciones la empresa intenta solucionar situaciones complicadas o enfrentarse a incertidumbres que puedan comprometer su continuidad.
19. Incertidumbre sobre viabilidad. Esta mención en el informe de auditoría indica la existencia de un cúmulo de circunstancias que afectan a la viabilidad del negocio, esto es, el auditor advierte de la quiebra del principio de empresa en funcionamiento o “going concern”. Esta observación puede figurar en un párrafo de énfasis (si la sociedad ha valorado su patrimonio utilizando criterios de liquidación, ante la imposibilidad de continuar operando normalmente) o en un párrafo de salvedad por incumplimiento de criterios y principios contables (cuando la empresa ha utilizado criterios de valoración acordes con el principio de empresa en funcionamiento en una situación de inviabilidad).

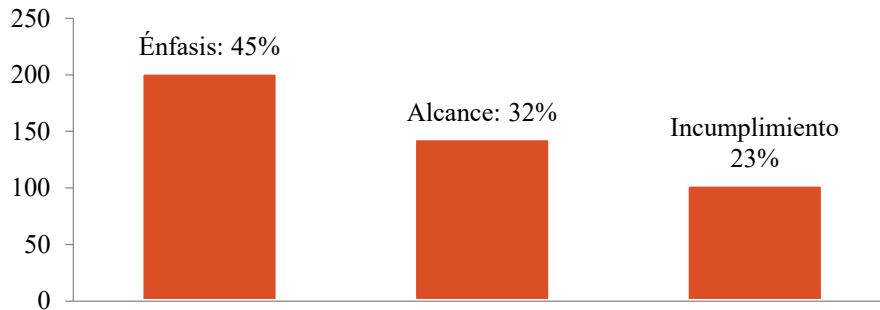
20. Concurso de acreedores. En los informes de auditoría analizados, referidos a los estados financieros correspondientes al año anterior a la entrada en concurso, el auditor comunica en ocasiones –generalmente a través de un párrafo de énfasis– que se ha solicitado la declaración de concurso voluntario presentada por la sociedad o el grupo al que ésta pertenece. En este ítem figuran todos los casos en los que el auditor menciona que la sociedad se encuentra inmersa en cualquier fase del proceso concursal.

IV. RESULTADOS DEL ANÁLISIS DE SALVEDADE DE AUDITORÍA DE EMPRESAS EN CONCURSO DE ACREEDORES

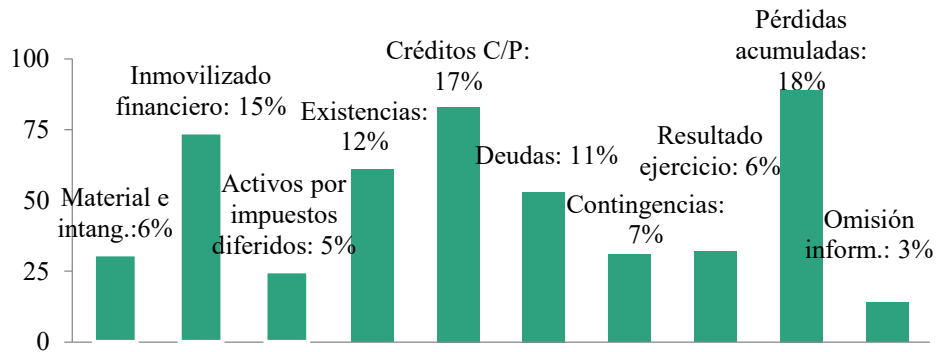
En la Figura 2.1 se ilustra la frecuencia de las partidas o ítems de nuestra clasificación, divididas en cada uno de los Bloques (A, B y C).

Figura 2.1. Frecuencia de cada tipología de salvedades de la clasificación

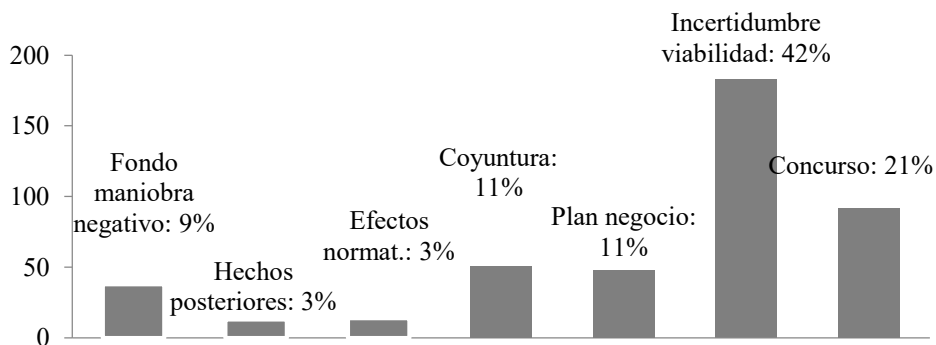
Bloque A



Bloque B



Bloque C



En el 44% de las compañías de la muestra –esto es, en 349 de los 795 informes– se incluyó algún párrafo de énfasis o salvedades. Como se muestra en la clasificación del Bloque A, en ellos se emitieron 449 mensajes –en ocasiones varios en un mismo informe–, utilizando párrafos de énfasis en 202 ocasiones y salvedades en 247 (144 por alcance y 103 por incumplimiento de principios contables). Ello indica que en un alto porcentaje (56% o 446 informes) el auditor no hizo ninguna llamada de atención pese a estar la compañía en un estadio cercano a la situación concursal, dato que deja entrever la utilidad parcial del informe en la evaluación de advertencias sobre viabilidad.

En los datos del Bloque B, que indican que los auditores aludieron a partidas contables concretas en 493 ocasiones, las advertencias más repetidas se refieren a resultados negativos de ejercicios anteriores o pérdidas acumuladas, créditos a corto plazo y dificultades de tesorería, inmovilizado financiero –en su mayoría participaciones en empresas vinculadas–, así como discrepancias relacionadas con la valoración de existencias y con el endeudamiento de las compañías.

Las cifras del Bloque C apuntan que se hicieron 439 referencias en los informes de auditoría sobre hechos de carácter genérico que afectaban a las empresas de la muestra. La circunstancia genérica más frecuente es la existencia de dudas sobre viabilidad, observación repetida en 183 ocasiones o, lo que es lo mismo, en el 42% de las salvedades del Bloque C. Sin embargo, aunque relevante, bien es cierto que parece razonable cuestionar si la cifra es suficiente porque sólo representa un 23% del total de empresas de la muestra. Al tratarse de una muestra de sociedades inmersas en problemas de viabilidad, quizás los auditores deberían informar en un número más elevado de ocasiones de esta grave situación de liquidez y/o de insolvencia, que puede derivar en una inmediata solicitud del concurso de acreedores. Sin embargo, con la entrada en vigor de la nueva Ley de Auditoría de Cuentas en julio de 2015 se espera que estas advertencias se incrementen en los próximos años, ya que se especifica que el auditor deberá hacer mención obligada al riesgo financiero siempre que los hechos supongan –y citamos textualmente el contenido del texto legal– “posibles incertidumbres significativas o materiales relacionadas con hechos o condiciones que pudieran suscitar dudas

significativas sobre la capacidad de la entidad auditada para continuar como empresa en funcionamiento” (Del Puerto-Cabrera y Sánchez-Serrano, 2015).

La segunda circunstancia más apuntada recalca que la empresa se encuentra en una fase concursal inicial, lo que sucede en el 21% de comentarios del Bloque C. Se presenta casi siempre mediante un párrafo de énfasis y es un dato aparentemente bajo tratándose de sociedades que en el ejercicio siguiente van a caer en concurso y para las que los informes de auditoría se suelen publicar entrado ya dicho ejercicio.

V. CONSIDERACIONES FINALES

El impacto de la crisis económica mundial que lleva azotando a España desde mediados del año 2007 y, en mayor medida, al sector inmobiliario y de la construcción, ha provocado un espectacular incremento en los concursos de acreedores en los últimos años. Según datos del Instituto Nacional de Estadística (INE), las solicitudes, desde la entrada en vigor de la actual LC, han pasado de 927 concursos en 2005 hasta 6.564 en el año 2014³³. En esta situación, el presente trabajo resulta de especial interés y actualidad porque permite obtener evidencia de una herramienta que debería ser de utilidad en la toma de decisiones relacionadas con empresas con problemas de viabilidad o en las primeras fases del concurso: el informe de auditoría.

Este estudio reflexiona sobre el papel del informe de auditoría en la detección de problemas de viabilidad, a través del análisis del contenido de los informes de auditoría del año anterior a la entrada en concurso –en concreto, sus párrafos de énfasis y salvedades–. Se concluye que únicamente la mitad de los informes incluye algún tipo de advertencia de los auditores tanto sobre valoración o contabilización incorrecta de partidas contables como de otras circunstancias estrechamente relacionadas con la viabilidad, siendo las salvedades algo más frecuentes que los párrafos de énfasis. Del total de advertencias, aproximadamente el 40% alertan sobre la existencia de dudas sobre la continuidad de la empresa auditada y el 20% informa de que ya se ha producido la solicitud de concurso voluntario. Sin embargo, estas cifras representan un peso bajo en la muestra total, poniendo de manifiesto que el auditor debería haber informado del riesgo financiero que existiera, a su juicio, aun cuando no se hubiese producido una insolvencia definitiva. Se espera que en los próximos ejercicios, las dudas sobre viabilidad sean más comunes en los informes, ya que con la reciente entrada en vigor de la nueva Ley de Auditoría de Cuentas se ha convertido en un requerimiento obligatorio el hacer mención expresa al riesgo financiero que pueda ocasionar dudas sobre la capacidad de la compañía para continuar como empresa en funcionamiento.

³³ Datos obtenidos de la Estadística del Procedimiento Concursal elaborada por el INE.

Concluimos que el informe de auditoría del ejercicio previo a la solicitud del concurso de acreedores representa una herramienta útil para los interesados tanto en evaluar la viabilidad de la empresa con dificultades como para los interesados en la resolución del proceso concursal. Los mensajes comunicados en los párrafos de énfasis y salvedades pueden resultar relevantes para los acreedores comerciales y bancarios del deudor concursado en su toma de decisiones crediticias, de reestructuración de deudas, en los acuerdos de quitas y esperas o en la concesión de nueva financiación. El administrador concursal y el juez de lo mercantil pueden también utilizar el informe para esclarecer cuestiones sobre los estados financieros del concursado, tanto cuando se produce la liquidación de la entidad como cuando se consigue su refluación.

CAPÍTULO 3:

**CONTENIDO DEL INFORME DE AUDITORÍA EN EL AÑO PREVIO A LA DECLARACIÓN
DEL CONCURSO DE ACREEDORES. CONTRASTE EMPÍRICO PARA EL CASO ESPAÑOL**

Resumen

Este trabajo analiza empíricamente el contenido del informe de auditoría de empresas concursadas correspondiente al año anterior al concurso de acreedores, con un doble objetivo: proponer una clasificación de dicho contenido y estudiar la existencia de diferencias en los informes en función de características del auditor y de la firma auditada. Utilizando una muestra de deudores españoles concursados en el período 2004-2014, los resultados revelan que el 13% de los informes son *limpios* o no incluyen ningún comentario del auditor, y que son más frecuentes las salvedades que los párrafos de énfasis. Un 23% de las advertencias emitidas informan sobre la declaración concursal y un 45% alertan sobre dudas a la gestión continuada. Asimismo, existen diferencias en función del tamaño del auditor, del sector y la situación financiera de la concursada, del trimestre en que se dicte el auto de declaración y de la resolución, mientras que el contenido es independiente del cambio de auditor. Nuestros resultados avalan la utilidad del informe en el pronóstico del riesgo empresarial, utilidad que se verá incrementada con la nueva Ley de Auditoría de Cuentas y su requerimiento de hacer mención expresa del riesgo financiero en caso de dudas a la gestión continuada.

Palabras clave: concurso de acreedores, informe de auditoría, párrafos de énfasis, salvedades, gestión continuada.

Clasificación JEL: G33, M42

Abstract

This paper analyses empirically the content of the audit report of financially distressed firms in the year prior to bankruptcy filing, with a double purpose: to propose a classification of the content of audit reports and to examine the differences on the document depending on several features of the auditor and the audited firm. Using a sample of Spanish financially distressed companies from 2004 to 2014, results show that 13% are *clean* reports or reports that do not contain any disclosures, and qualifications are more frequent than matter paragraphs. 23% of paragraphs inform about filing for insolvency legal proceedings and 45% are related to going concern uncertainties. Additionally, there is evidence of significant differences in the content of the audit report depending on auditor size, industry and financial condition of the audited firm, the quarter on which the court order is imposed and the resolution of the bankruptcy procedure, whereas comments are independent from a change in auditor. Our evidence suggests the usefulness of the audit report in predicting financial distress risk, and this usefulness will be incremented due to the implementation of the new Audit Law in Spain, as it requires mentioning any financial risks when going concern uncertainties may exist.

Keywords: bankruptcy filing, audit report, emphasis of matter paragraphs, qualifications, going concern.

JEL classification: G33, M42

I. INTRODUCCIÓN

El papel de la auditoría externa ha vuelto a cuestionarse recientemente con motivo de varios casos de empresas que se han visto obligadas a solicitar el concurso de acreedores y para las que sus auditores no dieron señal alguna de problemas de viabilidad en sus informes de auditoría de los ejercicios previos (Martínez Pina, 2015). Éste ha sido el caso de Pescanova o Gowex, en España, o el de Toshiba, en el ámbito internacional, entre otros. Para intentar evitar esos problemas, la Unión Europea (UE) reformó su normativa sobre auditoría externa (Directiva 2014/56/UE) aumentando los requerimientos del informe de auditoría, regulación a la que se están adaptando todos sus estados miembros. Tal es el caso de España, con la publicación de la Ley 22/2015, de 20 de julio, de Auditoría de Cuentas. Uno de los requerimientos del informe de auditoría que indica esta ley es que el auditor haga mención expresa al riesgo financiero que pueda ocasionar dudas sobre la capacidad de la compañía para continuar como empresa en funcionamiento. Nuestro trabajo pretende aportar evidencia empírica sobre esta cuestión.

Los problemas de viabilidad empresarial o de insolvencia se manifiestan cuando una compañía no puede atender sus obligaciones de pago, hecho que suele ser el corolario de un proceso de acumulación progresiva de pérdidas. Desde mediados del año 2007 estas situaciones han aumentado considerablemente debido a la crisis económica mundial, lo que ha supuesto no solo perjuicios económicos a los propietarios de los negocios y a sus acreedores, sino también elevados costes sociales (Wu, 2010).

El concurso de acreedores es el mecanismo legal de resolución de conflictos sobre continuidad empresarial y está regulado en España por la Ley 22/2003, de 9 de julio, Concursal (en adelante, LC), en vigor a partir del 1 de septiembre de 2004. Según datos del Instituto Nacional de Estadística (INE), las solicitudes de concursos de acreedores han aumentado de 1.001 concursos en 2005 hasta 5.510 en

el año 2015³⁴. En España, el concurso de acreedores es un procedimiento legal único que exige tres requisitos. En primer lugar, el establecimiento del sujeto concursal, pudiendo ser cualquier persona física y/o jurídica, a excepción de las entidades que integran la organización territorial del Estado. En segundo lugar, el deudor debe ser insolvente, que según la LC es “el deudor que no puede cumplir regularmente sus obligaciones exigibles”. Por último, el requisito procesal se materializa en la resolución judicial llamada “auto”. Dicho auto abre la “fase común”, cuyo objeto es analizar la situación empresarial, con la colaboración de la administración concursal. Una vez que la administración concursal emite su informe y transcurre el período previsto para su impugnación, finaliza la fase común y se abre la fase de convenio – en caso de continuidad de la empresa – o la fase de liquidación, si no se alcanza ningún convenio o en caso de incumplimiento del convenio aprobado. Pese a las sucesivas reformas de la LC para mejorar su eficiencia, el proceso legal español se considera muy largo y costoso, y menos del 10% de los deudores concursados consiguen sobrevivir (Van Hemmen Almazor, 2015), por tratarse de una legislación caracterizada por un alto grado de protección de los acreedores (Aguiar-Díaz y Ruiz-Mallorquí, 2013), tal como sucede en otros países (Kuruppu, Laswad, y Oyelere, 2003). Esto incentiva a intentar evitar el mecanismo legal a todo interesado en la supervivencia de la compañía concursada, pronosticando con tiempo una posible situación de insolvencia.

En la literatura académica, se han llevado a cabo multitud de estudios sobre la predicción del riesgo de insolvencia empresarial (Balcaen y Ooghe, 2006; Bellovary, Giacomino, y Akers, 2007; Kumar y Ravi, 2007; Pastor Vega, 2015). Desde los modelos pioneros de Beaver y Altman en los años 60, que utilizan ratios financieros en su pronóstico (Altman, 1968; Beaver, 1966), la mayoría de los estudios hacen uso de la información contable para la predicción (Altman, Iwanicz-Drozdowska, Laitinen, y Suvas, 2016; Baldwin y Glezen, 1992). Al objeto de mejorar su diagnóstico, algunos autores añaden otras variables a la información financiera: información macroeconómica (Hernández-Tinoco y

³⁴ Datos extraídos de la Estadística del Procedimiento Concursal del INE (última consulta en julio de 2016): <http://www.ine.es/jaxiT3/Datos.htm?t=2992>.

Wilson, 2013), datos de mercado (Hillegeist, Keating, Cram, y Lundstedt, 2004; Shumway, 2001), así como otras variables no financieras (Altman, Iwanicz-Drozowska, Laitinen, y Suvas, 2015; Laitinen, 2013; Lussier, 1995). Por ejemplo, destaca un estudio actual sobre predicción de quiebra analizando el uso del lenguaje y la opinión de los gestores en el informe de gestión de empresas americanas (Formulario 10-K)³⁵ (Mayew, Sethuraman y Venkatachalam, 2015). Existen también trabajos – comparativamente en un número muy inferior a los basados en ratios financieros – que utilizan la información de auditoría como predictora de la insolvencia (Altman, Sabato, y Wilson, 2010; Laitinen y Laitinen, 2009a; 2009b; Piñeiro-Sánchez, De Llano-Monelos, y Rodríguez-López, 2012; 2013). Pese a todo, un amplio estudio internacional publicado recientemente ha venido a constatar que la mayoría de modelos de predicción siguen basándose en información contable procedente de los estados financieros (Altman et al., 2016).

Considerando que la función del auditor externo es fundamental, puesto que una información financiera sin auditar carece de credibilidad y que la auditoría incrementa la fiabilidad de los estados financieros³⁶, parece razonable esperar que los informes de auditoría de las empresas concursadas en los años previos a la entrada en concurso debieran recoger señales advirtiendo de problemas de viabilidad. Korol (2013) apunta que los primeros indicios de insolvencia pueden observarse cinco o seis años antes de que la quiebra se haga efectiva, por lo que los auditores deberían avisar sobre los problemas de continuidad que amenazan a la compañía y mencionarlos en sus informes, al menos el año anterior a su entrada en el concurso de acreedores.

³⁵ El Formulario 10-K es un informe financiero anual que las empresas estadounidenses cotizadas están obligadas a presentar.

³⁶ La auditoría externa consiste en la verificación de los estados financieros de una sociedad por parte de expertos independientes, quienes expresan su opinión sobre la razonabilidad de los mismos en el informe de auditoría. Todas las sociedades están obligadas a auditar sus cuentas anuales y, en su caso, el informe de gestión, con excepción de las que cumplan dos de las circunstancias siguientes durante dos ejercicios consecutivos: su activo no supere los dos millones ochocientos cincuenta mil euros, el importe neto de su cifra de negocios no supere los cinco millones setecientos mil euros o su número medio de empleados no sea superior a cincuenta (artículo 263.2 del Real Decreto Legislativo 1/2010, de 2 de julio, por el que se aprueba el texto refundido de la Ley de Sociedades de Capital).

En nuestro trabajo analizamos las advertencias de los auditores con anterioridad al concurso de acreedores. Concretamente, el análisis se centra en el *contenido* del informe de auditoría del año previo a la declaración concursal, entendiendo por *contenido* los comentarios incluidos por el auditor en los párrafos de énfasis y salvedades. A través de este estudio empírico, se pretenden alcanzar dos objetivos. En primer lugar, la elaboración de una clasificación del contenido del informe de auditoría en tres categorías. La primera considera (i) los tipos de párrafos utilizados, y las dos categorías restantes el contenido de los mismos, que dividimos en cuanto a (ii) las partidas contables mencionadas por los auditores, y a (iii) otras circunstancias señaladas en el informe. El segundo objetivo consiste en obtener evidencia de la existencia de diferencias significativas en la propensión a emitir distintos comentarios en el informe de auditoría en función del tamaño de la firma de auditoría, del cambio de auditor con anterioridad al concurso, del sector al que pertenece la compañía y de la situación financiera de la auditada.

Partiendo de una muestra inicial de 1.821 empresas concursadas, la muestra final utilizada es de 404 compañías obtenidas de la base de datos SABI (Sistema de Análisis de Balances Ibéricos) que solicitaron el concurso de acreedores en España durante el período 2004-2014. Los resultados señalan que solo un 13% de los informes analizados no contienen ninguna salvedad ni párrafo de énfasis, que son más frecuentes las salvedades que los párrafos de énfasis y que un 45% de los informes apuntan dudas sobre la gestión continuada. Además, existen diferencias significativas en la inclusión de comentarios en el informe en función del tamaño de la firma de auditoría, del sector de la compañía auditada y de su situación financiera. En general, el contenido del informe de auditoría es independiente del cambio de auditor previo a la situación concursal. Pruebas adicionales han determinado que son estadísticamente significativas las diferencias por tamaño de auditor para las empresas que solicitaron el concurso de acreedores después del primer trimestre del año. Asimismo, segregando la muestra por la resolución concursal, las diferencias por tamaño de auditor son estadísticamente significativas en compañías que han alcanzado la liquidación o en los casos en los que el proceso legal sigue abierto. Atendiendo al sector de la empresa auditada, las diferencias se

deben principalmente al sector industrial y al de servicios. Por último, en relación con la situación financiera de la concursada, las diferencias significativas en el contenido del informe de auditoría se producen en comentarios sobre partidas contables a partir del segundo trimestre del año, cuando la compañía ya está inmersa en el proceso legal de insolvencia.

A continuación se enuncian las principales contribuciones de este trabajo. En primer lugar, el desarrollo de una clasificación pormenorizada del contenido del informe de auditoría de empresas concursadas, en el año inmediatamente anterior a la solicitud del concurso de acreedores, ya que no existe una clasificación comúnmente utilizada en la literatura previa. En segundo lugar, el análisis de la relación entre los tipos de comentarios identificados y el tamaño del auditor, la rotación³⁷ del auditor, el sector al que pertenece la empresa auditada y la situación financiera de ésta, previos a la situación concursal. Si bien existe una amplia literatura referente al uso de la auditoría en el pronóstico del fracaso empresarial, no tenemos constancia de que se haya realizado hasta ahora una clasificación detallada del contenido del informe de auditoría en empresas concursadas y un análisis de su impacto en varias características tanto del auditor como de la compañía auditada. Con ello, este artículo pretende contribuir al uso de la información de auditoría para la toma de decisiones sobre empresas con problemas de viabilidad. En tercer lugar, y no por ello menos relevante, se encuentran las implicaciones de este trabajo en el contexto regulatorio. Con los cambios requeridos en el informe de auditoría por la nueva normativa española (Ley 22/2015 de Auditoría de Cuentas), este estudio sirve de ayuda para conocer las observaciones de los auditores en los informes con la normativa anterior en vigor. De esta manera, nuestro estudio puede contribuir a decidir, por parte tanto de organismos regulatorios como de los propios auditores, si los comentarios incluidos en los informes deben ser objeto de modificación, de aumento o si deben mantenerse con la puesta en marcha de la nueva normativa.

³⁷ Los términos “rotación” y “cambio” de auditor se utilizan indistintamente como sinónimos a lo largo de este trabajo.

En relación a la estructura del trabajo, en el siguiente epígrafe se aborda la revisión de la literatura y se plantean las preguntas de investigación. En el epígrafe tercero se presenta la muestra y la metodología para su análisis, y los resultados alcanzados se detallan en el epígrafe cuatro. Por último, las conclusiones del estudio se recogen en el quinto epígrafe.

II. REVISIÓN DE LA LITERATURA Y PREGUNTAS DE INVESTIGACIÓN

La información proporcionada por la auditoría externa ha sido utilizada en la literatura sobre el pronóstico del fracaso empresarial, como complemento al uso de los datos económico-financieros publicados por las empresas (Altman et al., 2016; Altman et al., 2010; Hopwood, McKeown, y Mutchler, 1989; Laitinen y Laitinen, 1998; 2009a; 2009b; Lennox, 1999a; Peel y Peel, 1987; Piñeiro-Sánchez et al., 2012; 2013). La mayoría de estos estudios consideran únicamente el tipo de opinión de auditoría, esto es, si se trata de un informe sin calificar – limpio o favorable – o calificado – con salvedades, desfavorable o denegado – (Kim, Kim, y McNiel, 2008; Laitinen y Laitinen, 1998; McKee, 2003). Algunos trabajos se centran en las opiniones con salvedades y, concretamente, en la salvedad que advierte de dudas sobre la gestión continuada, principio de empresa en funcionamiento o *going concern* (GC), sobre todo en el contexto de Estados Unidos (Piñeiro-Sánchez et al., 2012). En muchas investigaciones esta salvedad es considerada a priori como medida de la independencia y la calidad de la auditoría (Bowler, 2015; Defond y Zhang, 2014) y su emisión ha sido comparada con el pronóstico obtenido utilizando modelos estadísticos de insolvencia (Altman, 1982; Chen y Church, 1992; Hopwood et al., 1989). Los resultados de estos estudios revelan que menos de la mitad de las compañías que se declaran en concurso de acreedores habían recibido previamente una salvedad por GC y que los modelos estadísticos de predicción del fracaso empresarial parecen anticipar esta situación mejor que los auditores (Ruiz-Barbadillo, Gómez-Aguilar, De Fuentes-Barberá, y García-Benau, 2004).

Mientras que la salvedad sobre GC ha sido ampliamente estudiada (Carson, Fargher, Geiger, Lennox, Raghunandan, y Willekens, 2013), en pocas ocasiones se examinan salvedades distintas a esta. Esto puede deberse a la escasez de datos disponibles, ya que la mayoría de estudios anteriores se centran en el contexto estadounidense, contexto donde predominan las salvedades de dudas sobre gestión continuada (Carcello y Palmrose, 1994; Piñeiro-Sánchez et al., 2013). Otro motivo puede ser la ausencia de una clasificación de salvedades generalmente aceptada en la literatura. Aunque existen estudios que clasifican las salvedades y utilizan su contenido con distintos propósitos (Firth, 1978;

Herbohn y Rangunathan, 2008; Sánchez-Segura, 2000), no hemos encontrado una clasificación suficientemente reconocida de las mismas en los estudios previos, de acuerdo a nuestra búsqueda.

A continuación, en la Tabla 3.1 se presentan algunos trabajos relevantes que hacen uso de las salvedades, si bien esta tabla no muestra una revisión exhaustiva de todos los estudios publicados sobre salvedades de auditoría. En nuestra revisión hemos identificado cuatro ramas o líneas de investigación en las que pueden clasificarse estos trabajos de acuerdo al objetivo que persiguen, líneas que además siguen una cronología.

Tabla 3.1. Clasificaciones del contenido del informe de auditoría en la literatura

1ª línea de investigación: Mercado de valores				
Trabajo	Muestra	Contenido del informe	Objetivo	Conclusiones
Firth (1978)	Reino Unido. 1974-1975	- Imagen fiel - GC - Valoración de activos - Valoración de participaciones en vinculadas - Incumplimiento de SSAP - Incumplimiento de SSAP sobre imagen fiel - Salvedades recurrentes	Impacto de salvedades sobre valor de acciones	No relación con rendimiento anormal de inversiones. Solo algunas salvedades influyen en decisiones de inversión.
Ball et al. (1979)	Australia. 1961-1972	- Depreciación de instalaciones - Participaciones en vinculadas - Otros activos - Provisión para dudosos - Provisión para impuestos diferidos - Revalorizaciones - Otras discrepancias y salvedades múltiples	Asociación entre salvedades y precio de acciones	Interacción de algunas con modificaciones de precio. Salvedad sobre depreciación afecta positivamente; salvedad sobre valoración de activos adopta el signo opuesto.
Elliott (1982)	Estados Unidos. 1973-1978	- GC - Capitalizaciones - Litigios - Efecto positivo sobre flujos de caja futuros - Ingresos a devolver en sectores regulados	Salvedades y rendimientos anormales de títulos	El mercado aprende con información disponible previa a la emisión del informe.
Del Brío-González (1998)	España- 1992-1995	- GC - Activos y pasivos - Cifra de beneficios del período - Incertidumbres y contingencias	Impacto de salvedades en precio de acciones	No impacto sobre acciones en la Bolsa de Madrid entre 1992-1995.
2ª línea de investigación: Decisión del inversor				
Trabajo	Muestra	Contenido del informe	Objetivo	Conclusiones
Firth (1980)	Reino Unido	GC, valoración de activos y principios contables	Salvedades y decisiones crediticias	Obtención de financiación reducida ante salvedades sobre GC y valoración de activos.
Duréndez-Gómez-Guillamón (2003)	España	- GC - Principios contables - Asuntos legales - Valoración de activos - Incumplimientos regulatorios - Limitación al alcance - Participaciones en vinculadas	Informes de auditoría y decisiones de inversión y financiación	Opinión del auditor es útil al seleccionar compañías para invertir o financiar.

3ª línea de investigación: Predicción de salvedades				
Trabajo	Muestra	Contenido del informe	Objetivo	Conclusiones
Dopuch et al. (1987)	Estados Unidos. 1969-1980	GC, litigios, valoración de activos y múltiples	Pronóstico de salvedades utilizando información financiera y de mercado	Pronóstico sobre GC es el más exacto. Provisiones por litigios son difíciles de predecir. Información contable contribuye al pronóstico, que mejora con precios de mercado.
Monroe y Teh (1993)	Australia. 1984-1988	GC, valoración de activos, litigios y múltiples	Predicción de salvedades basado en información financiera y de mercado	Exactitud razonable de predicción (72%-90%) a través de un modelo de regresión logística. Emisión de salvedades relacionada con la información pública (financiera y de mercado).
4ª línea de investigación: Información contable y de auditoría				
Trabajo	Muestra	Contenido del informe	Objetivo	Conclusiones
Sánchez-Segura (2000)	España. 1991-1995	Muy graves, graves, moderadas y leves	Retraso del informe y salvedades	El retraso en la emisión aumenta cuanto más grave sea la salvedad.
Sánchez-Segura y Sierra-Molina (2001)	España. 1991-1995	Muy graves, graves, moderadas y leves	Salvedades y características corporativas de la empresa auditada	Pérdidas, resultados extraordinarios negativos, tamaño, sector y auditor son las variables que determinan la recepción de salvedades, siendo las graves las mejor explicadas por ellas.
Ruiz-Barbadillo et al. (2002)	España. 1991-1996	Muy graves, graves, moderadas, evitables y no evitables	Calidad de la información contable a través del informe de auditoría	Diferencias de calidad en función de sector y tamaño de la empresa. Actitud del auditor no influye en salvedades.
Sánchez-Segura (2003)	España. 1991-1995	Muy graves, graves, moderadas y leves	Salvedades y cambios de auditor	Cambios parcialmente asociados con emitir salvedades.
Herbohn y Ragunathan (2008)	Australia. 1999-2003	- Opinión con salvedades, desfavorable o denegada - Párrafos de énfasis	Salvedades y manipulación del resultado	La manipulación de resultados no da lugar a salvedades, aunque existe asociación positiva entre manipulación y salvedades distintas de GC.
Arnedo-Ajona et al. (2008)	España. 1993-2002	GC y valoración de activos	Manipulación del resultado, tamaño del auditor y tipo de opinión	Asociación negativa entre manipulación y GC, y positiva con otras salvedades. Las firmas de mayor tamaño emiten más salvedades sobre GC.
Laitinen y Laitinen (2009b)	Finlandia. 2001-2002	- Opinión favorable - Mención sobre patrimonio y administración - Principios contables - Valoración de partidas del balance - Solicitud de liquidación - Claridad del informe	Fracaso empresarial en función de periodificación, información de auditoría, financiera y no financiera	Los ajustes por periodificación mejoran la predicción del fracaso empresarial a través de información de auditoría.

Continuación de la Tabla 3.1. Fuente: Elaboración propia. En la tabla, las siglas *GC* se refieren a “going concern” y *SSAP* significa “Statements of Standard Accounting Practice”.

Por orden cronológico, hemos denominado *Mercado de valores* a la línea de investigación más antigua, ya que los primeros estudios que hicieron uso de las salvedades contrastaron sus efectos sobre el precio de las acciones (Ball, Walker, y Whittred, 1979; Del Brío-González, 1998; Elliott, 1982; Firth, 1978). De ellos, el trabajo pionero fue realizado por Firth (1978), que estudió el impacto de siete tipos de salvedades sobre el precio de los títulos en la Bolsa de Londres. El efecto de las salvedades sobre la cotización de las acciones en la Bolsa de Madrid fue analizado más tarde por Del Brío-González (1998). La segunda línea de investigación, *Decisión del inversor*, contiene estudios que centran su atención en la toma de decisiones de inversión y financiación considerando varias tipologías de salvedades (Duréndez Gómez-Guillamón, 2003; Firth, 1980).

La tercera rama de investigación o *Predicción de salvedades* incluye trabajos sobre la anticipación del tipo de opinión de auditoría, a partir del uso de datos contables y de mercado (Dopuch, Holthausen, y Leftwich, 1987; Monroe y Teh, 1993). Por último, la cuarta línea de investigación, *Información contable y de auditoría*, engloba los trabajos más recientes centrados en el efecto de las salvedades sobre características corporativas (Sánchez-Segura y Sierra-Molina, 2001), sobre la calidad de la información contable (Ruiz-Barbadillo, Gómez-Aguilar, y Aguilar-Contreras, 2002) o su incidencia sobre la manipulación del resultado (Herbohn y Rangunathan, 2008). En cuanto a la información de auditoría, otros estudios relacionan las salvedades con características específicas del propio auditor, tales como el tamaño (Arnedo-Ajona, Lizarraga-Dallo, y Sánchez-Alegría, 2008), el retraso en la emisión del informe (Sánchez-Segura, 2000) o el cambio de auditor (Sánchez-Segura, 2003). Sánchez-Segura (2000; 2003) y Sánchez-Segura y Sierra-Molina (2001) recogen una clasificación detallada del contenido del informe de auditoría. Utilizando una muestra de 220 grandes empresas españolas que presentaron información contable y de auditoría en la Comisión Nacional del Mercado de Valores entre 1991 y 1995, Sánchez-Segura (2000) tipifica las salvedades en función de su gravedad, distinguiendo cuatro niveles: muy graves (gestión continuada, opiniones adversas y denegadas), graves (incumplimientos relacionados con inventarios, cuentas a cobrar, provisiones, activos por impuestos diferidos, ingresos y gastos), moderadas (salvedades que afectan al principio

de uniformidad) y leves (omisión de información en la memoria, revalorizaciones de activos y exceso de provisiones y amortizaciones). Sin embargo, no contempla una clasificación de las salvedades formuladas únicamente a empresas con serios conflictos de continuidad ni considera si en dichas situaciones el auditor manifiesta dudas sobre la viabilidad empresarial.

En definitiva, no hemos encontrado investigaciones previas focalizadas en el estudio de párrafos de énfasis y salvedades referidos al año anterior a la entrada en concurso de acreedores de compañías con problemas de viabilidad. Por ello, el primer objetivo de este trabajo ha consistido en la identificación del contenido del informe de auditoría del ejercicio previo al concurso y su posterior clasificación. A partir de este cometido, formulamos la primera pregunta de investigación:

Pregunta de investigación 1: ¿Qué tipo de contenido aparece en los informes de auditoría de empresas en el año previo a la solicitud del concurso de acreedores?

Una vez elaborada esta clasificación, que explicamos en detalle en los siguientes epígrafes, nos situamos en la línea de investigación *Información contable y de auditoría* para proponer la segunda pregunta de investigación. Nos planteamos analizar si existe alguna relación entre los comentarios en los informes de auditoría y cuatro factores estructurales: el tamaño de la firma de auditoría, el cambio de auditor, el sector de la compañía auditada y la situación financiera de ésta. Todos estos factores han sido considerados como relevantes a la hora de tratar conflictos de viabilidad empresarial, tanto en estudios previos sobre emisión de salvedades sobre GC como en trabajos relacionados con la utilidad de la información de auditoría en la predicción del fracaso empresarial (Altman et al., 2015; Altman et al., 2010; Carson et al., 2013; Lennox, 1999b). Aunque estos factores han sido analizados por separado, este estudio examina por primera vez los cuatro factores en su conjunto, y lo hace para una muestra de empresas en situación concursal que entraron en el procedimiento legal de insolvencia a lo largo de la crisis económica que comenzó a mediados de 2007.

En relación al tamaño de la firma de auditoría, algunas investigaciones previas confirman que existe una mayor propensión a emitir salvedades por GC en firmas de auditoría de mayor tamaño (Arnedo-

Ajona et al., 2008). El estudio de Arnedo-Ajona et al., (2008) asocia esta mayor propensión a una mayor calidad en la opinión de auditoría, sugiriendo que las auditoras de más tamaño quieren diferenciarse en calidad frente a las pequeñas. En la misma línea, otros autores afirman que las firmas de mayor dimensión se inclinan a emitir opiniones más informativas sobre signos de estrés financiero (Lennox, 1999b). No obstante, la aparición de un elevado número de salvedades emitidas por las firmas de menor tamaño también se justifica en otros estudios porque, entre otros motivos, estos clientes representan un peso importante en la cartera del pequeño auditor (Gómez-Aguilar y Ruiz-Barbadillo, 2000). Esta ausencia de consenso motiva nuestro análisis de los informes de auditoría de empresas en situación concursal y su relación con el tamaño de la firma de auditoría.

Si analizamos los argumentos previos existentes en la literatura, comprobamos que el contenido del informe de auditoría podría provocar algún efecto sobre el cambio de auditor en nuestro estudio³⁸, aunque las conclusiones de trabajos anteriores son dispares. Sánchez-Segura (2000) encuentra una relación parcial entre la emisión de salvedades y la rotación del auditor. Schwartz y Menon (1985) señalan que la propensión a emitir salvedades crece cuanto mayor es el estrés financiero de las compañías. Este comportamiento está relacionado con el concepto de la “compra de opinión”, situación que se produce cuando una empresa, tras recibir un informe con salvedades, tiene incentivos para realizar un cambio voluntario de auditor para obtener en un informe posterior una auditoría limpia (Gómez-Aguilar y Ruiz-Barbadillo, 2000). Eldridge, Kwak, Venkatesh, Shi, y Kou (2012) sugieren que la tendencia a cambiar de auditor depende de datos financieros preocupantes, como la caída de la rentabilidad, el incremento de las pérdidas y el no reparto de dividendos. Sin embargo, Gómez-Aguilar y Ruiz-Barbadillo (2000) alegan que los costes del cambio de auditor pueden, en ocasiones, ser mayores a los de recibir una opinión calificada. Con ello, se respaldaría una reducida

³⁸ En el contexto de este trabajo, un cambio de auditor implica que, en alguno de los cuatro años anteriores al concurso, se ha modificado de tamaño de firma de auditoría, entre las cuatro categorías siguientes: Big4 o las cuatro grandes firmas internacionales de auditoría; *Second-tier* o firmas medianas; resto de firmas de auditoría pequeñas con forma de sociedades mercantiles; o auditores individuales.

rotación de auditores en los años previos a situaciones concursales y que no existiera una asociación entre la propensión a emitir salvedades y el cambio de auditor.

A priori, no parece que debiera encontrarse relación entre el contenido del informe y el sector económico de la auditada. Los primeros trabajos sobre el tema no demostraron que unos sectores fueran más proclives que otros a la hora de recibir advertencias de los auditores (Gosman, 1973), alegando que las posibles diferencias entre sectores se deben al tamaño de las empresas que los componen, siendo las de menor tamaño las que reciben menos comentarios. Otros estudios posteriormente sí que han encontrado diferencias entre dicha característica corporativa y la propensión a emitir salvedades (Maletta y Wright, 1996; Ruiz-Barbadillo et al., 2002; Sánchez-Segura y Sierra-Molina, 2001). Por ejemplo, Ruiz-Barbadillo et al. (2002) indican que las diferencias por sectores se deben a que la naturaleza de cada sector genera riesgos inherentes que soportan los estados financieros y que afectan a la calidad de la información contable. Estos resultados heterogéneos, junto con el hecho de que estos trabajos no se centran en el análisis de empresas muy próximas a la desaparición, son los motivos que nos han llevado a la elección de esta variable.

Por último, continuando con las características específicas de la empresa auditada, nos proponemos estudiar la situación financiera de la concursada y su influencia en el contenido del informe de auditoría. Este objetivo está en línea con evidencia que prueba que las pérdidas, los resultados extraordinarios negativos y la condición financiera de la compañía determinan la recepción de salvedades (Cahyono, 2014; Sánchez-Segura y Sierra-Molina 2001; Schwartz y Menon, 1985; Van Hemmen Almazor, 2015). Schwartz y Menon (1985) afirman que los gestores de una compañía con dificultades económicas pueden intentar retrasar la información contable negativa o diseminar su impacto a través de algún mecanismo contable no permitido que acarree una posterior salvedad de auditoría. En línea con lo anterior, en el estudio posterior de Sánchez-Segura y Sierra-Molina (2001) hallan que el hecho de incurrir en pérdidas es la circunstancia que mejor determina la recepción de cualquier tipo de salvedad, tanto muy serias como de menor gravedad. Por ejemplo, afirman que se trata de una variable decisiva para pronosticar la presencia de una salvedad por GC.

A tenor de lo anteriormente expuesto, la pregunta de investigación relacionada con el segundo objetivo del presente trabajo es la siguiente:

Pregunta de investigación 2: ¿Cuál es la relación entre el contenido del informe de auditoría del año previo a la declaración del concurso de acreedores y (i) el tamaño de la firma de auditoría, (ii) el cambio de auditor, (iii) el sector de la auditada y (iv) su situación financiera?

III. MUESTRA Y METODOLOGÍA

1. Muestra

La muestra final de este estudio se compone de 404 compañías españolas, auditadas y no financieras, todas ellas en situación concursal. En la Tabla 3.2 se representa el proceso de selección de la muestra. Para su obtención, se realizó una búsqueda en la base de datos SABI (Sistema de Análisis de Balances Ibéricos) de compañías españolas en concurso, auditadas y no financieras, a fecha 31 de enero de 2015³⁹. En la estrategia de búsqueda, utilizamos el criterio *estado* seleccionando los que indican *suspensión de pagos, quiebra y concurso*. Para filtrar además por empresas auditadas, combinamos este criterio con el de *consejeros y auditores – opinión de auditor*, eligiendo todas las opiniones y años disponibles. De esta primera búsqueda se obtuvieron un total de 1.821 observaciones. Adicionalmente, buscando por número de identificación fiscal (CIF), se consultó la fecha de entrada en concurso de cada compañía en el Registro Público Concursal (en adelante, RPC), herramienta gestionada por el Colegio de Registradores de la Propiedad, Mercantiles y de Bienes Muebles de España, que contiene las diferentes resoluciones judiciales de cada deudor concursado. Se tuvo que proceder a la eliminación de 280 empresas que no aparecían como concursadas en el RPC. Asimismo hubo que descartar 746 sociedades para las que la base datos SABI no disponía de información contable y de auditoría de ejercicios anteriores al concurso suficiente para su análisis, reduciéndose la muestra a 795 observaciones. La última eliminación consistió en 391 sociedades sin información de auditoría completa del año anterior a la entrada en concurso. Por tanto, la muestra final se compone de 404 observaciones.

³⁹ La información sobre la elección de esta fecha se debe a la reforma de la regulación de la auditoría externa inmediatamente posterior. Para adaptarse a la Directiva 2014/56/UE, se publica en España la Ley 22/2015, de 20 de julio, de Auditoría de Cuentas. Este estudio avala empíricamente la reforma, que parece necesaria a la vista de nuestros resultados.

Tabla 3.2. Proceso de selección de la muestra

Muestra inicial: Compañías españolas concursadas, auditadas y no financieras en SABI	1.821
Menos: (-) Compañías no registradas en RPC	(280)
(-) Compañías sin información financiera y de auditoría en años anteriores al concurso	(746)
(-) Compañías sin información de auditoría en año anterior al concurso	(391)
Muestra final:	404

En la tabla, las siglas *RPC* significan Registro Público Concursal, registro que contiene todas las resoluciones judiciales de los deudores concursados en España.

Los estadísticos descriptivos de la muestra utilizada se recogen en la Tabla 3.3. Todas las compañías entraron en concurso entre los años 2004 y 2014. Este período dota de interés al estudio ya que incluye una época de fuerte recesión económica. En el Panel A de la Tabla 3.3, se especifican las declaraciones de concursos y su resolución por años. Se observa una tendencia ascendente en el número de autos de declaración, con un repunte en los años 2012 y 2013, momento en que las empresas españolas sufren más profundamente las duras consecuencias de la crisis. De las 404 compañías que componen la muestra, 268 (66%) se encuentran todavía inmersas en trámites legales de concurso y 136 (34%) han resuelto el proceso legal, alcanzando un convenio de acreedores en 65 casos y liquidando las 71 empresas restantes⁴⁰.

En nuestra muestra, 248 compañías (61%) están auditadas por firmas pequeñas, seguidas de las cuatro grandes firmas internacionales de auditoría o Big4, que auditan a 76 empresas (19%). Los auditores individuales se encargan de 58 (14%) y el menor peso de nuestra muestra lo tienen las firmas medianas que auditan a 22 (6%). En los años analizados en este estudio, un 15% de la muestra (59 empresas) ha cambiado de auditor (9% a auditor de mayor tamaño y 6% a auditor más pequeño), mientras que la mayoría de las observaciones no han modificado el tamaño de su auditor (85% o 345 empresas) (ver mayor detalle en los epígrafes 3.2 y 4.2).

Los sectores económicos de la muestra se obtienen a partir del CNAE (Clasificación Nacional de Actividades Económicas) de cada compañía y se agrupan en cinco, tal y como se detalla en el Panel

⁴⁰ La resolución concursal de convenio o liquidación se obtiene de la consulta al RPC.

B de la Tabla 3.3. El sector más frecuente es el de la construcción e inmobiliario (35%), como consecuencia del impacto de la crisis económica iniciada en el año 2007 que dio lugar a la *burbuja inmobiliaria* en línea con Celentani, García-Posada, y Gómez (2010). Otros sectores también representados en la muestra son el industrial (27%), el comercial (20%) y las empresas de servicios (17%) y, en menor medida, el sector primario (1%). La edad, tamaño y situación económico-financiera de la muestra se detalla en el Panel C. La muestra incluye empresas con experiencia en sus sectores, con un promedio de vida de 22 años de edad y una desviación típica de 13. El tamaño medio de las compañías de este estudio es de 84 millones de euros de activo total. En cuanto a su situación económico-financiera, las empresas están sobreendeudadas (el promedio del ratio pasivo total / activo total es de 1,01, lo que significa que su patrimonio neto es negativo), su liquidez es preocupante (el promedio del ratio activo circulante / pasivo a corto plazo asciende a 1,25) y tienen una rentabilidad media negativa (-18%). Además también resume su situación financiera el modelo Z''- Score de Altman, que es la versión para empresas privadas pertenecientes a cualquier sector de actividad. De acuerdo a este modelo, como el promedio del valor Z'' es menor a 1,1 (en concreto, 1,02), las empresas se encuentran, en término medio, en situación de quiebra (Altman 1983).

Tabla 3.3. Estadísticos descriptivos de la muestra

Panel A. Año de entrada y resolución del concurso de acreedores					
Año	Frecuencia de tipo de resolución concursal (Porcentaje sobre total)				Total
	Liquidación	Proceso	Convenio		
2004	0 (0)	1 (0)	0 (0)		1 (0)
2005	1 (1)	0 (0)	0 (0)		1 (0)
2006	0 (0)	1 (0)	0 (0)		1 (0)
2007	0 (0)	1 (0)	0 (0)		1 (0)
2008	4 (6)	15 (6)	4 (6)		23 (6)
2009	4 (6)	18 (7)	2 (3)		24 (6)
2010	1 (1)	18 (7)	2 (3)		21 (5)
2011	5 (7)	22 (8)	2 (3)		29 (8)
2012	9 (13)	45 (17)	11 (17)		65 (16)
2013	29 (41)	82 (31)	35 (54)		146 (36)
2014	18 (25)	65 (24)	9 (14)		92 (23)
Total	71 (100)	268 (100)	65 (100)		404 (100)

Panel B. Sectores económicos	
Sectores	Frecuencia (Porcentaje sobre total)
Construcción e inmobiliario	141 (35)
Industrial	110 (27)
Comercial	79 (20)
Servicios	70 (17)
Primario	4 (1)
Total	404 (100)

Panel C. Otras características de la muestra					
	Nº	Mínimo	Máximo	Media	DT
Edad	404	4	79	22	13
Tamaño	404	0,45	2.874	84	277
Endeudamiento	404	0,05	7,24	1,01	0,62
Liquidez	404	0,00	14,47	1,25	1,67
Rentabilidad	404	-324%	41%	-18%	41%
Modelo Z"-Score	404	-81,16	27,01	1,02	8,84

El tipo de resolución concursal (Panel A) se divide en liquidación, proceso y convenio. Los casos de “liquidación” y “convenio” son procedimientos legales cerrados y los casos en “proceso” todavía siguen abiertos. Las empresas en “liquidación” son para las que el procedimiento legal ha finalizado con el cierre de la compañía. En caso de “convenio”, el juez ha dictado sentencia de convenio entre los acreedores para el reflote de la empresa. Las compañías clasificadas como en “proceso” son las que tienen todavía en curso sus procedimientos concursales. Los sectores de actividad de la muestra (Panel B) se clasifican en cinco, atendiendo al CNAE de cada compañía. Las características de la muestra representadas en el Panel C son: edad o número de años de edad de la concursada desde su creación; tamaño: total activo de la concursada en millones de euros; endeudamiento: ratio de pasivo total sobre activo total; liquidez: ratio de activo circulante sobre pasivo circulante; rentabilidad: ratio del resultado de explotación sobre activo total x 100; situación financiera, explicada por el modelo Z"-Score de Altman (Altman, 1983). El modelo Z"-Score se especifica como sigue: $Z'' = 3,25 + 6,56 Z_1 + 3,26 Z_2 + 6,72 Z_3 + 1,05 Z_4$, siendo sus componentes cuatro ratios contables: Z_1 (fondo de maniobra / activo total), Z_2 (beneficios retenidos / activo total), Z_3 (resultado de explotación / activo total) y Z_4 (patrimonio neto total / pasivo total). De acuerdo a este modelo, si el promedio Z'' es mayor a 2,6, las empresas se encuentran en zona de supervivencia; si está entre 1,1 y 2,6, en zona gris o de incertidumbre; y si la media de Z'' es menor que 1,1, en zona de “en quiebra”.

2. Metodología

La metodología empleada para responder a la primera pregunta de investigación consiste en la lectura, análisis y clasificación del contenido de los informes de auditoría del año anterior al concurso, entendiendo por *contenido* los mensajes incluidos por el auditor tanto en párrafos de énfasis como en salvedades. Uno de los autores de este trabajo ha sido el encargado de llevar a cabo la tarea de codificación de los comentarios de los auditores recogidos en la base de datos SABI⁴¹. Para incrementar la validez de la clasificación propuesta, otro experto ha realizado la misma labor, poniendo en conjunto los resultados obtenidos, hasta llegar a una propuesta consensuada.

Para la elaboración de la clasificación, por cada comentario que aparecía en un informe, se crea una categoría a la que se añadía el comentario con el valor 1. Al resto de categorías no reflejadas en el informe se les asignaba el valor 0, creando así variables dicotómicas. Como resultado de este proceso, se generan variables que incluyen tanto el tipo de párrafo como el contenido del mensaje del auditor incluido en ellos. De esta forma, conseguimos transformar la naturaleza cualitativa de los informes de auditoría en un conjunto de variables cuantitativas o dicotómicas para su análisis estadístico posterior, respondiendo a nuestra primera pregunta de investigación. Las categorías o variables incluidas en la clasificación se detallan en el epígrafe 3.3.

Adicionalmente, empleamos tablas cruzadas o de contingencia para responder a la segunda pregunta de investigación y examinar la relación del contenido del informe de auditoría y los cuatro factores estructurales seleccionados: tamaño de la firma de auditoría, cambio de auditor, sector de la auditada y situación financiera de ésta. Las tablas de contingencia recogen las frecuencias conjuntas de los niveles que toman las variables. La significación estadística de la diferencia entre dichos niveles se evalúa a través de la prueba Chi-cuadrado de Pearson (χ^2), que verifica las relaciones de

⁴¹ La información de auditoría de la muestra ha sido obtenida de los campos *nombre auditor* y *opinión de auditor* de SABI. El campo nombre de auditor contiene la firma encargada de la auditoría de cada compañía y el de opinión de auditor incluye un fragmento del informe de auditoría, que puede ser un párrafo o párrafos de énfasis, de salvedades o una combinación de ambos. Este último campo está acotado a 991 caracteres. A pesar de esta limitación impuesta por la base de datos no se aprecian indicios de que esto pueda afectar al análisis.

independencia o asociación entre variables. A partir de un nivel de significación estadística del 90% (p valor $\leq 0,1$), rechazamos la hipótesis de independencia del contenido del informe de auditoría y cada uno de los cuatro factores estructurales estudiados.

Para el tamaño del auditor, hemos distribuido la muestra distinguiendo cuatro categorías: Big4 o las cuatro grandes firmas internacionales de auditoría, que incluye Deloitte, EY, KPMG y PwC; *Second-tier* o firmas de tamaño mediano, donde figuran BDO Auditores, S.L. y Grant Thornton, S.L.P.; resto corporaciones o resto de firmas de auditoría de pequeño tamaño con forma de sociedades mercantiles; e individuales, que recogen los auditores individuales o personas físicas que prestan servicios de auditoría.

En el presente estudio, medimos la rotación del auditor como un cambio en el tamaño de la firma de auditoría en alguno de los cuatro ejercicios anteriores a la declaración del auto del concurso⁴². Dividimos la rotación en tres categorías: no cambio, o las compañías que no han cambiado de tamaño de su auditor previo a la declaración de concurso; a mayor, es decir, aquellas que han cambiado a un auditor de mayor tamaño; o a menor, para aquellas que lo han hecho a uno de menor tamaño.

En cuanto a las características de la concursada, en este trabajo clasificamos el sector de la empresa en cinco sectores en función del CNAE: construcción e inmobiliario, industrial, comercial, servicios y primario. Para la última característica, que es la situación financiera de la concursada, calculamos esta condición financiera a partir del modelo Z''-Score de Altman, versión del modelo para empresas no cotizadas y pertenecientes a distintos sectores⁴³. Una vez aplicado, dividimos los resultados en tres secciones: quiebra, o las empresas abocadas a la desaparición; convenio, que incluye las que por su situación financiera deberían reorganizarse y sobrevivir; e incertidumbre, que recoge las que están en

⁴² Esto es, por ejemplo, si una empresa rota de una Big4 a otra Big4 no lo consideramos rotación ya que aunque es un cambio de auditor no implica una modificación del tamaño del mismo, que es el efecto que nos interesa analizar. Se han seleccionado cuatro años porque es el período previo en el que se reconocen problemas financieros, y que deberían ser reseñados por los auditores (véase García Lara, García Osma, y Neophytou, 2009; Campa y Camacho-Miñano, 2014, entre otros).

⁴³ Véase Tabla 3 para especificación del modelo Z''-Score de Altman. Como indica Altman (1983), para cada empresa, si el valor del Z'' es mayor a 2,6, la empresa está en zona de supervivencia, si se encuentra entre 1,1 y 2,6 en zona gris o de incertidumbre, y si el Z'' es menor que 1,1 la situación es de quiebra.

una zona gris o intermedia para las que su liquidación o reorganización dependerá de cada caso concreto.

3. Clasificación del contenido del informe de auditoría

A partir de la lectura y análisis de la información de auditoría de la muestra, hemos desarrollado una clasificación novedosa del contenido de los informes de auditoría de empresas en situación concursal, que amplía las clasificaciones de información de auditoría existentes en la literatura previa (Del Brío-González, 1998; Laitinen y Laitinen, 2009b; Sánchez-Segura, 2000). La clasificación propuesta se compone de tres bloques (*Bloques A, B y C*), y 20 variables o ítems repartidos entre ellos. En la Tabla 3.4 del epígrafe 4 se detalla la clasificación completa y la definición de cada ítem aparece en el Anexo.

A partir de estudios anteriores sobre las salvedades de auditoría (Duréndez Gómez-Guillamón, 2003; Herbohn y Rangunathan, 2008), se considera un primer bloque o *Bloque A* que contiene el tipo de párrafo que alberga el mensaje: párrafo de énfasis o *ítem 1*, párrafo de salvedad por limitación al alcance o *ítem 2*, y párrafo de salvedad por incumplimiento de principios y criterios contables o *ítem 3*.

Otras investigaciones han clasificado los comentarios del informe de auditoría por niveles de gravedad, en relación a las partidas de los estados financieros afectadas (Ruiz-Barbadillo et al., 2002; Sánchez-Segura, 2003; Sánchez-Segura y Sierra-Molina, 2001; Sánchez-Segura, 2000). Estas magnitudes contables reflejan las decisiones financieras internas de las compañías, que han sido determinadas como causas más frecuentes de un fracaso empresarial en comparación con hechos externos a la empresa (Lukason y Hoffman, 2015). En línea con ello se genera el segundo bloque o *Bloque B* donde figura el contenido de los mensajes que señalan a partidas contables. El resultado de este desglose es una codificación de diez variables de las magnitudes de los estados financieros identificadas por los auditores. Los incumplimientos de la normativa referidos a partidas del balance están incluidos en los *ítems 4 al 10*, el *11 y 12* se refieren a la cuenta de resultados, y la omisión de

información en general o de informaciones específicas ausentes en la memoria se refleja en el *ítem 13*.

Además de los estudios que examinan el informe de auditoría en función de las discrepancias e incumplimientos valorativos que en él se mencionan (Ball et al., 1979), otros autores analizan circunstancias de naturaleza más genérica reseñadas por el auditor, como dudas a la gestión continuada o GC, litigios u otros asuntos de índole legal y regulatoria que afectan a la empresa auditada (Dopuch et al., 1987; Duréndez Gómez-Guillamón, 2003; Elliott, 1982; Firth, 1978). En nuestro estudio, hemos identificado casos frecuentes en los que el auditor desea que los inversores conozcan hechos de carácter general que acontecen en empresas concursadas. Por ello, en el último bloque o *Bloque C* se presentan siete ítems, *del 14 al 20*, que reflejan mensajes sobre circunstancias genéricas en los informes. Tal es el caso de comentarios sobre hechos posteriores al cierre (*ítem 15*), regulación (*ítem 16*) o situación macroeconómica (*ítem 17*), u otros indicativos de problemas de continuidad empresarial, como el fondo de maniobra negativo (*ítem 14*), la puesta en marcha por la empresa de un plan de viabilidad (*ítem 18*), GC (*ítem 19*) o la mención expresa a la declaración de concurso de acreedores (*ítem 20*).

Ninguno de los ítems es excluyente del resto. De hecho, todos los comentarios de auditores aparecen en el Bloque A, donde se indica su ubicación según el tipo de párrafo (párrafo de énfasis o salvedad). En función de su contenido, el mensaje aparecerá además una o más veces en los Bloques B y/o C, puesto que el informe puede contener varios párrafos que, normalmente, aludirán a una o más partidas y/o circunstancias de las señaladas en la clasificación propuesta.

IV. RESULTADOS Y DISCUSIÓN

1. Frecuencia del contenido del informe de auditoría

La frecuencia y representatividad de cada ítem de la clasificación aparece en la Tabla 3.4. De este modo tratamos de responder a la primera pregunta de investigación planteada.

Tabla 3.4. Frecuencia del contenido del informe de auditoría

Contenido del informe	Frecuencia	Porcentaje sobre bloque	Porcentaje sobre muestra total (404)
Bloque A: Tipos de párrafos utilizados			
1. Párrafo de énfasis	202	45%	50%
2. Párrafo de salvedad al alcance	144	32%	36%
3. Párrafo de salvedad por incumplimiento	102	23%	25%
Total Bloque A	448	100%	
Bloque B: Partidas contables afectadas			
4. Inmovilizado material e intangible	31	6%	8%
5. Inmovilizado financiero	74	15%	18%
6. Activos por impuestos diferidos	25	5%	6%
7. Existencias	61	12%	15%
8. Créditos a corto plazo y tesorería	83	17%	21%
9. Deudas	53	11%	13%
10. Contingencias	31	6%	8%
11. Resultado del ejercicio	32	7%	8%
12. Pérdidas acumuladas	89	18%	22%
13. Omisión de información	14	3%	4%
Total Bloque B	493	100%	
Bloque C: Otras circunstancias señaladas			
14. Fondo de maniobra negativo	38	8%	9%
15. Hechos posteriores al cierre	13	3%	3%
16. Efectos normativos	14	3%	4%
17. Coyuntura económica	51	12%	13%
18. Plan de negocio	48	11%	12%
19. Dudas sobre gestión continuada	183	42%	45%
20. Concurso de acreedores	92	21%	23%
Total Bloque C	439	100%	

La columna *Frecuencia* presenta el número de comentarios de cada ítem de la clasificación en la muestra total de empresas concursadas. La columna *Porcentaje sobre bloque* indica el peso de cada uno de los ítems de un bloque sobre el total de comentarios contenidos en dicho bloque. La columna *Porcentaje sobre muestra total* contiene la representatividad de cada ítem en la muestra total de 404 empresas. Como existen informes sin párrafos de énfasis ni salvedades y otros que contienen más de una única tipología, los porcentajes de esta columna no totalizan el 100% en ningún caso.

Los informes de la mitad de las empresas de la muestra contienen un párrafo de énfasis, un 36% incluyen salvedades por alcance y un 25% de compañías reflejan incumplimientos de principios contables en sus informes. El alto porcentaje de salvedades confirma que las empresas con elevada probabilidad de insolvencia empresarial reciben un mayor número de salvedades (Hudaib y Cooke, 2005). Sin embargo, pese a estar la compañía en un estadio cercano a la situación concursal, en un 13% (55 informes) de los informes de los que disponemos el auditor no hizo ninguna llamada de atención en forma de párrafo de énfasis o salvedad (véase Tabla 3.5).

En relación con las partidas del balance y la cuenta de resultados (Bloque B), las advertencias más repetidas hacen referencia a pérdidas acumuladas, que aparecen en un 22% de los informes analizados, en línea con el estudio de Van Hemmen Almazor (2015). Otros mensajes recurrentes son los relacionados con dificultades de tesorería (21%) e inmovilizado financiero (18%) – en su mayoría participaciones en empresas vinculadas –. Estos resultados son consistentes con investigaciones previas que concluyeron que el dato de las pérdidas es el que explica en mayor medida la existencia de salvedades (Gallizo y Saladrigues, 2016; Sánchez y Sierra, 2001). Del mismo modo, Laitinen y Laitinen (1998) señalaron que la baja rentabilidad, el apalancamiento elevado y el crecimiento negativo son los motivos principales para la emisión de salvedades por incertidumbre sobre la continuidad empresarial.

Finalmente, en lo referente a los comentarios sobre hechos genéricos señalados (Bloque C), la circunstancia más frecuente es la existencia de dudas sobre la gestión continuada, que aparece en un 45% de compañías de la muestra, consistente con Ruiz-Barbadillo et al. (2004). Aunque se trate de un porcentaje relevante, al proceder de una muestra de sociedades en concurso o muy cercanas al mismo, quizás pudiera esperarse un mayor número de advertencias sobre problemas de viabilidad empresarial. Los reguladores europeos ya han reparado en esta cuestión en la Directiva 2014/56/UE, a la que se están adaptando en la actualidad los estados miembros. En España, con la publicación de la Ley 22/2015, de 20 de julio, de Auditoría de Cuentas, se requiere que el auditor haga mención obligada al riesgo financiero siempre que los hechos supongan incertidumbres materiales que puedan

suscitar dudas sobre la capacidad para continuar como empresa en funcionamiento. Por tanto, los mensajes sobre dudas a la continuidad se verán incrementados en los próximos años (Del Puerto-Cabrera y Sánchez-Serrano, 2015).

La segunda circunstancia genérica más apuntada es la que señala que la empresa se encuentra en una fase concursal inicial, lo que sucede en el 23% de la muestra. Este mensaje se presenta casi siempre mediante un párrafo de énfasis y puede concluirse que su porcentaje es aparentemente bajo tratándose de sociedades que en el ejercicio siguiente van a entrar en concurso y cuyos informes de auditoría suelen publicarse bien entrado ya el ejercicio.

2. Tipos de opinión de auditoría por factores estructurales

Una vez clasificado el contenido del informe de auditoría de empresas en el año inmediatamente anterior a su entrada en concurso, atendemos a la segunda pregunta de investigación. La frecuencia del tipo de opinión de auditoría por cada factor a estudiar se presenta en la Tabla 3.5, distinguiendo entre opinión favorable, favorable con párrafo de énfasis u opinión con salvedades.

Tabla 3.5. Tipos de opinión de auditoría por factores estructurales

Factores estructurales		Favorable	Favorable con énfasis	Con salvedades	Total
		Frecuencia (porcentaje por categorías de cada factor)			
Tamaño del auditor	Big4	12 (16)	37 (49)	27 (35)	76 (100)
	<i>Second-tier</i>	1 (5)	8 (36)	13 (59)	22 (100)
	Resto corp.	31 (13)	60 (24)	157 (63)	248 (100)
	Individuales	11 (19)	23 (40)	24 (41)	58 (100)
	Total	55 (13)	128 (32)	221 (55)	404 (100)
Cambio de auditor	No cambio	44 (13)	106 (31)	195 (56)	345 (100)
	A mayor	8 (24)	13 (38)	13 (38)	34 (100)
	A menor	3 (12)	9 (36)	13 (52)	25 (100)
	Total	55 (13)	128 (32)	221 (55)	404 (100)
Sector de la auditada	Construc. e inmob.	20 (14)	42 (30)	79 (56)	141 (100)
	Industrial	18 (16)	35 (32)	57 (52)	110 (100)
	Comercial	9 (12)	20 (25)	50 (63)	79 (100)
	Servicios	8 (11)	28 (40)	34 (49)	70 (100)
	Primario	0 (0)	3 (75)	1 (25)	4 (100)
	Total	55 (13)	128 (32)	221 (55)	404 (100)
Situación financiera de la auditada	Quiebra	15 (11)	50 (35)	77 (54)	142 (100)
	Incertidumbre	3 (5)	20 (32)	40 (63)	63 (100)
	Supervivencia	37 (19)	58 (29)	104 (52)	199 (100)
	Total	55 (13)	128 (32)	221 (55)	404 (100)

Los tipos de opinión de auditoría son: favorable, favorable con párrafo de énfasis y con salvedades. La frecuencia (y, entre paréntesis, el porcentaje) de los tipos de opiniones de auditoría por cada categoría de los cuatro factores estructurales estudiados se presenta en las filas de la tabla, por lo que cada una totaliza el 100%. Los factores estructurales analizados son: tamaño del auditor (Big4, si la empresa ha sido auditada por una de las cuatro grandes firmas de auditoría; *Second-tier*, si ha sido auditada por una firma de auditoría de tamaño mediano; resto corporaciones, si ha sido auditada por una firma de auditoría pequeña que es sociedad mercantil; individuales, si ha sido auditada por un auditor individual), cambio de auditor (no cambio, si la empresa no ha cambiado de tamaño de auditor en los cuatro años anteriores al concurso; a mayor, si la empresa ha cambiado a un auditor de mayor tamaño; a menor, si la empresa ha cambiado a uno de menor tamaño), sector (clasificación sectorial de las empresas en función del CNAE en cinco sectores) y situación financiera (de acuerdo al modelo Z''-Score de Altman, clasificación de las compañías en quiebra, incertidumbre en su condición financiera y supervivencia).

Un 87% de los informes analizados contiene algún mensaje del auditor, ya sea en párrafo de énfasis o como salvedad. En cuanto al tamaño del auditor y los informes con salvedades, son más frecuentes los emitidos por firmas de auditoría pequeñas (63%) y medianas (59%) que por las Big4 (35%), en consonancia con recientes estudios españoles que señalan una mayor tendencia a recibir salvedades por dudas a la viabilidad cuando el auditor es de pequeño tamaño (Gallizo y Saladríguez, 2016). Una posible causa de los numerosos comentarios emitidos por auditores pequeños se debe a que los clientes que reciben informes calificados tienen un peso elevado dentro de sus carteras al tener éstos una posición relativa pequeña en el mercado, y no poderse permitir fallar en sus predicciones sobre

viabilidad (Gómez-Aguilar y Ruiz-Barbadillo, 2000). Sin embargo, existen numerosos trabajos que confirman que la frecuencia en el número de salvedades sobre GC es más elevada en firmas de auditoría de mayor tamaño (Aguilar-Díaz y Díaz-Díaz, 2015; Krishnan, Ma, y Yan, 2015; Lennox, 1999c), debido a los recursos de que disponen y a la necesidad de mantener su reputación, que se vería dañada en caso de equivocación (Lennox, 1999b). No obstante, esto se produce sobre todo en fuertes contextos regulatorios (Krishnan et al., 2015), mientras que España es un caso de marco legal de débil protección al inversor (La Porta, López-de-Silanes, Shleifer, y Vishny, 1998). Asimismo, los litigios contra firmas de auditoría en España son muy escasos y el régimen normativo tiende a la flexibilidad (Arnedo-Ajona et al., 2008; Ruiz-Barbadillo et al., 2004).

Una elevada rotación de auditores, en fechas anteriores a la situación concursal, puede ser un indicio de tensiones financieras en la compañía (Piñeiro-Sánchez et al., 2012). El motivo de ello es que existe la tendencia a cambiar de auditor cuando la empresa se encuentra en una situación de estrés financiero a fin de evitar salvedades (Carey, Geiger, y O'Connell, 2008; Sánchez-Segura, 2003), comportamiento que se conoce como “compra de opinión” y que implica cambiar voluntariamente de auditor para obtener en un informe posterior un informe de auditoría limpio (Gómez-Aguilar y Ruiz-Barbadillo, 2000; Schwartz y Menon, 1985). No obstante, a la vista de nuestros datos, la tendencia a cambiar de auditor con anterioridad al concurso es baja (en 59 de las 404 observaciones) y, en el 44% de estos casos, las empresas recibieron un informe calificado. Concluimos que no existe una tendencia a cambiar de auditor ante circunstancias con previsibles problemas de viabilidad, si bien algunos autores señalan que esta propensión es mayor en compañías con estrés financiero que en empresas sanas (Sánchez-Segura, 2003; Schwartz y Menon, 1985). Podría esperarse que estas empresas cambiasen de auditor para intentar ocultar su mala situación financiera. Sin embargo, nuestros resultados pueden deberse a que los costes del cambio superan a los costes de recibir una opinión calificada, tal como se concluye en el estudio de Gómez-Aguilar y Ruiz-Barbadillo (2000).

Las cifras por sectores ponen de manifiesto que la tendencia a recibir informes con párrafos de énfasis o salvedades presenta algunas diferencias entre ellos. La construcción es el sector más representado

en la muestra, en línea con investigaciones previas que indican que las empresas constructoras quiebran más que otras (Van Hemmen Almazor, 2015). Además, este sector es el más vulnerable a las circunstancias externas del período de estudio, que fueron años de fuerte crisis en el sector inmobiliario en España. Sin embargo, los informes con salvedades son algo más frecuentes en el sector comercial (63%). A éste le siguen las constructoras e inmobiliarias con un 56% de salvedades y, muy próximas a ellas, están también las empresas industriales y de servicios (52% y 49%, respectivamente).

Los riesgos a emitir una salvedad por GC sobre la situación financiera de una empresa han sido evaluados a través de ratios financieros (Blay, Geiger, y North, 2011). Trabajos previos sugieren que existe una relación entre la situación financiera de las compañías y la probabilidad de recibir otros tipos de salvedades (Cahyono, 2014; Sánchez-Segura y Sierra-Molina, 2001). Según nuestras cifras, los informes con salvedades son los más numerosos en el año previo al concurso (55% de la muestra total), seguidos de los informes limpios que incluyen párrafo de énfasis (32%) y de los favorables (13%). Nuestros resultados ponen de manifiesto que, en función de la condición financiera, los informes con salvedades son más frecuentes en situaciones inciertas (63%) que cuando los ratios predicen una clara quiebra (54%). En ocasiones los auditores muestran su carácter conservador, emitiendo advertencias en compañías viables desde un punto financiero (52%). Estas cifras sugieren también que existen empresas en proceso concursal que, por su viabilidad en términos financieros, tendrían que reorganizarse o ni siquiera haber solicitado el proceso concursal, ya que en la mayoría de las ocasiones, en el caso español, esto conduce a la liquidación de las entidades (Arnedo-Ajona et al., 2008). Estudios previos han aportado claros indicios respecto a que otros marcos normativos son igualmente ineficientes. Esto se ve evidenciado en casos de empresas que cuando, por su situación financiera, deberían sobrevivir y no verse obligadas al cierre, sin embargo, están en proceso liquidación (Laitinen, 2009).

3. Análisis del contenido del informe de auditoría por factores estructurales

En este epígrafe se analiza la relación entre las señales recogidas en el informe de auditoría anterior al concurso y distintas características de la firma de auditoría y de la empresa auditada.

En la Tabla 3.6 se muestran los resultados obtenidos del análisis del contenido del informe atendiendo al tamaño del auditor, observándose diferencias significativas entre las advertencias recogidas y el tamaño del auditor (p -valor $< 0,05$). Un 78% de todos los párrafos, incluidos en el Bloque A, aparecen en firmas de auditoría pequeñas o en auditores individuales. Un porcentaje similar aparece en cuanto al contenido: un 78% de las referencias a magnitudes contables (Bloque B) y un 70% de las ligadas a circunstancias genéricas (Bloque C) son mencionadas por sociedades de auditoría pequeñas y auditores individuales. Estos resultados están en línea con otros estudios que señalan que los auditores de pequeño tamaño tienden a emitir más salvedades (Gallizo y Saladríguez, 2016) y esto ocurre, sobre todo, en contextos donde la regulación no es muy estricta y el riesgo de litigio es bajo (Krishnan et al., 2015). Para explicar mejor estas diferencias entre el contenido del informe y el tamaño del auditor, llevamos a cabo dos análisis adicionales, también recogidos en la Tabla 3.6, que estudian la relación en función de la fecha de declaración del procedimiento legal concursal y de la resolución del mismo.

Existen estudios que revelan que la fecha de formulación de las cuentas anuales es un factor a tener en cuenta a la hora de predecir la quiebra empresarial (Altman et al., 2015; Piñeiro-Sánchez et al., 2013). Asimismo, la fecha de entrada en el procedimiento concursal puede afectar a la información financiera y de auditoría de las compañías en el año anterior a la declaración del concurso (Van Hemmen Almazor, 2015). En el presente estudio, distinguimos las declaraciones concursales del primer trimestre del año de las formalizadas en los tres restantes, ya que los concursos del primer trimestre se inician con anterioridad a la formulación de las cuentas anuales. En los resultados aparecen diferencias cuando las compañías solicitan el concurso en meses distintos al primer trimestre. Estas diferencias son estadísticamente significativas en los comentarios de contenido genérico (Bloque C) y se producen por las Big4. Esto puede deberse a que las Big4 disponen de mayor

capacidad y recursos para obtener información que les permita adelantarse a mencionar problemas de viabilidad futura, incluso si la solicitud concursal no se produce hasta tiempo después. Asimismo, tienen una mayor preocupación por el riesgo de litigio y el riesgo de reputación (Aguar-Díaz y Díaz-Díaz, 2015). Además, estos comentarios denotan normalmente mayor gravedad, señalando situaciones de GC, de solicitud del concurso de acreedores, o de condiciones adversas para las empresas por circunstancias del mercado o por su regulación específica.

Consideramos, asimismo, si el concurso ha sido resuelto o no. En caso de resolución, diferenciamos el convenio de la liquidación. Este análisis es novedoso ya que si bien el INE publica estadísticas concursales, la información sobre la salida del concurso no se encuentra disponible a nivel individual (Aguar-Díaz y Ruiz-Mallorquí, 2013). La evidencia parece indicar que el tamaño del auditor afecta al contenido del informe de empresas que siguen inmersas en el procedimiento concursal y al de las que han sido liquidadas, tanto cuando analizamos los tipos de párrafos utilizados como su contenido. Estos resultados parecen reflejar que el informe no es tan relevante cuando la empresa alcanza el convenio. Sin embargo, las diferencias son significativas en los concursos que están en marcha. Esto podría deberse a que los auditores quieren evitar responsabilidades judiciales en posibles casos de concursos dolosos o necesarios, e intentan advertir de todo aquello que puede ser gravoso para los acreedores y/o los accionistas. En el caso de liquidación, las diferencias significativas aparecen en menciones sobre partidas contables, probablemente debido a que las advertencias de los auditores ponen de manifiesto las causas que van a propiciar la disolución de la empresa, y que se reflejan en sus estados financieros (Lukason y Hoffman, 2015).

Tabla 3.6. Contenido del informe de auditoría y tamaño del auditor

	Bloque A		Bloque B		Bloque C				
Panel A. Informe de auditoría por bloques de contenido y tamaño del auditor									
Big4	72 (16)		79 (16)		106 (24)				
<i>Second-tier</i>	28 (6)		28 (6)		27 (6)				
Resto corp.	289 (65)		332 (67)		232 (53)				
Individuales	59 (13)		54 (11)		74 (17)				
Total	448 (100)		493 (100)		439 (100)				
χ^2	20,550		41,878		50,936				
gl	6		27		18				
<i>p</i> valor	0,002***		0,034**		0,000***				
	Bloque A		Bloque B		Bloque C				
Panel B. Informe de auditoría por bloques de contenido, trimestres y tamaño del auditor									
	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.			
Big4	10 (16)	62 (16)	11 (17)	68 (16)	22 (34)	84 (22)			
<i>Second-tier</i>	4 (6)	24 (6)	2 (3)	26 (6)	5 (8)	22 (6)			
Resto corp.	39 (63)	250 (65)	43 (66)	289 (67)	26 (41)	206 (55)			
Individuales	9 (15)	50 (13)	9 (14)	45 (11)	11 (17)	63 (17)			
Total	62 (100)	386 (100)	65 (100)	428 (100)	64 (100)	375 (100)			
χ^2	14,813	13,567	21,770	34,885	7,856	49,439			
gl	6	6	24	27	15	18			
<i>p</i> valor	0,022**	0,035**	0,593	0,142	0,929	0,000***			
	Bloque A			Bloque B			Bloque C		
Panel C. Informe de auditoría por bloques de contenido, resolución del concurso y tamaño del auditor									
	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.
Big4	14 (17)	45 (15)	13 (18)	15 (20)	48 (14)	16 (20)	33 (37)	57 (21)	16 (22)
<i>Second-tier</i>	2 (2)	22 (8)	4 (6)	2 (3)	22 (7)	4 (5)	3 (3)	21 (7)	3 (4)
Resto corp.	56 (68)	187 (64)	46 (64)	49 (64)	233 (69)	50 (63)	44 (49)	149 (54)	39 (54)
Individuales	11 (13)	39 (13)	9 (12)	10 (13)	34 (10)	10 (12)	10 (11)	50 (18)	14 (20)
Total	83 (100)	293 (100)	72 (100)	76 (100)	337 (100)	80 (100)	90 (100)	277 (100)	72 (100)
χ^2	12,443	13,975	7,000	41,437	37,333	21,218	17,431	39,034	21,257
gl	2	6	6	27	27	27	18	18	18
<i>p</i> valor	0,053*	0,030**	0,321	0,037**	0,089*	0,776	0,494	0,003***	0,267

Los bloques de contenido del informe de auditoría son los Bloques A, B y C (ver anexo para su definición). En la tabla se muestra la frecuencia (y, entre paréntesis, el porcentaje) de comentarios sobre el total de cada bloque. El tamaño del auditor se clasifica así: Big4, si la empresa ha sido auditada por una de las cuatro grandes firmas de auditoría; *Second-tier*, si ha sido auditada por una firma de auditoría de tamaño mediano; resto corporaciones, si ha sido auditada por una firma de auditoría pequeña que es sociedad mercantil; e individuales, si ha sido auditada por un auditor individual. La fecha del auto de declaración de concurso (Panel B) se divide en primer trimestre (1^{er} trim.), si el auto de declaración de concurso se dicta en el primer trimestre del año, y resto de trimestres (Resto trim.), si el auto de declaración de concurso se dicta con posterioridad al primer trimestre. La resolución del concurso (Panel C) puede ser liquidación (Liquid.), proceso (Proc.) – si el procedimiento concursal sigue todavía abierto – y convenio (Conv.). ***, **, y *: significativo al 1%, 5% y 10%, respectivamente.

El análisis del contenido del informe de auditoría y la rotación del auditor se encuentra en la Tabla 3.7. Los resultados no reseñan diferencias significativas entre los distintos bloques de comentarios y la rotación. Por tanto, los cambios de auditor no producen variaciones en la tendencia a recibir advertencias. Para verificar la inexistencia de relación entre el contenido del informe y el cambio de auditor, hemos examinado si aparecen diferencias teniendo en cuenta tanto la fecha de la solicitud del concurso como la resolución del mismo, o si este sigue en proceso. En ninguno de estos análisis se encuentran diferencias significativas.

Tabla 3.7. Contenido del informe de auditoría y cambio de auditor

	Bloque A		Bloque B		Bloque C				
Panel A. Informe de auditoría por bloques de contenido y cambio de auditor									
No cambio	388 (87)		427 (87)		370 (84)				
A mayor	32 (7)		34 (7)		44 (10)				
A menor	28 (6)		32 (6)		25 (6)				
Total	448 (100)		493 (100)		439 (100)				
χ^2	3,024		13,629		9,302				
gl	4		18		12				
p valor	0,554		0,753		0,677				
	Bloque A		Bloque B		Bloque C				
Panel B. Informe de auditoría por bloques de contenido, trimestres y cambio de auditor									
	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.			
No cambio	53 (86)	335 (87)	55 (85)	372 (87)	52 (81)	318 (85)			
A mayor	4 (6)	28 (7)	4 (6)	30 (7)	9 (14)	35 (9)			
A menor	5 (8)	23 (6)	6 (9)	26 (6)	3 (5)	22 (6)			
Total	62 (100)	386 (100)	65 (100)	428 (100)	64 (100)	375 (100)			
χ^2	2,517	2,464	16,564	11,149	2,520	8,189			
gl	4	4	16	18	10	12			
p valor	0,642	0,651	0,414	0,888	0,991	0,770			
	Bloque A			Bloque B			Bloque C		
Panel C. Informe de auditoría por bloques de contenido, resolución del concurso y cambio de auditor									
	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.
No cambio	69 (83)	258 (88)	61 (85)	62 (82)	297 (88)	68 (85)	74 (82)	234 (85)	62 (86)
A mayor	9 (11)	19 (7)	4 (5)	9 (12)	20 (6)	5 (6)	14 (16)	26 (9)	4 (6)
A menor	5 (6)	16 (5)	7 (10)	5 (6)	20 (6)	7 (9)	2 (2)	17 (6)	6 (8)
Total	83 (100)	293 (100)	72 (100)	76 (100)	337 (100)	80 (100)	90 (100)	277 (100)	72 (100)
χ^2	2,343	2,639	1,813	21,687	11,599	7,303	4,201	9,883	7,853
gl	4	4	4	18	18	18	12	12	12
p valor	0,673	0,620	0,770	0,246	0,867	0,987	0,980	0,626	0,797

Los bloques de contenido del informe de auditoría son los Bloques A, B y C (ver anexo para su definición). En la tabla se muestra la frecuencia (y, entre paréntesis, el porcentaje) de comentarios sobre el total de cada bloque. El cambio de auditor se expresa en tres categorías: no cambio, que toma el valor 1 si la empresa no ha cambiado de tamaño de auditor en los cuatro años anteriores al concurso y 0 en caso contrario; a mayor, valor 1 si la empresa ha cambiado de un auditor de menor tamaño a otro de mayor; a menor, valor 1 si la empresa ha cambiado de un auditor de mayor tamaño a otro de menor. La fecha del auto de declaración de concurso (Panel B) se divide en primer trimestre, si el auto de declaración de concurso se dicta en el primer trimestre del año (1^{er} trim.), y resto de trimestres (Resto trim.), si el auto de declaración de concurso se dicta con posterioridad al primer trimestre. La resolución del concurso (Panel C) puede ser liquidación (Liquid.), proceso (Proc.) – si el procedimiento concursal sigue todavía abierto – y convenio (Conv.). ***, **, y *: significativo al 1%, 5% y 10%, respectivamente.

A continuación se analiza el contenido del informe de auditoría en función del sector y la situación financiera de la empresa auditada. En cuanto al impacto del sector sobre el contenido del informe, los resultados de la Tabla 3.8 confirman que existen diferencias significativas entre los comentarios del auditor por sectores de actividad, lo que indica que el sector puede condicionar el informe. Esta evidencia se mantiene solo en parte cuando analizamos el trimestre de entrada en el procedimiento concursal y su resolución.

Nuestra evidencia coincide con la obtenida en estudios anteriores que revelan diferencias en la auditoría en función del sector (Ruiz-Barbadillo et al., 2002). Otros sugieren que el sector de la empresa es una variable que ayuda a la predicción de problemas de viabilidad (Chava y Jarrow, 2004; Gill-de-Albornoz y Giner, 2013), así como a determinar la existencia de salvedades, siendo las más graves las mejor explicadas por el sector de actividad (Sánchez-Segura y Sierra-Molina, 2001).

Nuestros resultados revelan que las diferencias en el contenido de las advertencias sobre partidas contables (Bloque B) se producen en el sector industrial. Una posible explicación es que estas compañías se relacionan directamente con la promoción y construcción de edificios, al ser algunas de ellas fabricantes de materiales y equipos, o proveedoras de semielaborados para la construcción (vidrio plano, ladrillos, grifería, etc.) (Van Hemmen Almazor, 2015). En estas empresas el peso de los inventarios es muy relevante, partida especialmente afectada por la burbuja inmobiliaria en España durante los años analizados, a la que los auditores hacen alusión por la materialidad de su deterioro y, en ocasiones, por la incorrecta valoración del mismo.

En el análisis de la significatividad de comentarios genéricos reseñados por los auditores (Bloque C), las diferencias se producen en el sector servicios. Ello puede estar relacionado con el peso que están ganando los procesos concursales de las sociedades de servicios no vinculadas a la construcción (Van Hemmen Almazor, 2015) o con la naturaleza de este sector, donde predominan los activos intangibles difíciles de valorar y evaluar. Estas compañías tienen también menos necesidades de inversión a largo plazo y de compromisos de financiación extensos. Por todo ello, son empresas para las que los

auditores pueden insistir más sobre circunstancias externas o hechos más genéricos sin centrarse tanto en partidas específicas de las cuentas anuales.

Por último, los resultados también muestran que las empresas en las que el peso de los inventarios es muy relevante, es decir, las pertenecientes a los sectores de la construcción e industrial, permanecen más tiempo en el proceso concursal, probablemente debido al tiempo que precisan para vender o liquidar estos activos en una época de recesión económica producida por la burbuja inmobiliaria.

Tabla 3.8. Contenido del informe de auditoría y sector de la auditada

	Bloque A		Bloque B		Bloque C				
Panel A. Informe de auditoría por bloques de contenido y sector de la auditada									
Construc. e inmob.	159 (36)		168 (34)		167 (38)				
Industrial	119 (27)		134 (27)		120 (27)				
Comercial	92 (20)		94 (19)		75 (17)				
Servicios	74 (16)		94 (19)		75 (17)				
Primario	4 (1)		3 (1)		2 (1)				
Total	448 (100)		493 (100)		439 (100)				
χ^2	14,320		58,506		50,544				
Gl	8		36		24				
p valor	0,074*		0,010**		0,001***				
	Bloque A		Bloque B		Bloque C				
Panel B. Informe de auditoría por bloques de contenido, trimestres y sector de la auditada									
	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.			
Construc. e inmob.	28 (45)	131 (34)	27 (42)	141 (33)	35 (55)	132 (35)			
Industrial	14 (23)	105 (27)	14 (21)	120 (28)	11 (17)	109 (29)			
Comercial	8 (13)	84 (22)	9 (14)	85 (20)	2 (3)	73 (19)			
Servicios	12 (19)	62 (16)	15 (23)	79 (18)	16 (25)	59 (16)			
Primario	0 (0)	4 (1)	0 (0)	3 (1)	0 (0)	2 (1)			
Total	62 (100)	386 (100)	65 (100)	428 (100)	64 (100)	375 (100)			
χ^2	8,117	12,036	41,516	43,427	12,959	44,032			
Gl	6	8	24	36	15	24			
p valor	0,230	0,150	0,015**	0,184	0,605	0,008***			
	Bloque A			Bloque B			Bloque C		
Panel C. Informe de auditoría por bloques de contenido, resolución del concurso y sector de la auditada									
	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.
Construc. e inmob.	34 (41)	97 (33)	28 (39)	25 (33)	112 (33)	31 (39)	42 (47)	92 (33)	33 (46)
Industrial	13 (16)	87 (30)	19 (27)	14 (19)	97 (29)	23 (29)	14 (15)	87 (31)	19 (26)
Comercial	26 (31)	55 (19)	11 (15)	26 (34)	59 (18)	9 (11)	24 (27)	38 (14)	13 (18)
Servicios	9 (11)	52 (17)	13 (18)	10 (13)	68 (20)	16 (20)	10 (11)	58 (21)	7 (10)
Primario	1 (1)	2 (1)	1 (1)	1 (1)	1 (0)	1 (1)	0 (0)	2 (1)	0 (0)
Total	83 (100)	293 (100)	72 (100)	76 (100)	337 (100)	80 (100)	90 (100)	277 (100)	72 (100)
χ^2	8,956	13,619	5,098	63,365	33,603	37,858	15,689	32,809	30,433
Gl	8	8	8	36	36	36	18	24	18
p valor	0,346	0,092*	0,747	0,003***	0,583	0,384	0,614	0,108	0,033**

Los bloques de contenido del informe de auditoría son los Bloques A, B y C (ver anexo para su definición). En la tabla se muestra la frecuencia (y, entre paréntesis, el porcentaje) de comentarios sobre el total de cada bloque. La clasificación sectorial, a partir del CNAE de las empresas de la muestra, se compone de cinco sectores: construcción e inmobiliario, que toma el valor 1 si la empresa pertenece al sector de la construcción o al inmobiliario y 0 en caso contrario; industrial, valor 1 si la empresa pertenece al sector industrial; comercial, valor 1 si la empresa pertenece al sector comercial; servicios, valor 1 si la empresa pertenece al sector servicios; primario, valor 1 si la empresa pertenece al sector primario. La fecha del auto de declaración de concurso (Panel B) se divide en primer trimestre (1^{er} trim.), si el auto de declaración de concurso se dicta en el primer trimestre del año, y resto de trimestres (Resto trim.), si el auto de declaración de concurso se dicta con posterioridad al primer trimestre. La resolución del concurso (Panel C) puede ser liquidación (Liquid.), proceso (Proc.) – si el procedimiento concursal sigue todavía abierto – y convenio (Conv.). ***, **, y *: significativo al 1%, 5% y 10%, respectivamente.

La relación entre el contenido del informe y la situación financiera de las empresas de la muestra se recoge en la Tabla 3.9. Los resultados ponen de manifiesto que existen diferencias significativas entre los comentarios sobre partidas contables que mencionan los auditores y la situación financiera. El motivo puede deberse a que estos comentarios hacen hincapié sobre cuáles son las causas específicas que explican esta condición financiera y mencionarán los movimientos relevantes en los estados financieros que informan de tales circunstancias, tal y como señalan Lukason y Hoffman (2015).

Adicionalmente, la evidencia empírica se mantiene cuando analizamos los datos en función del trimestre de entrada en concurso y de la resolución concursal. En el primer caso, solamente aparece una interacción significativa del contenido económico-financiero del informe a partir del segundo trimestre del año, lo que indica que el concurso se podía vislumbrar meses antes de la declaración en alguna incorrección valorativa mencionada por los auditores.

En cuanto al procedimiento concursal, obtenemos unos resultados interesantes ya que las diferencias son significativas solo en el caso de que el concurso siga abierto. Esto hace entrever que en este período los auditores elaboran su informe mencionando conflictos relacionados con valoración y normativa contable para protegerse frente a posibles riesgos de litigio o de reputación en el caso de que el concurso se resuelva con la liquidación de la compañía (Aguilar-Díaz y Díaz-Díaz, 2015).

Tabla 3.9. Contenido del informe de auditoría y situación financiera de la auditada

	Bloque A		Bloque B		Bloque C				
Panel A. Informe de auditoría por bloques de contenido y situación financiera de la auditada									
Quiebra	162 (36)		178 (36)		159 (36)				
Incertidumbre	76 (17)		89 (18)		68 (16)				
Supervivencia	210 (47)		226 (46)		212 (48)				
Total	448 (100)		493 (100)		439 (100)				
χ^2	1,009		34,742		14,901				
gl	4		18		12				
p valor	0,908		0,010**		0,247				
	Bloque A		Bloque B		Bloque C				
Panel B. Informe de auditoría por bloques de contenido, trimestres y situación financiera de la auditada									
	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.	1 ^{er} trim.	Resto trim.			
Quiebra	31 (50)	131 (34)	34 (52)	144 (34)	33 (51)	126 (34)			
Incertidumbre	6 (10)	70 (18)	5 (8)	84 (19)	3 (5)	65 (17)			
Supervivencia	25 (40)	185 (48)	26 (40)	200 (47)	28 (44)	184 (49)			
Total	62 (100)	386 (100)	65 (100)	428 (100)	64 (100)	375 (100)			
χ^2	1,468	1,771	15,940	36,580	11,721	13,547			
gl	4	4	16	18	10	12			
p valor	0,832	0,778	0,457	0,006***	0,304	0,331			
	Bloque A			Bloque B			Bloque C		
Panel C. Informe de auditoría por bloques de contenido, resolución del concurso y situación financiera de la auditada									
	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.	Liquid.	Proc.	Conv.
Quiebra	39 (47)	97 (33)	26 (36)	38 (50)	112 (33)	28 (35)	46 (51)	80 (29)	33 (46)
Incertidumbre	14 (17)	51 (17)	11 (15)	15 (20)	58 (17)	16 (20)	17 (19)	43 (15)	8 (11)
Supervivencia	30 (36)	145 (50)	35 (49)	23 (30)	167 (50)	36 (45)	27 (30)	154 (56)	31 (43)
Total	83 (100)	293 (100)	72 (100)	76 (100)	337 (100)	80 (100)	90 (100)	277 (100)	72 (100)
χ^2	3,005	0,285	3,158	24,546	27,095	14,926	13,392	8,746	10,500
gl	4	4	4	18	18	18	12	12	12
p valor	0,557	0,991	0,532	0,138	0,077*	0,667	0,341	0,724	0,572

Los bloques de contenido del informe de auditoría son los Bloques A, B y C (ver anexo para su definición). En la tabla se muestra la frecuencia (y, entre paréntesis, el porcentaje) de comentarios sobre el total de cada bloque. En función de la situación financiera de las empresas de la muestra, ésta se subdivide en tres categorías aplicando el modelo Z'' Score de Altman: quiebra (valor 1 si la empresa se encuentra en situación de quiebra de acuerdo al modelo Z'' Score de Altman y 0 en caso contrario); incertidumbre (valor 1 si la empresa se encuentra en la zona gris o de incertidumbre financiera de acuerdo al modelo); supervivencia (valor 1 si la empresa se encuentra en situación de supervivencia de acuerdo al modelo). La fecha del auto de declaración de concurso (Panel B) se divide en primer trimestre (1^{er} trim.) – si el auto de declaración de concurso se dicta en el primer trimestre del año – y resto de trimestres (Resto trim.) – si el auto de declaración de concurso se dicta con posterioridad al primer trimestre –. La resolución del concurso (Panel C) puede ser liquidación (Liquid.), proceso (Proc.) – si el procedimiento concursal sigue todavía abierto – y convenio (Conv.). ***, **, y *: significativo al 1%, 5% y 10%, respectivamente.

V. CONCLUSIONES

El impacto de la crisis económica que sufre España desde mediados del año 2007 y, en mayor medida, el sector de la construcción e inmobiliario, ha provocado un espectacular incremento del número de empresas que se han declarado en concurso de acreedores en los últimos años. Esta situación ha conllevado un importante número de reformas en la legislación concursal española (Ley 22/2003, de 9 de julio, Concursal, o LC). En algunos casos de empresas declaradas en concurso, el papel del auditor externo se ha puesto en duda al no contener sus informes anteriores las correspondientes señales sobre el posible riesgo a la viabilidad de la compañía. Por este motivo, en el campo de la auditoría, también se están produciendo cambios regulatorios, tanto en la UE (Directiva 2014/56/UE) como en las adaptaciones en sus países miembros (en España, la Ley 22/2015, de 20 de julio, de Auditoría de Cuentas). Como consecuencia de estas reformas normativas, el presente trabajo resulta de especial interés y actualidad. Este estudio permite obtener evidencia sobre el informe de auditoría de empresas en posible riesgo de insolvencia, y resulta ser un documento que puede considerarse de utilidad para los usuarios de la información financiera en su toma de decisiones sobre viabilidad empresarial, o sobre empresas en las primeras fases del concurso.

Este artículo analiza el *contenido* del informe de auditoría del año anterior a la entrada en concurso de acreedores, entendiendo por *contenido* los comentarios incluidos por el auditor tanto en párrafos de énfasis como en salvedades, y contribuye a la literatura anterior aportando una clasificación sobre el tema, ya que no existe ninguna comúnmente aceptada. Asimismo, el trabajo examina la relación que guardan los comentarios del auditor con su tamaño y rotación, así como con el sector de la empresa auditada y la situación financiera que ésta presenta. En este sentido, es el primer estudio que analiza conjuntamente factores tanto del auditor como de la firma auditada, y lo hace para un período reciente y con una muestra de compañías en riesgo de insolvencia. Concretamente, la muestra analizada está compuesta por 404 compañías españolas auditadas, no financieras, que solicitaron el concurso de acreedores entre los años 2004 y 2014. El período de estudio que abarca la muestra es relevante porque, por una parte, engloba todos los años de vigencia de la actual LC y, por otra parte,

analiza el contenido de los informes de auditoría con anterioridad a la nueva normativa de auditoría europea, que incluye nuevos requerimientos de contenido en el informe tales como menciones expresas al riesgo financiero que pueda suponer dudas sobre la gestión continuada o GC.

A partir de la evidencia empírica encontrada, podemos concluir que el informe de auditoría representa una herramienta para la evaluación del riesgo de insolvencia empresarial, ya que según nuestros resultados un 55% de las opiniones del auditor son opiniones con salvedades. Bien es cierto que del 45% de opiniones limpias restantes, un elevado número de informes (32%) contiene advertencias de los auditores en párrafos de énfasis. Por tanto, únicamente un 13% de las compañías presentan un informe favorable sin párrafos de énfasis. Sin embargo, aunque los comentarios del auditor son numerosos, al analizar su contenido, muchos de ellos aluden únicamente a incorrecciones valorativas o incumplimiento de normativa contable. Las advertencias de dudas sobre la gestión continuada – o el incumplimiento del principio de empresa en funcionamiento – aparecen en algo menos de la mitad de los informes (45%), cuando se trata de empresas prácticamente ya inmersas en procedimientos legales concursales. Parecería lógico que el porcentaje de informes que expresasen dudas sobre la viabilidad fuese superior. Como se ha dicho anteriormente, gracias a la reforma de la regulación de la auditoría en España, la mención expresa al riesgo financiero que pueda ocasionar dudas sobre la capacidad de la compañía para continuar como empresa en funcionamiento cobra un mayor protagonismo. Por tanto, como la muestra analizada se rige por la regulación anterior, nuestra evidencia sugiere que, en informes de auditoría de los próximos ejercicios, pueda esperarse mayor información al usuario de la existencia de conflictos sobre viabilidad y los párrafos que se refieran a este tema sean más frecuentes en los informes.

Otro mensaje del auditor que esperábamos encontrar con mayor frecuencia es un párrafo de énfasis que mencione el comienzo de los trámites de solicitud de declaración de concurso de acreedores en que se encuentre la empresa. A la vista del porcentaje encontrado (23%), estimamos que debería ser un aviso más frecuente ante esta grave circunstancia, porque los indicios de insolvencia pueden

intuirse varios ejercicios económicos antes de verse la empresa obligada a solicitar el procedimiento legal (Korol, 2013).

A partir del análisis de la relación entre el contenido del informe de auditoría por tamaño del auditor, concluimos que los mensajes del auditor presentan diferencias significativas entre firmas de auditoría de distintos tamaños. La mayoría de las advertencias se muestran en informes firmados por auditoras de pequeño tamaño (Gallizo y Saladríguez, 2016). Sin embargo, al indagar más en estas diferencias analizando su relación con la fecha del auto de declaración del concurso, nuestra evidencia muestra que son las Big4 las que difieren en comparación al resto, anticipando los problemas de viabilidad varios meses más que otras firmas. Esto puede deberse a que sus recursos disponibles generan una mayor capacidad de predicción de riesgos financieros en comparación con sociedades de auditoría de menor tamaño. Del mismo modo, las Big4 tienen gran interés por preservar su reputación en el mercado y deben soportar unos costes elevados en caso de verse inmersas en procesos litigiosos (Aguar-Díaz y Díaz-Díaz, 2015). Adicionalmente, se confirma que las diferencias por tamaño de auditor se producen en empresas en liquidación y en las que continúan en concurso, debido a que los auditores quieren evitar responsabilidades judiciales tanto en las disoluciones de empresas como en trámites legales del proceso concursal. Por otro lado, no aparecen diferencias estadísticamente significativas en la relación entre el contenido del informe y la rotación del auditor, entendida como el cambio de tamaño de auditor en los años previos al concurso. Probablemente esto se deba a las pocas observaciones de cambio de auditor en la muestra utilizada.

En cuanto a las características de la concursada, el contenido del informe en el año previo al concurso depende parcialmente del sector de actividad y de la situación financiera de la misma. El sector industrial presenta diferencias frente al resto en las menciones del auditor sobre magnitudes contables, quizás por su actividad específica, su estrecha relación con el sector de la construcción especialmente afectado por la crisis económica y por su necesidad de elevadas inversiones y compromisos de financiación. El sector servicios es el que difiere en el apartado de comentarios de naturaleza más genérica, tales como los relacionados con la evolución del mercado y la normativa, ya que los

auditores de este tipo de compañías hacen más énfasis en estas circunstancias que en partidas concretas de las cuentas anuales. Por último, existen diferencias en los comentarios sobre partidas contables en función de la situación financiera de la empresa auditada y éstas son significativas cuando el concurso está en curso, ya que los auditores desean protegerse frente a cualquier riesgo consecuencia del proceso legal mencionando más frecuentemente las incorrecciones valorativas que detectan.

En resumen, el estudio realizado permite concluir que el informe de auditoría del ejercicio previo a la solicitud del concurso de acreedores proporciona señales importantes a los interesados en evaluar la viabilidad de la empresa y controlar su resolución concursal. El informe de auditoría podría considerarse una herramienta útil por sus numerosas menciones a incumplimientos de principios contables, incorrecciones valorativas u otras circunstancias de carácter regulatorio, macroeconómico o de la propia entidad, que afectan a su viabilidad. Sin embargo, esta utilidad se ve en parte mermada cuando se analiza si dichos comentarios ponen de manifiesto explícitamente dudas sobre la gestión continuada, ya que estas advertencias son menos numerosas a pesar de que la muestra utilizada corresponde a un período de recesión económica con numerosas empresas inmersas en procesos concursales.

La evidencia encontrada supone importantes implicaciones. Los resultados pueden ayudar a organismos regulatorios y firmas de auditoría en la toma de decisiones sobre la necesidad de llevar a cabo modificaciones en el tipo de contenido de los informes de auditoría. Asimismo, los mensajes comunicados en los párrafos de énfasis y salvedades analizados en este trabajo pueden resultar relevantes para los acreedores comerciales y bancarios del deudor concursado en su toma de decisiones crediticias, de reestructuración de deudas, en los acuerdos de quitas y esperas o en la concesión de nueva financiación. Incluso este estudio manifiesta que el administrador concursal y el juez de lo mercantil pueden recurrir al informe de auditoría para esclarecer cuestiones sobre los estados financieros del concursado, tanto cuando se produce la liquidación de la entidad como cuando se consigue su reflotación.

Este trabajo no está exento de limitaciones. En primer lugar, el procedimiento de elaboración de la clasificación del contenido del informe de auditoría ha sido manual (aunque llevado a cabo por dos expertos de manera independiente). En futuras líneas de investigación sería interesante el uso de otras técnicas de tratamiento de texto para el análisis de contenido y/o codificación de los informes de auditoría. En segundo lugar, por una limitación del proveedor de los datos, no hemos podido acceder al informe de auditoría completo sino a un fragmento limitado a 991 caracteres. No parece que existan indicios de que esto afecte al análisis ya que el fragmento suele incluir completos los párrafos de énfasis y/o salvedades de los informes que los contienen. Asimismo, la muestra utilizada se corresponde únicamente al territorio español, por lo que sugerimos ampliar el estudio hacia otros contextos normativos, analizando las posibles diferencias. Por último, el horizonte temporal estudiado en este trabajo se refiere al año anterior a la entrada en el proceso legal del concurso de acreedores. En este sentido, el análisis del informe de auditoría en un horizonte mayor de tiempo contribuiría enormemente a conocer las propiedades de este documento, para detectar problemas de insolvencia que permitan a los interesados en una compañía actuar con prontitud.

CHAPTER 4:

DOES AUDIT REPORT INFORMATION IMPROVE FINANCIAL DISTRESS PREDICTION

OVER ALTMAN'S TRADITIONAL Z'-SCORE MODEL?

Abstract

This study analyzes empirically the usefulness of combining accounting and audit data to predict corporate financial distress. Concretely, this article examines whether audit report information incrementally predicts distress over a traditional accounting model: the Altman's Z''-Score model. It is argued that audit report information plays a critical part in financial distress prediction because auditors should warn investors in the report about any default risks. From a dataset of 1,821 Spanish distressed private firms, a sample of distressed and non-distressed private firms is elaborated. Using the accounting and audit report information of the year preceding financial distress, this study develops logit prediction models that combine a classification of narrative audit report disclosures with accounting data. Empirical results show that while the only accounting model registers a classification accuracy of 77 percent, a combined model of accounting and audit data exhibits a considerably higher accuracy of 87 percent. This evidence contributes to the literature by emphasizing the importance of combining accounting and audit report data in explaining distress for private companies. Specifically, findings indicate that the number of disclosures included in the report, as well as disclosures related to going concern, firm assets and firm recognition of revenues and expenses contribute the most to the prediction.

Keywords: financial distress prediction, private companies, Altman's Z''-Score, audit report, qualifications, emphasis of matter sections

I. INTRODUCTION

The topic of financial distress has been widely studied in the literature due to its negative consequences on both microeconomic and macroeconomic levels. Many stakeholders suffer from the effects of a situation where a firm is dealing with financial difficulties: from the shareholders of the business to its employees, customers, suppliers, financial institutions and the society, in general. Although there have been numerous studies on distress prediction in the past decades, an effort to improve the accuracy of prediction models continues to be needed (Balcaen and Ooghe, 2006; Du Jardin, 2015; Bauweraerts, 2016).

The literature on the modeling of corporate financial distress starts with the pioneer works of Beaver (1966) and Altman (1968), which are based on financial ratios. Since then, different approaches have been applied to improve accuracy, such as the selection of other financial ratios (see the reviews by Bellovary et al., 2007; Tascón-Fernández and Castaño-Gutiérrez, 2012), the application of more complex statistical and intelligent techniques⁴⁴ like logistic analysis, hazard models or artificial intelligence (reviews by Balcaen and Ooghe, 2006; Kumar and Ravi, 2007) and the extension of traditional financial models with other variable sets like market variables (Merton, 1974; Hillegeist et al., 2004; Hernández-Tinoco and Wilson, 2013) and non-financial variables (Keasey and Watson, 1987; Lussier, 1995; Laitinen, 1999; Back, 2005; Cheng et al., 2007; Altman et al., 2010, 2015).

Studies that highlight the benefits of incorporating non-financial information in combination with financial ratios usually supplement financial factors by variables such as firm age, type of business and industry (Grunert et al., 2005), legal form, payment behavior, management structure (Laitinen, 1991), or group membership (Back, 2005). This trend of research also includes auditing data as non-financial factors. The most common examples are type of auditor's opinion (Flagg et al., 1991; Altman et al., 2010, 2015; Wilson et al., 2013), number of qualified audits (Keasey and Watson, 1987;

⁴⁴ Beaver (1966) applies a univariate technique for selected ratios and Altman (1968) develops a multiple discriminant analysis model (MDA) called the Z-Score model.

Piñero-Sánchez et al., 2013), auditor switching (Keasey and Watson, 1987; Altman et al., 2010), and auditor size and tenure (Piñero-Sánchez et al., 2013). However, these papers do not focus on disaggregating the content of audit reports and its usage for anticipating financial distress (Muñoz-Izquierdo et al., 2017). A limited amount of information included in the audit report is analyzed and used for modeling purposes, and the related study of Piñero-Sánchez et al. (2013, pp.168) literally suggests “improving the codification of the qualifications to enhance the accuracy of the model”. Thus, there is a need for studies that label the content of audit report information and apply it to improve prediction models (Muñoz-Izquierdo et al., 2017).

The purpose of this paper is to empirically assess the extent to which the combination of accounting and audit data predicts financial distress. This investigation focuses on whether the classification accuracy of the Altman’s Z’-Score model is improved by qualitative variables that represent the content of audit report disclosures.

Starting from a dataset of 1,821 financially distressed firms, a matched sample of 808 private manufacturing and non-manufacturing Spanish firms –404 distressed and 404 non-distressed companies– is manually created compiling financial, audit and legal information from two data sources: Bureau Van Dijk database (hereafter BVD)⁴⁵ and “Registro Público Concursal” (hereafter RPC)⁴⁶. For the definition of a distressed firm, the occurrence of insolvency filing is adopted (Lizarraga-Dallo, 1998; Piñero-Sánchez et al., 2013). This legal definition can be applied as the current Spanish law is based on a single court proceeding. This means that the legal procedure begins with the insolvency filing when a company is under financial distress, and the process finishes with either the reorganization or the liquidation of the firm⁴⁷. The 404 distressed firms of the sample file for insolvency proceedings between 2004 and 2014. For the non-distressed firms’ selection, the

⁴⁵ The Bureau Van Dijk database in Spain is called SABI (“Sistema de Análisis de Balances Ibéricos”).

⁴⁶ The “Registro Público Concursal” is the official source about insolvency legal proceedings in Spain.

⁴⁷ In Spain, the law governing this procedure is the Bankruptcy Act 22/2003 of July 9th, which comes into effect in 2004. According to this regulation, when a company is under financial distress, managers or creditors present an insolvency request to the judge and a single court procedure starts. All viable firms should finish proceedings by being reorganized, and those inviable should end with their liquidation (Camacho-Miñano *et al.*, 2015).

matching procedure is done by hand, based on year, size and industry, as in prior literature (Schwartz and Menon, 1985; Charitou et al., 2007; Knechel and Vanstraelen, 2007; Blay et al., 2011).

In this study, the Altman's Z''-Score is used as the benchmark model. First, this model is chosen because the sample consists of private companies from different industries and this is the version developed by Altman for private and public manufacturing and non-manufacturing firms (Altman, 1983). Second, and most importantly, the Z''-Score is selected due to its relevance, high recurrence and popularity in prior research. A recent study by Altman et al. (2016, pp. 3-4) argues that "even though the Z-Score model was developed more than 45 years ago and many alternative failure prediction models exist, the Z-Score model continues to be used worldwide as a main or supporting tool for bankruptcy or financial distress prediction and analysis both in research and in practice".

Then, this paper follows with the benchmark model supplemented by audit report information variables, examining their effect on the performance in terms of classification accuracy. Using the audit report codification of twenty dummy variables developed in Muñoz-Izquierdo et al. (2017), the content of the audit reports of the whole sample is extracted and manually labeled. In this codification, three of the variables represent the type of paragraph in which the disclosure is included (emphasis of matter section, scope limitation or GAAP⁴⁸ violation), and the seventeen remaining typify the content of each disclosure. They include accounting issues as well as more general comments made by the auditors. The complete classification will be explained in the next sections. It is relevant to mention that such a broad investigation of audit data and, more specifically, an analysis of the audit report information has not been presented so far in corporate distress prediction studies (Laitinen and Laitinen, 2009a; Altman et al., 2010).

For all estimation models, logistic regression analysis is used following prior research (Balcaen and Ooghe, 2006), and predictions are provided for a horizon of one year. Thus, the ability of information in the period prior to filing is assessed to predict financial distress in the following year. Due to the

⁴⁸ GAAP means Generally Accepted Accounting Principles.

manual process of analyzing every audit report in detail, the horizon is not expanded to more years. Also, prior studies demonstrate that typical accounting-based models are useful for prediction for one or two years prior to bankruptcy (Altman et al., 2015).

Results of this paper show that the combined use of financial and non-financial factors leads to a more accurate prediction of distress events than the single use of each of these factors. While the evidence indicates that the predictive power of the Z''-Score model is 77 percent, the classification accuracy improves 10 percent units (up to 87 percent) when audit report information is considered. Moreover, results suggest that the number of disclosures⁴⁹ included in the report, and disclosures related to going concern, firm assets and firm recognition of revenues and expenses are the audit variables that contribute the most to assess financial distress.

This paper updates the current literature in several ways. Firstly, the Altman's Z''-Score model is tested on a geographically different sample (Spain) covering a recent economic period (companies entering into a financial distress situation from 2004 to 2014). Country-specific models are less common estimations compared to generic bankruptcy prediction studies (Cultrera and Brédart, 2016). Specifically, due to the impact of the global financial crisis in the Spanish economy, the number of corporate failures in Spain is increasing so more studies that explore potential predictors appear to be useful. Secondly, this work contributes to the line of research that uses both financial and non-financial factors for anticipating viability concerns. For the first time in financial distress prediction models for private companies in Spain, the contributions of both accounting variables and audit report information variables are examined. A unique sample is prepared manually and this study uses a recently published codification of narrative disclosures in the audit report to analyze the audit information of all firms in the data set (Muñoz-Izquierdo et al., 2017). The items of this codification are included as indicators of stress. By doing so, this paper eventually determines the significant prediction ability of the content of audit reports, and such extensive amount of auditing information

⁴⁹ Along the paper the term *disclosures* in the audit report is used to refer to both qualifications and unqualified audit opinions that contain an emphasis of matter section.

has not been earlier applied in failure studies. Thirdly, the use of audit report disclosures might serve to partially answer calls for research on what evidence auditors evaluate in the financial statements to determine the likelihood of firm failure, requested by Carson et al. (2013). Finally, it is believed that Spain constitutes an appropriate environment for distress assessments using audit data, as the audit regime is less severe than in other countries and non-litigious (Ruiz-Barbadillo et al., 2004; Arnedo-Ajona et al., 2008; Piñeiro-Sánchez et al., 2013). Then, the predictive power of auditing information might even increase if these models are tested in more severe contexts.

II. PRIOR RESEARCH AND HYPOTHESES

1. Financial distress definition

In prior literature, different definitions of default/financial distress have been used because most theoretical studies do not specify how to measure the decline of a firm's health (Argenti, 1976; Lukason and Hoffman, 2014). Some definitions are based on the ultimate legal consequence, either bankruptcy in the US (Charitou et al., 2007) and creditors' compulsory and/or voluntary liquidation in the UK (Peel et al., 1986; Liu, 2004). However, a company does not go bankrupt immediately, but goes through a failure process that varies considerably in length (Lukason and Hoffman, 2014). Wruck (1990) argues that there are several stages that a firm can go through before it is defined as dead: financial distress, insolvency, filing of bankruptcy, and administrative receivership in order to avoid filing for bankruptcy (Hernández-Tinoco and Wilson, 2013). Then, since the first stage, the company is failing to meet its financial obligations, although this does not inevitably lead to a filing of bankruptcy.

In this study a definition of financial distress is introduced because, when modeling financial risk, it is relevant to consider not only the event of bankruptcy as the primary outcome but also the time when a company fails to meet its financial obligations (Hernández-Tinoco and Wilson, 2013). For objectivity and accuracy purposes, this work applies a narrow and legal definition of financial distress. The date of the beginning of the insolvency legal procedure is adopted as the indicator of financial distress (Larrinaga-Dallo, 1998; Piñeiro-Sánchez et al., 2013). With a sample of Spanish firms, the occurrence of the insolvency event can be used as the Spanish regulation (Bankruptcy Act 22/2003 of July 9th) is based on a single court proceeding that starts when the company cannot pay its debts and finishes with the resolution of reorganization – if the firm is viable after legal proceedings – or the liquidation, otherwise.

Other studies use different indicators to define financial distress (Lukason and Hoffman, 2014). Wruck (1990) uses the time when the cash flow of a firm is not able to cover its current financial

obligations with suppliers, employees and financial institutions. Barker and Duhaime (1997) define financial distress using different profitability measures to show the performance decline. For Andrade and Kaplan (1998), the indicator of financial distress is the first year that a firm's EBITDA is less than financial expenses. Whitaker (1999) takes into consideration the first year that a firm's cash flow is less than current maturities of long-term debt to assess financial distress. Thus, in prior literature accounting data is used in order to confirm financial distress i.e. whether the distressed firms in the sample have either a negative or a positive financial condition.

2. Financial distress prediction using accounting data

Previous research has tested the usefulness of accounting variables to assess financial distress. This common procedure is usually called the financial approach, or the usage of accounting-based variables to detect bankruptcy (Sun et al., 2014). Under this approach, there is a lack of consensus on variable selection (Balcaen and Ooghe, 2006). Nevertheless, the most popular prediction model is the Altman's Z-Score model, widely adopted in the literature (Balcaen and Ooghe, 2006; Du Jardin, 2015; Altman et al., 2016).

The original Z-Score model includes five ratios: working capital to total assets, retained earnings to total assets, earnings before interest and taxes to total assets, market value of equity to total liabilities, and sales to total assets. This original model is only applicable to publicly traded firms, as it utilizes the market value of equity. In the second version of the model, or the Z'-Score model, the market value of equity is replaced for the book value in the fourth ratio. However, the capital turnover ratio (sales to total assets) might derive in a potential industry effect if the sample includes other industries but manufacturing. The model continues its evolution to the last version, the Altman's Z''-Score, removing the capital turnover ratio and, by doing so, eliminating the industry effect. Thus, the Altman's Z''-Score model comprises four ratios, considered by prior failure research as a reliable representation of financial statement data (Scott, 1981; Laitinen, 1991; Balcaen and Ooghe, 2006;

Laitinen and Laitinen, 2009a): liquidity (working capital to total assets), cumulative profitability (retained earnings to total assets), profitability (earnings before interest and taxes to total assets) and leverage (book value of equity to total liabilities) ratios.

As mentioned above, Altman et al. (2016) point out that the Z-Score model is applied worldwide as a main tool for analyzing bankruptcies both in research and practice. In the review of research by Bellovary et al. (2007) that traces the literature on bankruptcy prediction from the 1930's, it is suggested that multivariate discriminant analysis is one of the most promising methods for modeling distress, which was the analysis developed by Altman (1968). Moreover, they find that three of the top-ten ratios used in the literature of bankruptcy prediction belong to the Z'-Score model. These ratios are working capital by total assets, retained earnings by total assets and earnings before interest and taxes by total assets, and they are positioned in the ranking of most frequently used ratios in the third, fourth and fifth position, respectively. Similarly, Altman and Sabato (2007) choose to use the fourth ratio of the Z'-Score model due to its predictive power.

In recent studies, the efficacy of the Z'-Score model has been tested. In the international work of Altman et al. (2016), they suggest that the model performs reasonably well for most countries. The classification performance, assessed by the AUC (Area under the Receiver Operating Characteristics Curve), is fair for Spain (an AUC of 0.734), which is approximately average accuracy. The current paper uses the last version of the model (the Z'-Score) because the sample contains Spanish, private, manufacturing and non-manufacturing companies (Altman, 1983), and the results validate the ones obtained for Spain in the international study.

3. Financial distress prediction using auditing data

Many different approaches have been adopted to improve the accuracy of distress assessments, such as the application of different methodologies, the use of longer term processes in the prediction, and the selection of other types of variables like market data or non-financial variables (Altman et al., 2015). The majority of empirical papers focus on listed companies because the development of risk models for private companies is obviously limited by data availability, as market data is not available (Altman et al., 2010). Also, in the case of private companies, Balcaen and Ooghe (2006) point out the importance of supplementing accounting ratios by non-financial information, as annual financial statements might not be very reliable and stable over time. Similarly, Altman et al. (2015) suggest that the reliability of financial variables, especially for small and medium enterprises, is low because of instability and window dressing due to earnings management. Then, it seems that the financial statements of private firms might be combined with other data sources to complement their deficiencies and obtain a more accurate prediction.

Altman and Sabato (2007) propose that prediction accuracy may be improved by the use of qualitative information. The use of non-financial variables in prediction models has been well documented since Keasey and Watson (1987). Maltz et al. (2003) offer support for the inclusion of non-financial variables to assess default prediction. Testing 15 non-financial variables, Lussier (1995) indicates that the company's internal information related to its planning, advising, education and staff characteristics represent accurate predictors of failure for small companies. For credit risk estimation of Finnish companies, Laitinen (1999) uses a total of 35 variables, and 16 of them are non-financial variables related to characteristics of the firm: age, industry, payment behavior, management and legal structure, as well as inquiries about the firm in credit information bureau (Altman et al., 2015). Later, a reduced number of factors are applied in the study of Back (2005), such as the ones related to age, size, and group membership, and the results suggest that the number of payment delays was the variable with the highest predictive ability.

One category of non-financial variables is the one related to the auditing field. It is commonly accepted that the auditing profession guarantees the reliability of financial statements. Auditors should identify any potential signals of financial distress to warn investors and other users of the audit report of any possibility of failure (Mutchler, 1984; Lennox, 1999). As the audit report is the sole communication mechanism between the auditor and all interested parties, it should inform about any concerns or misstatements found in the annual accounts, so it can be considered as data to be included when assessing financial distress.

Recent prediction papers argue for a combined approach testing both accounting and auditing data (Altman et al., 2010; Piñeiro-Sánchez et al., 2013). Prior evidence concludes that audit data do signal useful incremental information about financial distress (Keasey and Watson, 1987; Hopwood et al., 1989; Flagg et al., 1991; Cheng et al., 2007; Altman et al., 2010; Piñeiro-Sánchez et al., 2013). Keasey and Watson (1987) add to general non-financial variables, such as age, managerial structure and the date of submission of annual accounts, others specifically related to the auditing field. They test the importance of the unqualified/qualified opinion and the change of auditor, concluding that a combined model marginally make better predictions than models with financial variables or non-financial data only. A similar stream of research is followed by Flagg et al. (1991), who include the going concern auditor's opinion together with other financial and non-financial variables, finding the highest predictive power in a model that combines financial data with the going concern opinion and the information about a reduction of dividends. Later on, Cheng et al. (2007) show that the auditor switching is a significant attribute to predict failure. The predictive power of other auditor characteristics is studied by Piñeiro-Sánchez et al. (2013). They find that auditor rotation, qualified reports and non-compliance with deadlines regarding approval and filing of the financial statements present relevant differences between distressed and non-distressed firms.

The audit opinion has been the most studied audit variable in prior failure literature (Keasey and Watson, 1987; Hopwood et al., 1989; McKee, 2003; Kim et al., 2008; Laitinen and Laitinen, 2009b; Altman et al., 2010; Altman et al., 2015). For instance, Altman et al. (2010) support that the audit

opinion has high predictive ability, suggesting that firms with audit qualifications, such as severe qualifications or going concern, are more likely to fail since the auditor is questioning its viability. The most commonly studied audit qualification relates to the going concern (Flagg et al., 1991). This might be due to the direct impact of standards related to this decision, as well as its seriousness, as it implies that the company may not continue to exist in the foreseeable future (Mutchler, 1985; ISA, 570; SAS, 59).

Despite the current study of the audit opinion in failure prediction literature, as previously seen, studies that examine the effects of the content of audit reports in failure prediction are still scarce. Not only the final audit outcome should matter for predicting purposes, but also any comments contained in the audit report might represent relevant signals regarding the likelihood of future viability of the firm (Blay, 2005; Bauer, 2015). Thus, any disclosures mentioned in the report –in the form of emphasis of matter sections or qualifications–, represent concerns for the auditor and might be considered variables to be included in failure prediction studies. Piñeiro-Sánchez et al. (2013) encourage researchers to improve the codification of the qualifications in order to enhance the accuracy of predicting financial distress. This paper contributes to the existing literature on this matter.

It seems that there is not a commonly used classification of the content of audit reports in the literature yet (Firth, 1978; Del Brío-González, 1998; Sánchez-Segura, 2000; Ruiz-Barbadillo et al., 2002; Herbohn and Rangunathan, 2008; Laitinen and Laitinen, 2009a; Muñoz-Izquierdo et al., 2017). Firth (1978) classifies qualifications into seven categories: general, going concern, asset values, subsidiary's audit, SSAP⁵⁰, SSAP and concur, and continuing qualifications. Firth (1978) studies the impact of qualifications on investment decisions, finding that some information content of qualified audit reports on published accounts have a significant effect on those decisions, such as qualifications regarding going concern and asset valuation. Del Brío-González (1998) provides evidence on the

⁵⁰ SSAP means “Statements of Standard Accounting Practice”.

effect of qualified audit reports on shares prices, suggesting that markets do not systematically react to qualifications in general, but a downward adjustment is shown when the auditor issues a “non-true and fair” qualification. A more simplified classification of qualifications is presented in this study, divided into going concern, assets and liabilities, result of the period and uncertainties and contingencies. Sánchez-Segura (2000) codifies the comments in terms of seriousness (from very severe to low severity). Her results suggest the presence of a solid relationship between the delay in signing the report and the existence of qualifications, and show that the more serious the qualification is the greater the delay. Additionally, Ruiz-Barbadillo et al. (2002) extend this classification, adding qualifications that are “evitable” and “inevitable”. This study finds that the auditor’s attitude has no influence on the quality of the accounting information. Herbohn and Raguathan (2008) simplify the classification using types of opinion – “except for (going concern)”, “except for (other)”, “subject to” and “inability to form an opinion” – and emphasis of matter section. According to Herbohn and Raguathan (2008), there seem to be no evidence of earnings management leading to an audit opinion modification. However, they show that firms receiving inherent uncertainty modifications, or modifications other than going concern, have greater persistence of earnings accruals relative to other firms. A more recent work addresses the contingency effects of accruals on default assessment (Laitinen and Laitinen, 2009a). They use a codification of 10 audit outcomes related to the report (unmodified, not submitted or unclear), to remarks (on equity, on administration, and on balance sheet items valuation), to financial statements (with misstatements or not in accordance with the regulation) and to the liquidation proposal. They find that absolute accruals moderate audit report information, so the more accruals, the more important the information is. With a sample of Finnish firms, they obtain some remarks to be incremental explanatory variables of payment default prediction. In their study, the most relevant audit data are unmodified opinions, remarks on equity, and claims not in accordance with the companies’ act. Another recent paper that classifies the content of audit reports is Muñoz-Izquierdo et al. (2017). They examine the effect of a 20-item codification on several features of the auditor and the audited firm, finding evidence of significant differences depending on

auditor size, industry and financial condition of the audited firm, the quarter on which the court order is imposed and the legal procedure resolution.

Thus, it is clear that the classification of the content of audit reports is not consistent in the literature. The existing ones depend on the specific purpose of each research conducted, and none of the classifications are built with the purpose of predicting financial distress, combining the codification of the audit report information with financial data. With the aim of modeling distress, this paper makes use of Muñoz-Izquierdo et al.'s (2017) codification because it extends prior classifications and it is developed from a dataset of audit reports issued in the year before insolvency proceedings. As it seems that the majority of auditors' concerns will be issued at this time, this assures a thorough and complete codification, as well as it suits with the purpose of this work.

In addition, it is already verified that financial statements do not include all the information that is relevant to predict distress, and non-financial variables and, more precisely, audit variables, are likely to complement this deficiency. Then, it is expected that the incorporation of audit report disclosures into an accounting prediction model will provide incremental information regarding financial distress, so hypothesis one (H1) is proposed:

H1: The combined use of the Altman's Z''-Score model and the number of audit report disclosures leads to a more accurate prediction of distress events in the year prior to insolvency proceedings than the single use of the Altman's Z''-Score model.

To test this hypothesis, disclosures are measured using Muñoz-Izquierdo et al.'s (2017) codification (see section 3 for details). In H1, the incremental predictive value of a non-financial variable (the number of audit report disclosures included in every report) is solely examined. The content of disclosures is tested in hypothesis two (H2).

Similarly, for a reliable prediction model, it is essential to use not only a combination of accounting variables and number of audit report disclosures, but also the content of those disclosures (Firth, 1978; Del Brío-González, 1998; Sánchez-Segura, 2000; Herbohn and Rangunathan, 2008; Laitinen and

Laitinen, 2009a). It is predicted that the accuracy to explain corporate financial distress will increment when combining financial data with the content of audit report disclosures. Therefore, the next hypothesis follows (H2):

H2: The combined use of the Altman's Z''-Score model and variables based on a classification of the content of the audit report disclosures leads to a more accurate prediction of distress events in the year prior to insolvency proceedings than the single use of the Altman's Z''-Score model.

When building financial risk models, the incorporation of auditing data that captures the content of the audit report prior to insolvency legal proceedings is important in three main aspects. First it adds information about the concerns that auditors express in the report in those critical moments when the viability of the company will be in danger. Second such variables represent the quality of accounting data used in prediction distress, as the purpose of the external auditing is to ensure that the true and fair view of the company is shown in the financial statements. Third, auditing data contributes to accounting figures as annual financial information might not be very reliable for companies under financial difficulties. Overall in the case of private companies, Balcaen and Ooghe (2006) point out the importance of supplementing accounting ratios by non-financial data. In summary, as stated before, there are few papers that have incorporated auditing data to default prediction and, more precisely, the information contained in the audit report, so this paper might be a contribution to this line of research. Additionally, most of the literature on distress prediction do not focus on private clients and a very limited amount of non-financial information is analyzed and used for modeling purposes, so this study is the first one to assess financial distress for private companies in Spain, combining both accounting variables and audit variables related with the content of audit reports.

III. METHODOLOGY

1. Sample

The sample comprises 404 Spanish private firms under financial distress during the period 2004-2014 and a control sample of 404 financially non-distressed firms, matched by year, size and industry. In the present study, the data for the fiscal year prior to the distress situation is used and a legal definition of financial distress is followed, as in prior literature (Lizarraga-Dallo, 1998; Piñeiro-Sánchez et al., 2013). This study considers a company to be under financial risk in the moment when the court procedure begins. As explained in the previous section of the paper, there is a single court procedure in Spain that starts when the insolvency request is presented to the judge because the company cannot pay its debts, and ends with the reorganization or the liquidation of the firm (Camacho-Miñano et al., 2015).

The initial sample consisted of 1,821 firms that represent the universe of firms in the BVD database that had started insolvency proceedings as of January 31st, 2015. To be included in the final sample, firms must have been audited, registered in the RPC and had enough financial and audit data available in the BVD database to run the analyses. After filtering the dataset manually and excluding 1,417 firms (see Table 4.1), the final distressed sample consisted of 404 firms⁵¹. Following standard practice, financial institutions were removed from the sample, as they deal with different regulatory requirements, and their structural characteristics differ considerably from those of other firms (Charitou et al., 2007).

The 404 distressed firms were matched with the same number of non-distressed firms, based on size (total assets, to the extent possible), industry (4-digit NACE⁵² codes) and year (data from the same

⁵¹ In BVD database the search was done as of January 31st, 2015 by status, using the following three: “suspension of payment proceedings”, “bankruptcy”, and “insolvency proceedings”. Also, in order to include audited companies only, results were filtered by companies with information under the field “auditor’s opinion”. The result was the initial sample of the study. Later, it is manually verified that firms were registered in the RPC (excluding the ones that were not) and had enough financial and audit data of the year prior to the insolvency situation.

⁵² The NACE codification is the Statistical Classification of economic activities in the European Community, abbreviated as NACE.

year). This matching procedure follows prior studies (Schwartz and Menon, 1985; Knechel and Vanstraelen, 2007; Carey et al., 2008; Blay et al., 2011). Sample selection criteria are summarized in Table 4.1.

Table 4.1. Sample selection criteria

Initial sample	1,821
(-) Companies not registered as bankrupt in the RPC	(280)
(-) Companies with missing financial data from the year prior to insolvency	(774)
<u>(-) Companies with missing audit data from the year prior to insolvency</u>	<u>(363)</u>
Sample of distressed firms	404
<u>Matched sample of non-distressed firms</u>	<u>404</u>
Final sample	808

The table reports the sample selection criteria. RPC means “Registro Público Concursal” and is the official source about insolvency legal proceedings in Spain. The initial sample was extracted from BVD database as of January 31st, 2015 using the status “suspension of payment proceedings”, “bankruptcy”, and “insolvency proceedings”, and excluding the firms with no information under the field “auditor’s opinion” to ensure that all companies were audited. After filtering the dataset, the final sample comprises all firms registered in the RPC with enough financial and audit data of the year prior to the beginning of the insolvency procedure (404 distressed firms), matched by year, size and industry with 404 non-distressed firms.

For the analyses, from the total dataset 75 percent of observations are randomly selected for estimation purposes (estimation sample), whereas the 25 percent remaining are used to validate the classification results (test sample).

The characteristics of the final sample are reported in Table 4.2. According to the NACE classification, this work divides the sample into five industry categories in Panel 1 of Table 4.2. As per the matching process, there is obviously the same number of firms in each category. Therefore, there are no differences in the distribution of industries between the distressed and the non-distressed firms. Not surprisingly, the majority of firms belong to the construction and real-estate industry (35 percent), due to a substantial impact of the Global financial crisis in Spain on this industry. These firms are followed by manufacturing (27 percent), commercial (20 percent) and services companies (17 percent), which are also representative in the sample. In Panel 2, regarding age, the average for

the total sample is 23 years, meaning that firms have experience in their markets. The median is 19 years for the distressed sample and 21 for the healthy firms. According to the Kolmogorov-Smirnov test, the sample does not follow a normal distribution for age. Then, the non-parametric Mann-Whitney U two-sample test is used to prove the null hypothesis that the distressed and the non-distressed firms are the same population with respect to age. In Panel 3, the size dimension shows an average of total assets of 84 million euros. Due to the matching selection criteria, there are no statistically significant differences in the distribution between distressed and non-distressed groups. As per the Kolmogorov-Smirnov test, the sample does not follow a normal distribution for size, so applying the Mann-Whitney U two-sample test it is verified that distressed and non-distressed firms are the same population with respect to size.

Table 4.2. Descriptive statistics of the sample

Panel 1. Industries of the sample			
	Frequencies (in percent)		
	Distressed	Non-distressed	Total
Construction and real-estate	141 (35)	141 (35)	282 (35)
Manufacturing	110 (27)	110 (27)	220 (27)
Commercial	79 (20)	79 (20)	158 (20)
Services	70 (17)	70 (17)	140 (17)
Primary	4 (1)	4 (1)	8 (1)
Total	404 (100)	404 (100)	808 (100)

Panel 2. Age of the firms (in years)			
	Distressed	Non-distressed	Total
N. observations	404	404	808
Median	19	21	20
Min.	4	3	3
Max.	79	81	81
Mean	22	23	23
Std. Dev.	13	14	13
Mann-Whitney U statistic		159,870	
<i>p-value</i>		.285	

Panel 3. Size of the firms			
	Distressed	Non-distressed	Total
N. observations	404	404	808
Median	15,318	15,261	15,261
Min.	453	416	416
Max.	2,873,883	3,736,210	3,736,210
Mean	84,352	84,431	84,392
Std. Dev.	276,969	293,514	285,185
Mann-Whitney U statistic		163,153	
<i>p-value</i>		.936	

In this table, the five categories classification of industries is created based on NACE codes (Panel 1). The age is expressed in years (Panel 2) and, for the size of the firms, the value of total assets in thousands of euros is used (Panel 3).

2. Logistic regression analysis and variables

The logistic regression methodology is the statistical method adopted to test the hypotheses drawn. This methodology is commonly applied in distress studies, as it seems to fit well with the characteristics of the default prediction issue (Ohlson, 1980; Laitinen and Laitinen, 1998; Balcaen and Ooghe, 2006; Acosta-González and Fernández-Rodríguez, 2014).

For all the estimation models presented in this paper, *DISTRESS* is defined as the dependent variable. *DISTRESS* is a dummy variable that equals 1 if a firm enters into insolvency legal proceedings, and 0 otherwise. A binary variable is commonly used as the dependent variable in the default literature (Luoma and Laitinen, 1991; Laitinen, 1999). This research defines financially distressed firms as those who have started legal proceedings, because this is an objective moment that legally represents that a firm cannot pay its financial obligations. This leads to a legal, objective and narrow definition of financial distress previously used in the literature (Lizarraga-Dallo, 1998; Piñeiro-Sánchez et al., 2013). In Spain, insolvency proceedings are single procedures that end with either the survival of firms or their liquidation.

The financial distress predictors or independent variables are summarized in Table 4.3. For their calculation, data is extracted from the BVD database. Panel 1 reports the independent accounting indicators. The accounting variables are taken from the Altman's Z'' -Score model due to its popularity and efficacy according to prior literature (Altman, 1983; Balcaen and Ooghe, 2006; Bellovary et al., 2007; Tascón-Fernández and Castaño-Gutiérrez, 2012; Altman et al., 2016). This model is composed of four financial ratios: working capital to total assets (*WCTA*), retained earnings to total assets (*RETA*), earnings before interest and taxes to total assets (*EBITTA*), and book value of equity to total liabilities (*BVETL*)⁵³.

⁵³ In the BVD database for Spanish firms, the balance sheet and income statement lines extracted to calculate the ratios are as follows: $WCTA = [(Stocks + debtors + other current assets + cash \& cash equivalents) - (loans + creditors + other current liabilities)] / total\ assets$; $RETA = (Shareholders' funds - capital) / total\ assets$; $EBITTA = Operating\ P/L / total\ assets$; $BVETL = Shareholders' funds / (non-current\ liabilities + current\ liabilities)$.

WCTA is a liquidity ratio that expresses the value of net current assets of a firm over total assets, and a decrease might represent a signal of viability problems, so firms with low liquidity are expected to be more financially distressed than firms with no liquidity issues.

RETA displays the cumulative profitability as a proportion of total assets. As noted in prior studies, profitability is negatively linked to bankruptcy, so a negative correlation between this long term profitability measure and bankruptcy is expected.

The ratio of earnings before interest and taxes to total assets (*EBITTA*) shows how productive a firm is in generating earnings before deducting interest and taxes, so a decline might indicate the existence of financial distress concerns. Thus, a lower profitability is hypothesized when firms are under financial distress. According to prior research, the return on assets ratio appears to be the most powerful predictor (Altman et al., 2016), as it continually outperforms other measures in assessing the risk of failure.

Book value of equity to total liabilities (*BVETL*) captures leverage or capital structure. Shrinkages in this measure might be warning signs for financial difficulties, as it is expected that the distressed sample to be highly leveraged. *BVETL* measures if the value of equity gets lower than total debts with external parties.

This study also explores the bankruptcy predictive ability of external audit information, selecting the following audit explanatory variables: audit opinion (*AUOPI*), the sum of disclosures in each audit report related to accounting variables (*ACCOM*), and the sum of disclosures about general or environmental circumstances, such as regulatory issues (*GRALCOM*). Their definitions are summarized in Table 4.3 Panel 2.

In this study, the audit opinion (*AUOPI*) is a binary variable that takes the value of 0 if the opinion issued in the report prior to insolvency proceedings is unqualified, and 1 if it is qualified. On the one hand, an opinion is unqualified or clean when the auditor determines that the financial statements give a true and fair view in accordance with the financial reporting framework used for the preparation

of the annual accounts. On the other hand, a qualified opinion is given by the auditor if any significant modification or reservation in respect of matters is found in the financial statements. Thus, a qualified report is given by the auditor (i) when the financial statements are materially misstated due to any misstatements in a particular account balance, class of transaction or disclosure that does not have pervasive effect on the financial statements, or (ii) when the auditor is unable to obtain audit evidence regarding balances, transactions or disclosures that does not have pervasive effect on the financial statements. Additionally, auditor might also include in the report an emphasis of matter paragraph. It is a section added to indicate a significant uncertainty or other matter which has been disclosed appropriately in the notes to the financial statements to be mentioned in the report. This paragraph does not qualify the auditors' opinion⁵⁴. For the estimation models, an increase in the prediction power is expected once the audit opinion is considered and combined with accounting data, as per prior empirical evidence (Altman et al., 2010). Moreover, it is also expected that the likelihood of failure and the qualification of the opinion to move towards the same direction, so that a qualified opinion will lead to a financial distress situation.

The sum of all disclosures in each audit report related to accounting variables (*ACCOM*) is a categorical variable that takes the value of 1 if the report has one comment regarding accounting issues in the year prior to insolvency proceedings, 2 if it contains two comments on this matter, and so on. The indicator is zero if there are no comments about accounting elements. The impact of audit report content in failure prediction is still scarce. It is expected that the number of accounting comments highlighted by the auditor to provide incremental information regarding financial distress, as the report is the only mechanism available for the auditor for communicating any concerns about possibilities of failure. The disclosures included under this variable are represented in Table 4.4.

The sum of all disclosures in each audit report related to general or environmental circumstances, such as regulatory issues, is represented in the variable *GRALCOM*. This is a categorical variable that

⁵⁴ Similarly, for the purposes of this paper, any audit opinion in the dataset with an emphasis of matter section is considered to be unqualified.

takes the value of 0 if there are no comments on this matter, 1 if there is one comment of this nature in the report, 2 for two comments, and so on. As in the prior variable, this paper predicts an increase in forecasting financial distress if the number of comments regarding the environmental context raises, as those will affect the company's financial condition and its viability if they are mentioned by the auditor in the report. The disclosures summarized under this variable are contained in Table 4.4.

Table 4.3. Independent variables: accounting variables, audit opinion, and number of disclosures

Panel 1. Accounting variables		
Variable	Formula	Definition
<i>WCTA</i>	$WCTA = \frac{\textit{Working capital}}{\textit{Total assets}}$	Working capital or net current assets (current assets minus current liabilities) to total assets.
<i>RETA</i>	$RETA = \frac{\textit{Retained earnings}}{\textit{Total assets}}$	Retained earnings to total assets.
<i>EBITTA</i>	$EBITTA = \frac{\textit{EBIT}}{\textit{TA}}$	Earnings before interest and taxes to total assets.
<i>BVETL</i>	$BVETL = \frac{\textit{BVE}}{\textit{TL}}$	Book value of equity to total liabilities.
Panel 2. Audit opinion and number of disclosures		
Variable	Explanation	Definition
<i>AUOPI</i>	Audit opinion	Dummy variable that equals 1 if a qualified opinion is issued in the year prior to insolvency proceedings; 0 if the opinion is unqualified.
<i>ACCOM</i>	Sum of accounting disclosures	Categorical variable that equals 1 if the report issued in the year prior to insolvency proceedings has 1 comment regarding accounting issues, 2 if it has two comments on this matter, and so on; 0 if there are no comments.
<i>GRALCOM</i>	Sum of general disclosures	Categorical variable that equals 1 if the report issued in the year prior to insolvency proceedings has 1 comment of this nature, 2 if it has two comments, and so on; 0 if there are no comments.

This table reports independent accounting and auditing variables of the logit models, with the exception of the codification of audit report disclosures (see Table 4.4). *WCTA* states for working capital to total assets; *RETA*: retained earnings to total assets; *EBITTA*: earnings before interest and taxes to total assets; *BVETL*: book value of equity to total liabilities; *AUOPI*: Audit opinion; *ACCOM*: sum of accounting disclosures; *GRALCOM*: sum of general or environmental disclosures.

In order to test the predictive ability of the narrative audit report disclosures separately, this article incorporates them to the estimations as independent indicators, using a recent classification in the literature (Muñoz-Izquierdo et al., 2017). This codification is selected due to its completeness and it consists of 20 dummy variables, detailed in Table 4.4, that capture qualitative audit report information. In general, it is reasonable to assume that audit report disclosures will represent a signal of viability concerns, so comments will provide incremental power for predicting bankruptcy.

The codification arranges the 20 items according to three categories: the type of paragraph or location in which disclosures are included, the accounting elements commented, or other circumstances that the auditor points out. There are 3 items in the first category (paragraph or location): emphasis of matter, modification due to a scope limitation, and modification due to a GAAP violation. The second category includes 12 items, regarding the accounting elements mentioned in the audit report. They are all related to assets (non-current and current), liabilities and contingencies, results, working capital information and data omission in the annual accounts. The last section or category has 5 items that underline the importance for auditors to mention external or environmental circumstances that may lead to a situation of financial distress in a firm. Those items contain information regarding regulatory issues, the market in which the firm operates, and signs that the company may not be able to pay its financial obligation in the current future. These are disclosures about going concern, about the company putting in practice a management plan to solve the financial situation or the firm starting legal proceedings. As per the above, it is reasonable to assume that a relevant number of audit report disclosures will represent increasing signals of viability concerns.

Table 4.4. Codification of audit report disclosures

Codification	Variable	Description
A. According to the type of paragraph used for disclosure		
1. Emphasis of matter	<i>EMPHA</i>	Dummy variable that equals 1 if an emphasis of matter section is issued in the year prior to insolvency proceedings; 0 otherwise.
2. Scope limitation	<i>SCOPE</i>	Dummy variable that equals 1 if a scope limitation is issued; 0 otherwise.
3. GAAP violation	<i>GAAPV</i>	Dummy variable that equals 1 if a GAAP violation is issued; 0 otherwise.
B. According to the specific accounting elements affected (<i>ACCOM</i>)		
4. NCA: tangibles and intangibles	<i>TNINA</i>	Dummy variable that equals 1 if a remark on tangible or intangible assets is issued; 0 otherwise.
5. NCA: LTFI	<i>LTINV</i>	Dummy variable that equals 1 if a remark on LTFI is issued; 0 otherwise.
6. NCA: deferred tax assets	<i>DTA</i>	Dummy variable that equals 1 if a remark on DTA is issued; 0 otherwise.
7. CA: inventories	<i>INV</i>	Dummy variable that equals 1 if a remark on inventories is issued; 0 otherwise.
8. CA: STFI and cash	<i>STINV</i>	Dummy variable that equals 1 if remark on inventories is STFI; 0 otherwise.
9. Liabilities: debts	<i>LIAB</i>	Dummy variable that equals 1 if a remark on liabilities is issued; 0 otherwise.
10. Contingencies	<i>CONTIN</i>	Dummy variable that equals 1 if a remark on inventories is issued; 0 otherwise.
11. Result of the period	<i>REPER</i>	Dummy variable that equals 1 if a remark on the result of the period is issued; 0 otherwise.
12. Accumulated losses	<i>ACLOSS</i>	Dummy variable that equals 1 if a remark on accumulated losses is issued; 0 otherwise.
13. Information omitted	<i>INFOM</i>	Dummy variable that equals 1 if a remark on information omission is issued; 0 otherwise.
14. Negative working capital	<i>NEGWC</i>	Dummy variable that equals 1 if a remark on negative working capital is issued; 0 otherwise.
15. Subsequent events	<i>SUBSEQ</i>	Dummy variable that equals 1 if a remark on subsequent events is issued; 0 otherwise.
C. Other circumstances disclosed by the auditor (<i>GRALCOM</i>)		
16. Regulatory effects	<i>REGUL</i>	Dummy variable that equals 1 if a remark on regulation is issued; 0 otherwise.
17. External economic environment	<i>ENVIR</i>	Dummy variable that equals 1 if a remark on environmental or external factors is issued; 0 otherwise.
18. Management plan	<i>MGMT</i>	Dummy variable that equals 1 if a remark on management plans is issued; 0 otherwise.
19. GC	<i>GC</i>	Dummy variable that equals 1 if a remark on going concern is issued; 0 otherwise.
20. Insolvency proceedings	<i>INPROC</i>	Dummy variable that equals 1 if a remark on insolvency proceedings is issued; 0 otherwise.

The table reports the variables that represent the 20-item codification of audit report disclosures, segregated into three sections: location or paragraph (A), accounting elements (B) and general circumstances (C). The table shows the section (first column), the item/variable number, name and abbreviated name (second, third and fourth column, respectively), and the variable definition (fifth column). *GAAP* states for “Generally Accepted Accounting Principles”; *NCA*: “non-current assets”; *LTFI*: “long-term financial investments”; *DTA*: “Deferred tax assets”; *CA*: “current assets”; *STFI*: “short term financial investments” and *GC*: “going concern”.

IV. RESULTS

1. Summary statistics

Summary statistics are reported for the accounting and auditing variables included as financial distress predictors in the logit models (Tables 4.5 to 4.7).

Descriptive statistics of the four ratios that compose the Altman's Z''-Score model are shown in Table 4.5. To control for extreme values, these variables are winsorized to the first and 99th percentile. Consistent with prior studies, both the mean and the median for all ratios are lower for distressed than for non-distressed firms (Altman et al., 2016). Thus, as expected, financial predictors differ for firms facing insolvency proceedings in the subsequent year relative to healthy companies. At the p-level of 1 percent, all these differences between the two groups are statistically significant as per the non-parametric Mann-Whitney U two-sample test.

Firms dealing with viability concerns show lower level of liquidity, cumulative profitability, periodic profitability and lower equity to total debt. Whereas distressed firms have negative liquidity (mean *WCTA* is -9 percent), non-distressed companies show positive results (24 percent). Firms under financial distress have lower retained earnings as a percentage of total assets (mean *RETA* is -10 percent versus 30 percent) and the average return on assets (*EBITTA*) is also lower for distressed firms (-17 percent versus 2 percent) meaning that they regularly report very low earnings. Finally, it is interesting to mention that the value of equity over total liabilities presents an important gap from distressed to healthy firms (mean *BVETL* is 28 percent versus 173 percent). Overall, this univariate evidence is consistent with the expectation that firms with poorer economic performance are more likely to face financial distress.

Table 4.5. Summary statistics of Model 1 (Altman's Z''-Score model)

Variables	Distressed (n = 404)							Non-distressed (n = 404)							Comparison	
	Mean	Std. Dev.	Min.	Max.	P25	P75	Med.	Mean	Std. Dev.	Min.	Max.	P25	P75	Med.	Mann-Whitney U test	p-value
<i>WCTA</i>	-.090	.401	-1.556	.883	-.250	.128	-.038	.239	.307	-1.556	.883	.036	.426	.199	38,901.5	.000
<i>RETA</i>	-.104	.481	-1.965	.853	-.207	.137	.003	.300	.345	-1.898	.889	.137	.528	.294	31,292.0	.000
<i>EBITTA</i>	-.169	.329	-1.712	.318	-.184	-.005	-.065	.026	.104	-.641	.318	-.005	.064	.030	28,393.5	.000
<i>BVETL</i>	.278	1.098	-.633	15.493	-.084	.348	.093	1.728	3.015	-.633	15.493	.302	1.669	.649	31,772.0	.000

This table presents summary statistics for Altman's Z''-Score model, which includes only accounting variables. It covers mean, standard deviation, minimum and maximum values, percentiles 25th and 75th, and median for the ratios used in the logistic regression: working capital to total assets (*WCTA*), retained earnings to total assets (*RETA*), earnings before interest and taxes to total assets (*EBITTA*) and book value of equity to total liabilities (*BVETL*). All ratios are winsorized to the first and 99th percentile to avoid extreme values. Due to winsorizing, some maximum and minimum values are identical for distressed and non-distressed firms. The nonparametric Mann-Whitney U two-sample test is applied to test the null hypothesis that the distressed and non-distressed firms are the same population with respect to the accounting variables and two-tailed significance is reported. The number of observations in the total sample is 808 (404 distressed and 404 non-distressed).

The descriptive statistics for the audit explanatory variables are reported in Tables 4.6 and 4.7. In Table 4.6 Panel 1, the size of the auditors in the sample is displayed. The most common auditor in the overall sample is a small-sized firm because 467 companies selected this type of auditor (58 percent of the total sample of 808 observations), followed by Big 4 accounting firms (24 percent), individual auditors (14 percent) and medium-sized firms (4 percent). Using the Chi-Square statistic, the differences in the distribution of auditor size are tested between distressed and non-distressed firms and differences are significant (p-value of 0.004), which indicate that the auditor's election for companies that perform in the same industry and own the same value of assets differs depending on the financial condition. While big-sized auditors are more frequently hired by healthy firms, distressed companies prefer to be audited by a smaller firm.

The univariate evidence on audit opinion (see Panel 2 of Table 4.6) shows the predictable differences between distressed and non-distressed firms, statistically significant at the p-level of 1 percent. In the distressed sample, there are 221 (55 percent) qualified and 183 (45 percent) unqualified opinions. In the non-distressed sample, the number of clean opinions is 330 (82 percent) and 74 (18 percent) are modified reports. This result indicates that there are many distressed companies in the sample that did not receive any qualification in their audit reports in the year before failing into insolvency proceedings. This is known as Type II error or a false negative (Hopwood et al., 1989; Laitinen and Laitinen, 1998; Knechel and Vanstraelen, 2007; Carey et al., 2008). Type I error (or a false positive) is very rare in the sample. A Type I error appears when a firm receives a going concern modification but remain viable in the subsequent period. Although there are many qualified reports for non-distressed firms (18 percent of the non-distressed sample), only 14 are going concern qualifications (for more details see Table 4.7). Thus, this suggest that it is more common to see failed companies that did not receive a modified opinion prior to failure, or a Type II misclassification, which is more costly than a Type I error (Hernández-Tinoco and Wilson, 2013).

Turning to the content of audit reports, Panel 3 of Table 4.6 reports the variable *ACCOM* that represents the number of comments mentioned by auditors regarding issues with the financial

statements. As predicted, these narratives are more frequent in distressed companies, and the difference with non-distressed companies is very significant (p-value of 0.000).

Furthermore, Panel 4 summarizes the sum of comments related to disclosures in the audit report about environmental issues (*GRALCOM*), such as a general decline of sales in the market that affects the whole industry, a regulatory reform, or the beginning of court proceedings. Similarly, the difference between the two groups is very significant (p-value of 0.000), as they appear more regularly in distressed firms. Nevertheless, it is noticeable that in some cases auditors did not disclose any comments (77 and 205, for accounting and environmental comments, respectively) for distressed companies.

Table 4.6. Frequency (and percentage) of audit variables

Panel 1. Auditor size			
Categories	Distressed (404)	Non-distressed (404)	Total (808)
Big 4	76 (39)	119 (61)	195 (100)
Medium	22 (61)	14 (39)	36 (100)
Small	248 (53)	219 (47)	467 (100)
Individuals	58 (53)	52 (47)	110 (100)
Chi-Square statistic		13.388	
Df		3	
<i>p-value</i>		.004	
Panel 2. Audit opinion (<i>AUOPI</i>)			
Categories	Distressed (404)	Non-distressed (404)	Total (808)
Unqualified	183 (36)	330 (64)	513 (100)
Qualified	221 (75)	74 (25)	295 (100)
Chi-Square statistic		115.374	
Df		1	
<i>p-value</i>		.000	
Panel 3. Accounting elements affected (<i>ACCOM</i>)			
Categories	Distressed (404)	Non-distressed (404)	Total (808)
No comments	77 (22)	271 (78)	348 (100)
1 comment	159 (60)	106 (40)	265 (100)
2 comments	125 (83)	26 (17)	151 (100)
3 comments	39 (97)	1 (3)	40 (100)
4 comments	2 (100)	0 (0)	2 (100)
5 comments	2 (100)	0 (0)	2 (100)
Chi-Square statistic		223.757	
Df		5	
<i>p-value</i>		.000	
Panel 4. Circumstances disclosed by the auditor (<i>GRALCOM</i>)			
Categories	Distressed (404)	Non-distressed (404)	Total (808)
No comments	205 (35)	378 (65)	583 (100)
1 comment	71 (80)	18 (20)	89 (100)
2 comments	70 (95)	4 (5)	74 (100)
3 comments	55 (93)	4 (7)	59 (100)
4 comments	3 (100)	0 (0)	3 (100)
Chi-Square statistic		188.848	
Df		4	
<i>p-value</i>		.000	

This table presents the summary statistics of auditing information of the dataset, with the exception of audit report disclosures' statistics (detailed in Table 4.7). Data is divided by distressed, non-distressed and overall sample (second, third and fourth column, respectively). Absolute figures indicate frequency of each variable and percentages over total sample are reported in parenthesis. In Panel 1, samples are classified by auditor size. The type of opinion issued (unqualified or clean, and qualified or modified) in the year prior to insolvency proceedings is shown in Panel 2 for distressed and non-distressed firms. Panels 3 and 4 inform about the number of comments regarding accounting elements (Panel 3) or environmental circumstances (Panel 4) mentioned by auditor in the report preceding insolvency. Under each variable, Chi-Square statistic shows whether differences exist in the distribution of these auditing data between distressed and non-distressed firms. Degrees of freedom (Df) and significance are also reported below the statistic.

In Table 4.7, the contingency table of the 20-item codification of audit report disclosures is reported. At the p-level of 1 percent, all the variables differ between distressed and non-distressed firms, meaning that the differences on audit report disclosures between the groups are very significant. Not surprisingly, the frequency is higher for distressed firms, due to the fact that they represent emphasis of matter and modification paragraphs.

In particular, it is found that the most frequent type of paragraph is the emphasis of matter (*EMPHA*). In the fiscal year prior to legal proceedings, 50 percent of distressed reports include this section, whereas it is present in 18 percent of cases where distress does not subsequently occur. As a matter paragraph does not modify the audit opinion, this result suggests that unmodified or clean reports are more frequent in the study (see also Panel 2 of Table 4.6, which shows the audit opinion).

In the sample, modified audit opinions are separated into modifications due to scope limitations (*SCOPE*) and GAAP violation (*GAAPV*). This work finds that about 36 percent of firms dealing with financial issues in the subsequent year have a scope limitation, and 25 percent contain a GAAP violation. These percentages decrease substantially in the audit reports of healthy firms. This result allows us to conclude that modified audit opinions appear in financially distressed firms more frequently than in healthy ones. This goes along with the idea that modified opinions provide signals of financial risk (Altman, 1984; Blay et al., 2011).

For distressed firms, the comments that appear the most regarding elements of the financial statements are associated with accumulated losses, short-term and long-term investments. Their high frequency relies on the idea that accumulated losses are only mentioned by auditors when the failure of the company is completely clear, as they do not normally provide unwarranted modified opinions (Geiger et al., 1998; Carey et al., 2008; Carcello and Neal, 2003). Audit report disclosures about financial investments are also more frequent in bankrupt firms, as profitability is mentioned by auditors when companies face significant warning issues. Added to this, in prediction models based on accounting-

based ratios, the return on assets ratio is the most accurate bankruptcy predictor (Altman, 1968; Altman, 1983), so that this confirms the important value of comments on investments.

The highest percentage found in remarks about general circumstances affecting a default company relates to comments on going concern uncertainties (45 percent), whereas it only appears 7 times in non-default companies. Interestingly, this means that nearly half of the auditors highlight important viability concerns when financial distress subsequently occurs. This evidence clearly anticipates the relevance of disclosures about viability uncertainties as predictors of financial distress. Thus, as mentioned above, the sample also provides evidence on audit reporting misclassifications. Despite the few cases of non-distressed companies that do receive a going concern modification (Type I misclassification), it is more common to see failed companies that did not receive a modified opinion prior to financial distress (Type II misclassification).

A remark associated with the firm entering into insolvency proceedings (*INPROC*) does not appear in healthy firms. Results show that 23 percent of risky firms contain this comment in the report, pointing out that those companies entered into voluntary legal proceedings. This finding is coherent with the usual practice of filing for bankruptcy protection in Spain, in order to avoid criminal responsibility in imminent bankruptcy situations (Pozuelo-Campillo et al., 2010; Piñeiro-Sánchez et al., 2013).

Finally, by this univariate analysis significant differences have been identified between distressed and non-distressed firms regarding audit report information. As the predictive ability of a detailed classification of the content of audit reports has not been tested so far in financial distress studies, this work incorporates the audit opinion (*AUOPI*), the sum of disclosures (*ACCOM* and *GRALCOM*) and the 20-item codification of audit report disclosures to the logit estimation models.

Table 4.7. Frequency (and percent) of audit report disclosures

Variables	Distressed (n = 404)	Non- distressed (n = 404)	Total (n = 808)	Chi- Square statistic	Comparison	
					Df	<i>p</i> - value
A. According to the type of paragraph used for disclosure						
1. <i>EMPHA</i>	202 (74)	73 (26)	275 (100)	91.734	1	.000
2. <i>SCOPE</i>	144 (86)	24 (14)	168 (100)	108.214	1	.000
3. <i>GAAPV</i>	102 (67)	51 (33)	153 (100)	20.971	1	.000
B. According to the specific accounting elements affected (<i>ACCOM</i>)						
4. <i>TNINA</i>	31 (76)	10 (24)	41 (100)	11.331	1	.001
5. <i>LTINV</i>	74 (70)	31 (30)	105 (100)	20.240	1	.000
6. <i>DTA</i>	25 (78)	7 (22)	32 (100)	10.543	1	.001
7. <i>INV</i>	61 (80)	15 (20)	76 (100)	30.733	1	.000
8. <i>STINV</i>	83 (89)	10 (11)	93 (100)	64.754	1	.000
9. <i>LIAB</i>	53 (82)	12 (18)	65 (100)	28.124	1	.000
10. <i>CONTIN</i>	31 (78)	9 (22)	40 (100)	12.730	1	.000
11. <i>REPER</i>	32 (71)	13 (29)	45 (100)	8.495	1	.004
12. <i>ACLOSS</i>	89 (91)	9 (9)	98 (100)	74.320	1	.000
13. <i>INFOM</i>	14 (29)	35 (71)	49 (100)	9.581	1	.002
14. <i>NEGWC</i>	38 (81)	9 (19)	47 (100)	18.999	1	.000
15. <i>SUBSEQ</i>	13 (93)	1 (7)	14 (100)	10.467	1	.001
C. Other circumstances disclosed by the auditor (<i>GRALCOM</i>)						
16. <i>REGUL</i>	14 (82)	3 (18)	17 (100)	7.271	1	.007
17. <i>ENVIR</i>	51 (81)	12 (19)	63 (100)	26.184	1	.000
18. <i>MGMTP</i>	48 (87)	7 (13)	55 (100)	32.796	1	.000
19. <i>GC</i>	183 (93)	14 (7)	197 (100)	191.724	1	.000
20. <i>INPROC</i>	92 (98)	2 (2)	94 (100)	97.515	1	.000

Using Muñoz-Izquierdo et al.'s (2017) audit report disclosures classification, this table reports the frequency of disclosures in the distressed, non-distressed and overall sample. The absolute figures of the second, third and fourth column represent the disclosures of every class that appear in each sample, and percentages of the overall sample are reported in parenthesis. The last three columns show the Chi-Square statistic, the degrees of freedom (Df) and the significance to examine if there are differences in the distribution of disclosures between distressed and non-distressed firms. Variables in the codification are *EMPHA*: emphasis of matter; *SCOPE*: scope limitation; *GAAPV*: GAAP violation; *TNINA*: non-current assets: tangibles and intangibles; *LTINV*: non-current assets: long-term financial investments; *DTA*: non-current assets: deferred tax assets; *INV*: current assets: inventories; *STINV*: current assets: short-term financial investments and cash; *LIAB*: liabilities: debts; *CONTIN*: contingencies; *REPER*: result of the period; *ACLOSS*: accumulated losses; *INFOM*: information omitted; *NEGWC*: negative working capital; *SUBSEQ*: subsequent events; *REGUL*: regulatory effects; *ENVIR*: external economic environment; *MGMTP*: management plan; *GC*: going concern; *INPROC*: insolvency proceedings; *ACCOM*: sum of accounting disclosures; *GRALCOM*: sum of general disclosures.

2. Pearson correlations

Table 4.8 provides Pearson correlation coefficients among the accounting and auditing indicators, and the p-values represent the probability of observing these coefficients. In general, results confirm that the correlations between the explanatory variables are significant but relatively low. The highest correlation is found between the profitability ratios (*RETA* and *EBITTA*).

In addition to the correlation matrix, the multicollinearity diagnostic tests of Tolerance Values (TOL) and Variance Inflation Factors (VIF) are also presented in Table 4.8. The problem of multicollinearity appears when there is linear dependency among the independent variables in multivariate analyses. This may indicate that the coefficients estimated are not reliable. There is not a formal criterion to establish a VIF threshold above which multicollinearity can be ascertained, but to ensure that multicollinearity issues are not present, it has been generally accepted that VIF should be lower than 10 to demonstrate that the collinearity is not significant (Neter et al., 1989; Hernández-Tinoco and Wilson, 2013). Results show that there are no multicollinearity issues, as VIF are under 3 (well under the suggested value of 10)⁵⁵.

⁵⁵ This paper also calculates the correlation matrix and the multicollinearity tests for all the independent variables (including the 20-item codification of audit report disclosures), not presented in the paper due to the size of the table. The VIF values are below 10, which suggests that multicollinearity is not present and coefficient levels are stable. There is an exception with the VIF for the audit opinion variable (*AUOPI*), which equals 11.012. This result seems reasonable, as the variables that represent the content of the report are summarized in the audit opinion issued. Therefore, in the multivariate analysis, the audit opinion is not combined with other auditing variables in the same logit model, as the opinion seems to be a linear or quasi-linear combination of the other auditing variables.

Table 4.8. Correlation matrix and multicollinearity diagnostic statistics

Variable	<i>WCTA</i>	<i>RETA</i>	<i>EBITTA</i>	<i>BVETL</i>	<i>AUOPI</i>	<i>ACCOM</i>	<i>GRALCOM</i>
Panel 1. Correlation matrix							
<i>WCTA</i>	1.000						
<i>RETA</i>	.657 .000	1.000					
<i>EBITTA</i>	.524 .000	.671 .000	1.000				
<i>BVETL</i>	.326 .000	.461 .000	.193 .000	1.000			
<i>AUOPI</i>	-.187 .000	-.189 .000	-.154 .000	-.153 .000	1.000		
<i>ACCOM</i>	-.308 .000	-.302 .000	-.216 .000	-.191 .000	.578 .000	1.000	
<i>GRALCOM</i>	-.170 .000	-.229 .000	-.196 .000	-.143 .000	.020 .569	.324 .000	1.000
Panel 2. Multicollinearity diagnostic statistics							
VIF	1.849	2.825	1.941	1.329	1.590	1.843	1.209
TOL	.541	.354	.515	.752	.629	.543	.827

Panel 1 of this table presents the Pearson correlation matrix of all the accounting (*WCTA*, *RETA*, *EBITTA* and *BVETL*) and auditing (*AUOPI*, *ACCOM* and *GRALCOM*) variables included in the models, except for the audit report disclosures. P-values are reported below each Pearson coefficient and show the probability of observing this correlation under the null hypothesis that the correlation is zero. We have explored the correlations of the codification of disclosures and there are no multicollinearity issues among them (table not included in the paper). Panel 2 reports the Tolerance value (TOL) and its reciprocal, the Variance Inflation (VIF), two tests that detect the presence of multicollinearity among the variables.

3. Logistic regression models

Moving to the multivariate analyses, the logit models of financial distress probability are presented in Table 4.9. The performance measures and classification accuracy of all the logit models is shown in Table 4.10.

The present work develops four main models (Models 2 to 5) for predicting financial distress to study the contribution of auditing indicators to the predictive accuracy of a traditional model based on financial statement ratios, the Altman's Z'' -Score model (Model 1). The models estimate the probability of financial distress in the year prior to the observation of this situation. They examine the predictive ability of each variable (accounting ratios and auditing information) and they also provide evidence about the variables that best discriminate between distressed and non-distressed firms.

Model 1 represents the baseline model or the Altman's Z'' -Score model tested in the sample. Models 2 to 5 are the combined models of accounting plus auditing information. They all incorporate, in addition to the accounting ratios of the Altman's Z'' -Score model, different audit variables. Model 2 includes the audit opinion (*AUOPI*). Model 3 substitutes the opinion by the types of paragraphs included in the report: emphasis of matter (*EMPHA*), scope violation (*SCOPE*) and GAAP violation paragraphs (*GAAPV*). As per the codification of audit report disclosures, these variables represent items 1-3 (Muñoz-Izquierdo et al., 2017). Model 4 complements the accounting ratios with the two variables that represent the sum of all disclosures in each report related to accounting variables (*ACCOM*) and to environmental circumstances (*GRALCOM*). Finally, the auditing information in Model 5 are the 17 variables remaining in the classification, the ones that represent the content of disclosures: 12 variables related to accounting elements mentioned and 5 variables that contain environmental circumstances also pointed out by auditors (Muñoz-Izquierdo et al., 2017).

The results of the Altman's Z'' -Score logit model appear in the second column of Table 4.9. Liquidity, profitability and leverage coefficients are negative, which conform to the predictions and

to the findings of prior failure research (Altman et al., 2016). These results imply that financial distress likelihood decreases in liquidity, profitability, and leverage. However, the cumulative profitability ratio does not appear to be significant, which indicates that this ratio does not possess a high discriminating and predicting power. The insignificance of the cumulative profitability ratio (*RETA*) can be explained by the fact that the greater part of private firms in the sample are small so that the equity ratio (*BVETL*) already mainly reflects the accumulated profits (see also Table 4.8 for Pearson correlations between *RETA* and *BVETL*).

In the performance measures of Model 1 (second column of Table 4.10), the Nagelkerke R Square is 44 percent, which shows a moderately high strength of association. However, this measure (as well as the Cox & Snell R Square) is only presented to make comparisons easier, but its interpretation should be treated with caution, as it does not have the same meaning for logit regressions as it has for ordinary least squares regressions (Hernández-Tinoco and Wilson, 2013).

The classification accuracy of the model is measured by the AUC, which is the “Area under the Receiver Operating Characteristics Curve” and represents an appropriate and direct measure of the predictive accuracy of models estimated using logistic regressions. The classification accuracy of the model is very adequate because the AUC equals 0.861. In the test sample, the model classifies correctly about 78 percent of the total sample, being 65 percent the correct classification of distressed and increasing to 92 percent for healthy firms. This higher percentage in the non-distressed group is also common in other studies (Altman et al., 2016). Thus, evidence indicates that 35 percent of distressed companies may share financial ratios results with non-distressed companies. Despite the sufficient classification ability of the model, the Hosmer & Lemeshow test statistic is significant (p-value of 0.000), suggesting that this logit regression does not fit very well with the data.

The first model that mixes two data sources is Model 2 (third column of Table 4.9). In this model, all independent variables are negative and significant, with the exception of the cumulative profitability ratio (*RETA*), as it happened in Model 1.

As noted by the model summary tests (third column of Table 4.10), this combination of financial ratios and audit opinion registers moderate strength of fit (a Nagelkerke *R*-square of 52 percent). The Hosmer & Lemeshow test is not statistically significant (p-value of 0.188), which indicates a very high goodness of fit with the data, improving the results from Model 1. This model classifies correctly about 75 percent of firms in the test sample, with a classification performance of 0.878 (AUC), increasing the overall accuracy of Model 1. Although the AUC slightly increases compared to Model 1, the percentage of firms correctly classified does not improve. It might be due to high correlation between the audit opinion and the other variables, so this fact might be disruptive for the model accuracy (Balcaen and Ooghe, 2006).

In Model 3, the opinion is substituted by the incremental contribution of the type of paragraph disclosed in the report (*EMPHA*, *SCOPE* and *GAAPV*). It is found that the coefficients of these three audit variables are statistically very significant at the p-level of 1 percent, and that the accounting ratios behave in the same way as in Models 1 and 2. Nagelkerke *R*-square in Model 3 increments to 60 percent but the model does not fit the data properly, as the Hosmer & Lemeshow test is significant (p-value of 0.048). The overall accuracy of the model increases in the test sample to 83 percent, and classification performance raises to an AUC of 0.906. This result indicates that the estimation model improves by adding the information regarding the type of paragraph in which the report disclosures are located.

Model 4 substitutes the type of paragraphs by two variables that indicate the content of those paragraphs: the sum of audit report comments related to accounting and environmental circumstances (*ACCOM* and *GRALCOM*). At the p-level of 1 percent, audit coefficients are significant so that they are efficient predictors of the probability of financial distress. Similar to prior models, liquidity, profitability and leverage ratios have also high discriminating power. However, although the Nagelkerke *R*-square slightly increases to 63 percent compared to Model 3, this model still does not fit with the data, as the Hosmer & Lemeshow test is significant (p-value of 0.029). The overall accuracy of the model increments to 84 percent, and classification performance equals 0.919. This

evidence shows that with just two variables summarizing the content of the audit report is enough to obtain a precise estimation of financial distress. This is consistent with prior literature that suggests that higher model accuracy is not guaranteed with a greater number of factors, and that some models with very few number of factors are capable of surpassing the prediction of others with many more (Bellovary et al., 2007).

Model 5 includes the 17 items remaining of the classification of audit report disclosures (as the type of paragraph is included in Model 3), so it can be considered the most complete model estimated in this study. In terms of the Nagelkerke *R*-square, the strength of association increases to 68 percent with this model and, in this case, the goodness of fit is accurate because the Hosmer & Lemeshow test has a *p*-value of 0.151. Moreover, the classification results, validated using the test sample, improve from previous models. The classification accuracy of the model significantly raises to 86 percent in the test sample (79 percent and 89 percent for the distressed and non-distressed groups, respectively), with an AUC of 0.929. Thus, 21 percent of problematic companies may have similar characteristics as healthy companies. As per the results just mentioned, this model can be considered as precise and conclusive.

As expected, the financial ratios coefficients are statistically significant and negative, indicating the poor economic performance of bankrupt firms. However, there is an exception in the cumulative profitability ratio as in prior models that outlines the low predictive ability of this ratio in all circumstances. These results are consistent with prior findings that determine the return on assets ratio and a leverage measure to be the best bankruptcy predictors in Spain (Lizarraga-Dallo, 1998).

Regarding audit data, some content of the audit report has a high ability on predicting financial distress. Results show significant coefficients for the audit report variables *TNINA*, *LTINV*, *INV*, *STINV*, *REPER* and *GC* which conform to the predictions. Moreover, these coefficients are statistically significant in the predicted direction because they have a positive sign. This evidence

implies that financial distress likelihood increases when auditors issue comments on fixed assets, investments, inventories, revenues and expenses of the period and going concern uncertainties.

When there is a need to compare the predictive ability of several logit models, prior literature recommends the use of the AUCs. Following Hernández-Tinoco and Wilson (2013), this paper carries out the comparisons using the non-parametric methodology introduced by DeLong et al. (1988), which has not been previously applied in prediction studies that combine accounting and audit data. The comparison of ROC (Receiver Operating Characteristics) curves for the five models is presented in Figure 1, illustrating the differences in the predictive accuracy of all models through the interpretation of their respective AUCs. The closer each ROC curve is to the ideal point (0,1), the more suitable its discriminating power. In other words, the closer the value of an AUC gets to 1, the more precise its discriminating ability.

With a Model 1 AUC of 0.861, it is presumed that a standard set of liquidity, profitability and leverage ratios represents efficient predictors of financial distress probability. As Model 2 AUC moves to 0.878, it is inferred that the contribution of the audit opinion is positive, though marginal. However, the substantial increase appears with the inclusion of audit variables more specifically related to the content of the report (Model 3 AUC is 0.906, and Models 4 and 5 AUCs are 0.919 and 0.929, respectively). Additionally, it is worth mentioning that, as per the non-parametric test of DeLong *et al.* (1988), the five comparisons of AUCs show a p-value of 5 percent or smaller, which signifies that the AUCs differ from a statistical point of view and thus, the analysis is conclusive.

In summary, it can be concluded that the accuracy of models that combine financial and audit information is higher than a model of only accounting ratios. This important result suggests that audit information incrementally predicts bankruptcy over financial statements data. Therefore, the two hypotheses proposed in this study are supported, as the combination of both the number (H1) and the content of audit report disclosures (H2) exceed the predictive ability and accuracy of the only accounting model.

Table 4.9. Logit models of financial distress probability

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
<i>WCTA</i>	-2.035*** (.392)	-1.908*** (.403)	-1.699*** (.420)	-1.676*** (.432)	-1.688*** (.474)
<i>RETA</i>	-.443 (.447)	-.373 (.437)	-.107 (.449)	.122 (.458)	-.043 (.496)
<i>EBITTA</i>	-7.227*** (1.165)	-6.565*** (1.160)	-5.997*** (1.194)	-6.293*** (1.232)	-6.033*** (1.286)
<i>BVETL</i>	-.297** (.119)	-.254** (.113)	-.254** (.118)	-.332*** (.126)	-.350** (.153)
<i>AUOPI</i>		-1.653*** (.225)			
<i>ACCOM</i>				1.031*** (.151)	
<i>GRALCOM</i>				1.041*** (.190)	
<i>EMPHA</i>			-1.547*** (.252)		
<i>SCOPE</i>			-2.705*** (.339)		
<i>GAAPV</i>			-1.213*** (.284)		
<i>TNINA</i>					1.403*** (.539)
<i>LTINV</i>					1.303*** (.357)
<i>DTA</i>					.471 (.622)
<i>INV</i>					1.598*** (.486)
<i>STINV</i>					2.582*** (.563)
<i>LIAB</i>					.269 (.514)
<i>CONTIN</i>					.942 (.595)
<i>REPER</i>					1.702*** (.562)
<i>ACLOSS</i>					.442 (.562)
<i>INFOM</i>					-.505 (.538)
<i>NEGWC</i>					-.955 (.671)
<i>SUBSEQ</i>					1.104 (1.143)
<i>REGUL</i>					.958 (1.148)
<i>ENVIR</i>					.526 (.611)
<i>MGMT</i>					-.198 (.755)
<i>GC</i>					2.376*** (.596)
<i>INPROC</i>					1.138 (.871)

Table 4.9 (cont.). Logit models of financial distress probability

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Constant</i>	.167 (.123)	1.191*** (.196)	4.293*** (.480)	-1.160*** (.192)	-1.180*** (.207)
Observations	808	808	808	808	808
Year	t-1	t-1	t-1	t-1	t-1
Model	Logit	Logit	Logit	Logit	Logit

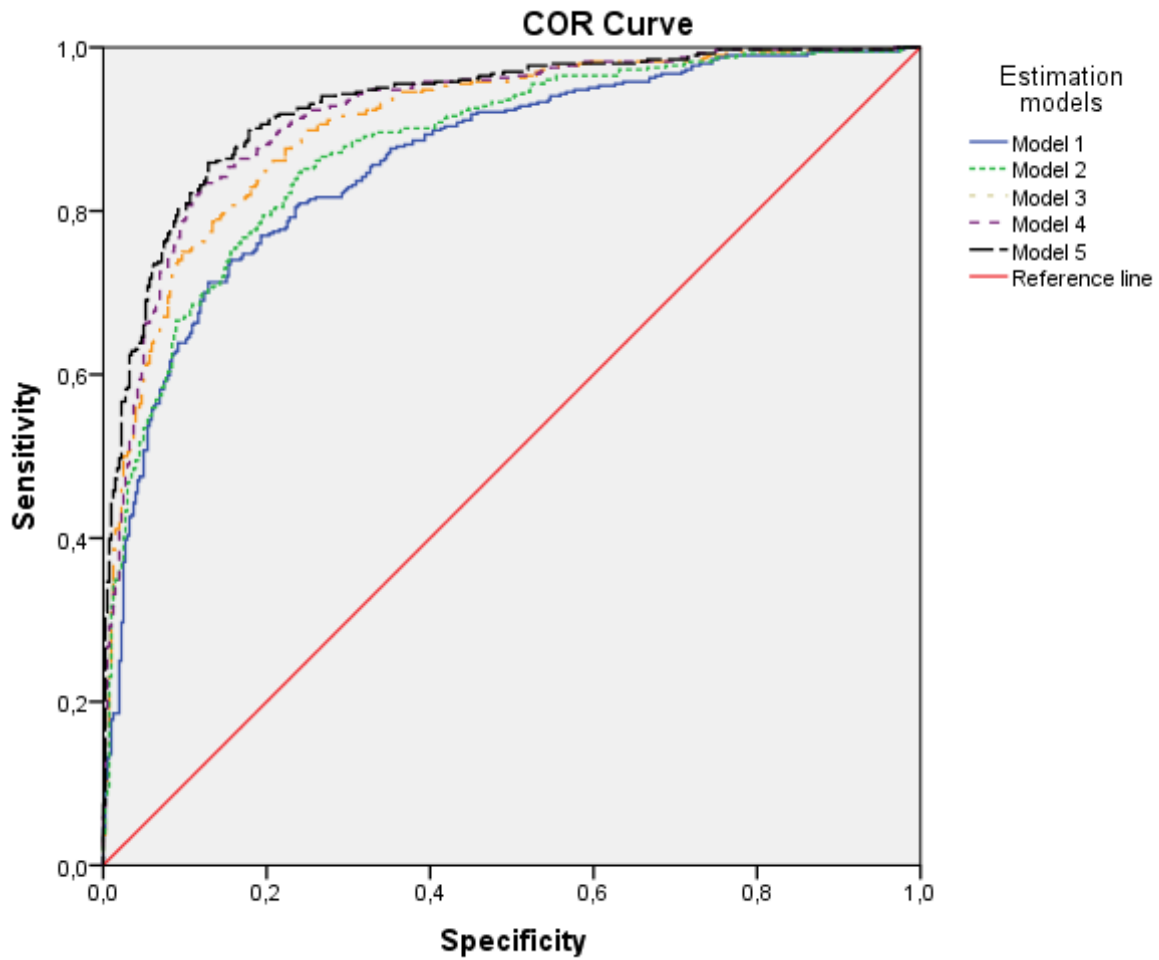
This table presents the results of the logit models of financial distress prediction. Models include accounting ratios only (Model 1) or a combination of accounting ratios and auditing information (Models 2-5). All estimations are computed for the year prior to insolvency proceedings. Standard errors appear in parenthesis. ***, **, * denote statistical significance at the 1 percent, 5 percent, and 10 percent levels, respectively.

Table 4.10. Performance measures and classification accuracy of the logit models

Panel 1. Performance measures of the logit models											
Measure	Model 1	Model 2	Model 3	Model 4	Model 5						
AUC	.861	.878	.906	.919	.929						
-2 log-likelihood	597.030	539.148	480.869	456.548	409.456						
Cox & Snell <i>R</i> -square	.331	.392	.448	.469	.509						
Nagelkerke <i>R</i> -square	.441	.523	.597	.626	.679						
Chi-square (4, 5, 7, 6, 21)	243.975	301.857	360.136	384.457	431.548						
<i>p</i> -value	.000	.000	.000	.000	.000						
Hosmer & Lemeshow goodness-of-fit test:											
Chi-square (8)	32.815	11.257	15.601	17.111	12.008						
<i>p</i> -value	.000	.188	.048	.029	.151						
Panel 2. Classification accuracy of the logit models											
Classification accuracy	Model 1	Model 2	Model 3	Model 4	Model 5						
Observed (estimation sample)											
Predicted		Dist.	Non	Dist.	Non	Dist.	Non	Dist.	Non	Dist.	Non
	Dist.	216	79	222	46	243	49	238	38	242	33
	Non	45	267	73	266	52	263	57	274	53	279
	Correct, %	73.2	85.6	75.3	85.3	82.4	84.3	80.7	87.8	82.0	89.4
	Overall, %	79.6		80.4		83.4		84.3		85.8	
Observed (test sample)											
Predicted		Dist.	Non	Dist.	Non	Dist.	Non	Dist.	Non	Dist.	Non
	Dist.	71	7	73	14	79	12	89	6	86	10
	Non	38	85	36	78	30	80	20	86	23	82
	Correct, %	65.1	92.4	67.0	84.8	72.5	87.0	81.7	93.5	78.9	89.1
	Overall, %	77.6		75.1		79.1		87.1		83.6	

In this table, Panel 1 displays the results of performance measures of the logit models of financial distress prediction. It shows measures for the five models estimated in the year prior to insolvency proceedings. Model 1 includes accounting ratios only, and Models 2-5 combine accounting ratios and auditing information. AUC (Area Under the Receiver Operating Characteristics Curve) represents a direct measure of the predictive accuracy of models estimated using logistic regressions. The other measures reported are -2 log-likelihood, Cox and Snell *R*-square, Nagelkerke *R*-square, models' Chi-square, and Hosmer and Lemeshow goodness-of-fit test. The parenthesis following the models' Chi-square represent the degrees of freedom for each estimated model: 4 for Model 1, 5 for Model 2, 7 for Model 3, 6 for Model 4 and 21 for Model 5. Panel 2 contains the classification accuracy of the five logit models. Classification accuracy is calculated with the sample used to run the regression (the estimation sample, which represents 75% of the total sample) and the test sample (25% remaining) to validate the results. The absolute numbers for distressed (Dist.) and non-distressed (Non) firms are the observed values, and the correct predicted values are displayed in percentage for the distress and non-distressed samples, as well as for the overall dataset.

Figure 4.1. ROC Curves for the estimated models



This figure represents the graph of Receiver Operating Characteristics (COR) Curves of the logit models estimated to predict financial distress. Model 1 includes accounting ratios only and the different combinations of accounting ratios and auditing information are contained in Models 2 to 5.

V. CONCLUSION

Modeling the prediction of financial distress has been a recurrent research topic in the academic literature for decades because, if a firm collapses, the consequences for both the company and all related parties can be devastating (Bauweraerts, 2016; Cultrera and Brédart, 2016). Given the fact that firm failures are increasing worldwide in the past years –for instance, bankruptcy filings in Spain boost from 1,001 in 2005 to 5,510 at the end of the year 2015⁵⁶, mainly due to the impact of the global financial crisis in the Spanish economy–, there is still scope for further investigation regarding the improvement of modeling prediction accuracy (Reznakova and Karas, 2014).

The aim of this paper is to examine the extent to which audit report information incrementally predicts financial distress over a traditional accounting-based model: the Altman's Z''-Score model. Using a sample of 404 distressed and 404 non-distressed Spanish private firms, this study builds 5 logistic regression models of only accounting data and a combination of accounting and auditing data, and they all possess a high discriminating and predicting power. Additionally, it is verified that the classification accuracy of the estimated logit models significantly increases with models that combine accounting and audit data, compared to a traditional financial ratios model. Concretely, together with liquidity, profitability and leverage ratios, the number of disclosures included in the report, and remarks on going concern, firm assets and firm results are the best corporate distress predictors.

The present study represents a contribution to the existing literature for several reasons. Firstly, it determines the predictive ability of the Altman's Z''-Score in a current sample of Spanish private firms, providing country-specific results, which are less frequent than generic bankruptcy prediction models (Cultrera and Brédart, 2016). Secondly, it extends earlier research on distress prediction by using combined models of financial and non-financial indicators, as suggested in prior literature (Balcaen and Ooghe, 2006). More specifically, in this research it is possible to explore the value added by audit report information to distress prediction (Altman et al., 2010, 2016). Actually, there

⁵⁶ Source: Instituto Nacional de Estadística, *Estadística del Procedimiento Concursal (Bankruptcy Proceedings Statistics)*.

is a call from the literature that precisely asks for asking for “*improving the codification of the qualifications to enhance the accuracy of the model*” (Piñero-Sánchez et al. (2013, pp.168). Thirdly, it is believed that Spain constitutes an ideal environment to test the models because the audit regime is more flexible than in the Anglo-Saxon countries (Arnedo-Ajona et al., 2008; Ruiz-Barbadillo et al., 2004). If the audit information is found to be an efficient predictor under a flexible and non-litigious regime, the significance of these results might strengthen in other countries with more severe regimes. Finally, the thorough analysis of the audit report disclosures presented in this paper responds to some needs from the literature (Carson et al., 2013; Piñero-Sánchez et al., 2013). Carson et al. (2013) ask for studies on what auditors currently evaluate in terms of financial statement items and client contrary and mitigating factors in making their substantial doubt and going concern assessments.

This study has some limitations that must be acknowledged. First, financial distress prediction is addressed using a sample of Spanish private firms. These firms may have special characteristics due to the institutional and legal context that might impair the generalization of the results. In further studies, these models can be replicated in other contexts for comparison purposes. Second, for the identification of the content of audit reports, a manual procedure was applied in the sample. In further research, more accurate methods should be used to decompose the reports, such as a content analysis methodology. Third, static bankruptcy predictors of the year prior to bankruptcy filing are used. In further works, variation variables that consider year-on-year differences should be developed. Fourth, Altman et al. (2010) claim that another potential predictor is the evidence of companies switching auditors. Due to some limitations of the data regarding audit information, the sample was too small to test this evidence. Therefore, further research could use more representative samples and focus on other audit variables, such as auditor switching, as this might indicate disputes with current auditors related to the financial health of the company.

CHAPTER 5:

THE ABILITY OF AUDIT REPORT DISCLOSURES TO EXPLAIN INSOLVENCY:

A COMPARISON USING TRADITIONAL AND ARTIFICIAL INTELLIGENCE

METHODOLOGIES

Abstract

This paper investigates the ability of audit report disclosures for explaining insolvency situations. As the audit report ensures the quality of financial statements, and disclosures should be included in the report when businesses do not comply with the regulation or when risks or uncertainties exist, we hypothesize that disclosures should warn users about a plausible insolvency and contribute to distinguish between insolvent and non-insolvent firms. Parametric and non-parametric methodologies are used in a sample of 404 insolvent firms filing for insolvency proceedings during 2004-2014, matched with a 404 non-insolvent group. Disclosures explain insolvency with an accuracy of around 80%. Indeed, disclosures regarding going concern, assets' valuation, subsequent events and legal procedures represent early signals of insolvency. Our evidence contributes to prediction literature highlighting interrelations with the role of auditors. Furthermore, regulators might benefit from this study as it is timely and relevant in the current international auditing environment, where regulatory changes are occurring worldwide in order to increase auditor's transparency through the audit report.

Keywords: insolvency, audit report disclosures, audit qualifications, emphasis of matter, rough set, logistic regression.

I. INTRODUCTION

During the last 70 years, the development of insolvency or bankruptcy⁵⁷ prediction models has been a challenged worldwide research topic (Sun, Huang and He, 2014; Cultrera and Brédart, 2016; Du Jardin, 2017). Despite the number of studies on this field, concerns have been raised that an effort to improve the accuracy of prediction models continues to be an essential path to follow (Balcaen and Ooghe, 2006; Du Jardin, 2015; Bauweraerts, 2016). Thus, the aim of this paper is to examine whether audit reports provide significant explanatory power in predicting insolvency. In the audit report, we specifically refer to audit report disclosures⁵⁸, which represent qualitative audit information included in the reports.

The core studies on insolvency prediction use accounting data obtained from firms' financial statements (Altman et al., 2016). Then, the better the quality of financial statements is, the more accurate the accounting data will be in order to assess bankruptcy issues. While there have been a number of well-publicised cases in which auditors failed to warn about impending bankruptcy, it is generally accepted that the auditing profession ensures the quality of financial statements (Lennox, 1999). Along with this reasoning, audit information seems to be essential to improve bankruptcy prediction ability because simply the nature of auditors' qualified opinions implies that they might signal entities' failure (Hopwood et al., 1989; Lennox, 1999). However, there has been little evidence on the impact of the external auditing profession on failure prediction (Hopwood et al., 1989; Altman et al., 2010; Piñeiro-Sánchez et al., 2012; 2013) and, to the best of our knowledge, the explicit content of audit reports has not been used on this matter. For instance, Hopwood et al. (1989) focused on qualified opinions, finding that there is an association between consistency, going concern and other

⁵⁷ Along this paper, we use the terms “bankruptcy” and “insolvency” interchangeably, as we consider a company to be bankrupt when it has filed for insolvency proceedings, as in prior literature (Lizarraga-Dallo, 1998; Piñeiro-Sánchez, de Llano-Monelos and Rodríguez-López, 2012; 2013). This signifies that it is the moment when a firm becomes insolvent or cannot meet its financial obligations.

⁵⁸ When we refer to “audit report disclosures” in the study, it includes the qualitative information incorporated into emphasis of matter paragraphs and qualification paragraphs. Thus, we take into consideration both unqualified and qualified opinions in the sample, as an emphasis of matter section does not qualify the opinion.

subject-to qualifications and bankruptcy. Altman et al., (2010) suggest that the audit opinion has high predictive power, and firms with audit qualifications, such as severe qualifications or going concern, are more likely to fail since the auditor is questioning its viability. Piñeiro-Sánchez et al., (2013) examine the predictive ability of auditor characteristics. According to their evidence, auditor rotation, qualified reports and non-compliance with deadlines regarding approval and filing of the financial statements present relevant differences between bankrupt and non-bankrupt firms.

Professional standards require auditors to assess clients' viability and to express any uncertainties (if a substantial doubt exists) in a going concern modification (Blay et al., 2011; ISA 570; SAS No. 59). Indeed, the association between going concern modifications and bankruptcy is recognised in the accounting and auditing literature (Blocher and Loebbecke, 1993; Koh and Brown, 1991; Loftus and Miller, 2000; Kuruppu, Laswad and Oyelere, 2003). Prior research has investigated the relationship between bankruptcy and the issuance of going concern modifications, contrasting the issuance of these modifications with bankruptcy prediction models (Altman, 1982; Menon and Schwartz, 1987; Hopwood et al., 1989; McKeown et al., 1991; Chen and Church, 1996). Their conclusions generally indicate that less than half of all companies filing for bankruptcy had received a going concern modification, and that the statistical models were better failure predictors than the audit opinion (Lennox, 1999; Ruiz-Barbadillo et al., 2004). As per the above, if the audit report is the sole way for auditors to inform about any misstatements that may concern users of financial statements, it is reasonable to assume that not only going concern uncertainties might be linked to bankruptcy, but also other comments contained in the audit report may represent a signal of viability concerns. Although the auditor's role is to guarantee the quality of financial statements and does not directly relate to predict insolvency, it seems that the evaluation of insolvency is embedded in the report disclosures (Hopwood et al., 1989; Lennox, 1999). Consequently, if there is a relationship between the causes that generate firms' viability uncertainties and the content of audit report disclosures, the inclusion of audit report disclosures as explanatory variables in failure prediction models could improve the predictive ability.

When modelling bankruptcy, it is important to take into consideration the time when a firm fails to meet its financial obligations, and not just the event of bankruptcy itself (Hernández-Tinoco and Wilson, 2013). This is why we proxy bankruptcy as the date in which insolvency legal proceedings starts, following prior literature (Lizarraga-Dallo, 1998; Piñeiro-Sánchez et al., 2012; 2013). We use a sample of Spanish private firms, so the legal definition can be applied because the current Bankruptcy law in Spain is based on single court proceedings. This signifies that proceedings start when a company is insolvent or cannot meet its financial obligations, and ends either with its reorganization or the liquidation of the firm⁵⁹.

To test the predictive ability of audit report disclosures, we use a matched sample of 808 Spanish non-financial insolvent and non-insolvent firms and a codification of audit report disclosures recently published (Muñoz-Izquierdo et al., 2017). As the research methodology, we implement a comparison between parametric and non-parametric methodologies, respectively, the traditional logistic regression analysis and the artificial intelligence methodology of the Rough Set approach. While logistic regression is the most frequent method in bankruptcy prediction (Altman et al., 2016), artificial intelligence methodologies have not been so commonly used, even when they do not require the data to follow the strict distributional properties required by parametric statistics methods, which is a relevant advantage (Calderon and Cheh, 2002). As stated by Amani and Fadlalla (2017), data mining applications in accounting are not “at an all-encompassing stage”. Although data mining is not frequently used, prior studies show its applications in accounting research, such as in financial fraud detection (Ngai et al., 2011) and bankruptcy prediction (Kumar and Ravi, 2007), as well as the opportunities of artificial intelligence in auditing (Baldwin et al., 2006) and the use of neural networks in auditing and risk assessment (Calderon and Cheh, 2002), among others.

⁵⁹ The Spanish Bankruptcy Act 22/2003 of July 9th comes into effect in 2004 and dictates that when managers or creditors present an insolvency request about a firm to the judge, single court proceedings start. In these proceedings, there are two possible resolutions. All viable firms should finish proceedings by being reorganized, and those unviable should end with their liquidation (Camacho-Miñano, Segovia-Vargas and Pascual-Ezama, 2015).

Our results reveal that audit report disclosures do signal useful incremental information about firms' insolvency prediction because the accuracy of prediction models used reaches around 80%. Evidence is consistent across the different methodologies applied. According to our findings regarding each audit disclosure type, we suggest that if a report contains comments about going concern, assets' valuation, subsequent events or a reference to insolvency legal proceedings, this business could have more probabilities to be insolvent. Thus, some comments of the report may be considered as "signals" of financial issues, and this result goes in accordance with evidence indicating that audit reports are accurate warns of financial distress (Hopwood et al., 1989).

This study extends earlier research in this area. First, we provide a thorough review of literature on the relationship between the fields of audit and bankruptcy. Second, we test the predictive ability of audit report disclosures applying both a traditional parametric and a non-parametric artificial intelligence technique. Third, as per our knowledge, the content of disclosures has not been previously studied to assess insolvency situations. Fourth, regulators and the auditing profession might find the study extremely timely and relevant in the current international auditing environment due to the regulatory changes in order to increase auditor's transparency in general, and through the auditors' reporting model specifically. These changes in the report have been implemented in countries such as the United Kingdom, the Netherlands, South Africa or Australia. Also, they have recently occurred in Europe (in the International Standards in Auditing or NIAs) and are being considered in the United States. For instance, a more informative audit report has been recently proposed by the International Auditing and Assurance Standards Board (hereafter AAISB) in the standards that became effective for audits of financial statements after December 15th, 2016. The IAASB suggests that this is the greatest change in the audit report worldwide in more than 50 years (IAASB, 2016). Enhancing the confidence, transparency and information value of the audit report are the intended benefits of these revised standards (IAASB, 2016), so our paper might shed some light on this important matter.

II. BACKGROUND AND RESEARCH QUESTION

There is a lengthy research in the connection between the auditing field and firm failure research. Related studies have investigated auditors' behaviour in the issuance of modified reports when a client being audited is dealing with insolvency issues, and the literature documents a broad variety of auditors, audited firms and environmental characteristics, associated with the release of going concern opinions (Kuruppu et al., 2003; Carson et al., 2013; Eutsler et al., 2016).

In the following review of research, the association between audit information and bankruptcy is addressed. We examine the literature on the link between these concepts, distinguishing the top areas of research within this relation. We compile all academic papers from the ISI Web of Knowledge database according to two keywords, "audit" and "bankruptcy", under "Topic", as of October 28th, 2016. After filtering the results, we end up with a total of 129 manuscripts. After a thorough review of all articles, we exclude 62 papers because their main objective focuses on either one of the two concepts, but not on the connection between them. Thus, 67 articles remain for our study. With the purpose of systematizing and organizing the literature, we decide to classify the papers according to the recurrence of topics, splitting them up into four areas: *Auditor independence and audit quality*, *Effects of auditing*, *Failure prediction using auditing*, and *Audit opinion prediction*. Additionally, we subdivide the wider and most recurrent areas - *Auditor independence and audit quality* and *Effects of auditing*- into lines of research. A list of all reviewed articles appears in Table 5.1, together with the area, line of research and details of each study.

As per our review of research, the most frequent studies seem to be the ones that evaluate *Auditor independence and audit quality* (66%) measured by diverse indicators, such as auditor remuneration, audit tenure, client characteristics or other external aspects like regulatory reforms or corporate collapses. The frequency of the other areas is, by order, 15% for papers related to the *Effects of auditing*, and 10% and 9% for the ones dealing with *Failure prediction using auditing* and *Audit opinion prediction*, respectively. The most studied country in the literature is the United States.

Overall, all papers are archival studies except for a theoretical one (Cunningham, 2006) and a case study regarding the development of a continuous auditing system for bankrupt companies (Kuhn et al., 2015).

Table 5.1. Literature review of audit and bankruptcy

Line of research	Sub-line of research	Study	Country sample	N.	
Auditor independence and audit quality	Andersen's going concern opinions	Kumar and Kim (2015)	None	1	
	Audit committee	Daily (1996)	US	2	
		Carcello and Neal (2000)	US	3	
		Carcello and Neal (2003)	US	4	
		Stanley (2011)	US	5	
	Audit fees	Cunningham (2006)	None	6	
	Audit industry structure	Krishnan and Krishnan (1997)	US	7	
	Audit resignation	Schwartz and Menon (1985)	US	8	
	Audit switching	Carey et al. (2008)	Australia	9	
		Vanstraelen (2002)	Belgium	10	
	Audit switching and audit fees	Geiger and Raghunandan (2002)	US	11	
		Carey and Simnett (2006)	Australia	12	
		Audit tenure	Knechel and Vanstraelen (2007)	Belgium	13
			Lim and Tan (2010)	US	14
		García-Blandón et al. (2013)	Spain	15	
		Audit tenure and audit fees	Vanstraelen (2000)	Belgium	16
		Audit tenure and nonaudit fees	Basioudis et al. (2012)	US	17
	Audit tenure and Type II error	Read and Yezegel (2016)	US	18	
		McKeown et al. (1991)	US	19	
	Client characteristics	Pratt and Stice (1994)	US	20	
		Louwers (1998)	US	21	
		Ruiz-Barbadillo et al. (2004)	Spain	22	
		Gaeremynck et al. (2008)	Belgium	23	
		Aguiar-Díaz et al. (2015)	Spain	24	
		Shu et al. (2015)	Taiwan	25	
		Continuous auditing systems	Kuhn et al. (2015)	None	26
		Enron collapse	Feldmann and Read (2010)	US	27
		Environmental factor (press coverage)	Joe (2003)	US	28
		Global financial crisis	Geiger et al. (2013)	US	29
		Insider selling	Chen et al. (2013)	US	30
		Material errors	Ragothaman et al. (1995)	US	31
		Non-audit fees	DeFond et al. (2002)	US	32
		Non-audit fees and audit fees	Callaghan et al. (2009)	US	33
		Private Securities Litigation Reform Act (1995)	Robinson (2008)	US	34
		Propensity to issue GCM (Type I error)	Geiger and Raghunandan (2001)	US	35
		Sarbanes Oxley Act (2002)	Carey et al. (2012)	Australia	36
			Geiger et al. (2005)	US	37
		SAS 59	Carcello and Hermanson (1997)	US	38
			Raghunandan and Rama (1995)	US	39
		Self-fulfilling prophecy	Citron and Taffler (2001)	UK	40
	Louwers et al. (1999)		US	41	
	Arnedo-Ajona et al. (2012)		Spain	42	
	SAS 59 and SAS 34	Carcello and Hermanson (1995)	US	43	
	Type I and II errors	Rodríguez-López et al. (2014)	Galicia (Spain)	44	
No. of studies of auditor independence				44	

Table 5.1 (cont.). Literature review of audit and bankruptcy

Area of research	Line of research	Study	Country sample	N.
Failure prediction using auditing		Casterella et al. (2000)	US	1
		McKee (2003)	US	2
		Kim et al. (2008)	Korea	3
		Altman et al. (2010)	UK	4
		Piñeiro-Sánchez et al. (2012)	Galicia (Spain)	5
		Piñeiro-Sánchez et al. (2013)	Galicia (Spain)	6
		Van Peurseem and Chan (2014)	New Zealand	7
No. of studies of failure prediction using auditing				7
Audit opinion prediction		McKeown et al. (1991)	US	1
		Lenard et al. (1995)	US	2
		McKee (1995)	US	3
		Lundberg and Nagle (2002)	US	4
		Zdolsek and Jagric (2011)	UK and Ireland	5
		Cassell et al (2013)	US	6
No. of studies of audit opinion prediction				6
Effects of auditing	Earnings management	Charitou et al. (2007)	US	1
	Financial structure on SMEs	Van Caneghem and Van Campenhout (2012)	Belg. & Lux.	2
	GCM on enforcement action	Eutsler et al. (2016)	US	3
	GCM on equity	Blay et al (2011)	US	4
		Amin et al. (2014)	US	5
	GCM on market reaction	Menon and Williams (1994)	US	6
	Jurors' evaluation	Chen and Church (1996)	US	7
		Lowe and Reckers (1994)	US	8
	Modification on litigation losses	Buchman and Collins (1998)	US	9
	Stakeholders confidence	Stanisic et al. (2013)	Serbia	10
No. of studies of effects of auditing				10
Total no. of studies				67

Table 5.1 summarizes the studies found in the review of research from the ISI Web of Knowledge database according to two keywords, “audit” and “bankruptcy”, as of October 28th, 2016. Area and line of research appear in the first and second columns, respectively. Then, the third one reports the study, followed by the country examined (fourth column). The number of papers under each line of research is ordered in the fifth column. Belg. & Lux. States for Belgium and Luxembourg.

The body of firm failure literature (the area of research we call *Failure prediction using auditing*) is linked to the accounting tradition and examines the chances of predicting business insolvency based on the publicly available financial information released by companies (Altman et al., 2016). Despite pioneer works in corporate failure prediction are accounting-ratio-based studies (Altman, 1968), financial ratios derived from accounting data are still frequently used (Altman et al., 2016). These works include financial ratios as independent variables when modelling failure prediction. Hence, they need to rely on the quality and reliability of accounting data, which is guaranteed by external auditors (Piñeiro-Sánchez et al., 2013). Subsequently, according to this connection between financial statements and external auditing, it seems that external auditing information, such as auditor characteristics and audit opinions, could be informative and may contribute in an attempt to predict the possibility of bankruptcy. Therefore, there are some studies that increase their prediction accuracy by incorporating audit data (Lennox, 1999; Altman et al., 2010; Piñeiro-Sánchez et al., 2012; 2013). Seven of these studies were extracted from the review of research. Table 5.2 shows the audit variables specified in these works.

Table 5.2. Auditing data used in failure prediction studies as a measure of bankruptcy

Study	No. of audit variables	Explanation of audit variables
Casterella et al. (2000)	4	Tenure (greater than or equal to 7 years), tenure (less than or equal to 2 years), months between the fiscal year-end and audit report date, months between the audit report date and the bankruptcy filing date
McKee (2003)	1	Audit opinion (qualified, unqualified with explanatory paragraph and disclaimer of opinion)
Kim et al. (2008)	1	Audit opinion (unqualified or qualified)
Altman et al. (2010)	3	Firm is audited or not, going concern audit qualification, severe audit qualification (severe adverse opinion or disclaimer of opinion)
Piñeiro-Sánchez et al. (2012)	8	Auditors' rotation, audit tenure, number of stakeholders, proportion of qualified reports, number of qualified reports by auditor, number of critical audit reports, qualification due to GAAP violations, change in auditor's size
Piñeiro-Sánchez et al. (2013)	9	Proportion of audited years, auditors' rotation, temporal matches between auditor changes and changes in the opinion, audit tenure, ratio between qualified and total audit reports, number of critical audit reports (relevant for firm's survival), auditor size, obstructionism, non-compliance with mandatory audit
Van Peurseem and Chan (2014)	2	Audit firm and audit qualification

This table extends the data of the *Failure prediction using auditing* line of research, provided in Table 5.1. This table reports, by chronological order, the seven insolvency prediction studies found in the review of research from the ISI Web of Knowledge database as of October 28th, 2016. The first column contains the authors and year of each publication. In the second one, the number of audit variables used as indicators of bankruptcy are disclosed. The last column details the explanation of the audit variables.

While there has been a considerable amount of research on going concern principle, there have been comparatively few studies examining the content of auditors' comments other than going concern. A partial explanation could be the difficulty of data collection, as the majority of early studies that focus on audit qualifications include US data, and most of the US qualifications correspond to exceptions to this principle (Carcello and Palmrose, 1994; Piñeiro-Sánchez et al., 2013). Likewise, another reason could be the lack of an extended and detailed classification of audit qualifications generally accepted in the literature. Apart from the distinction between unqualified or qualified opinions, it does not seem to be a codification of the content of audit reports frequently used in the literature, as per our knowledge (Muñoz-Izquierdo et al., 2017).

Here we consider research that suggests different taxonomies of audit qualifications -going concern and qualifications other than going concern- to explain diverse phenomena. Table 5.3 documents prior studies found in the academic literature that include a codification of audit report disclosures. Following Sánchez-Segura (2000), we have organized the auditors' commentary starting with the very serious comments (going concern modifications, in the first column on the left hand side of the table), following with Generally Accepted Accounting Principles violations, and moving to the right hand side of Table 5.3 to moderate comments and remarks with low seriousness, as the ones included under the category "Other" (i.e. internal control weaknesses, information omissions, remarks on the firm's administrators, discrepancies with the materiality principle, among others).

Table 5.3. Classifications of audit report information in prior literature

Study	GC	GAAP violations	Elements of financial statements			Subsidiaries	Litigation	Multiple and continuing qualifications	Other
			Assets	Liabilities	Equity				
Firth (1978)	X	X	X			X	X	X	
Ball et al. (1979)			X	X			X	X	
Firth (1980)	X		X					X	
Elliott (1982)	X		X				X	X	
Dopuch et al. (1987)	X		X				X	X	
Monroe & Teh (1993)	X		X				X	X	
Del Brío-González (1998)	X		X	X	X				
Sánchez-Segura (2000)	X	X	X	X	X				
Sánchez-Segura & Sierra-Molina (2001)	X	X	X	X	X				
Ruiz-Barbadillo et al. (2002)	X	X						X	
Sánchez-Segura (2003)	X	X	X	X	X				
Duréndez Gómez-Guillamón (2003)	X	X	X	X		X			
Arnedo-Ajona et al. (2008)	X	X						X	
Herbohn & Rangunathan (2008)	X	X	X	X		X	X	X	
Laitinen & Laitinen (2009)		X	X	X	X			X	
Muñoz-Izquierdo et al. (2017)	X	X	X	X	X		X	X	

In Table 5.3, we report the classifications of audit report information available in prior literature. The study is shown in the first column and the items that appear in each classification are marked by a cross (X) in the remaining column. The “Other” category includes auditors’ comments on non-compliance with Statements of Standard Accounting Practice (SSAP), non-compliance with the Companies Act, incorrect classifications, inadequate records, internal control weaknesses, information omissions, remarks on the firm’s administrators, discrepancies with the materiality principle, issues with the interpretation of audit reports, and explanatory material added to the audit report.

The evidence visualized in Table 5.3 suggests that a common codification of the audit report disclosures do not appear to exist in prior literature, and that the most common remarks mentioned in the classifications deal with going concern uncertainties, GAAP violations and assets valuations and realizations. In sum, this evidence indicates the existence of several empirical works that use classifications of audit qualifications for different purposes. However, none of them exactly focused on the ability of audit report disclosures to predict insolvency situations, so our paper might fill this gap. The main objective of the primary works was focused on the link between qualification and the stock market (Firth, 1978; Ball et al., 1979). Then, academics continued studying the impact of audit report information on investment decisions (Duréndez Gómez-Guillamón, 2003), on the quality of financial information (Herbohn and Rangunathan, 2008) and on particular characteristics of the audit firm (Arnedo-Ajona et al., 2008) as well as the audited company (Muñoz-Izquierdo et al., 2017). Laitinen and Laitinen (2009) examined the contingency effects of accruals on default assessment. They use audit data, classifying the report using a codification of ten audit outcomes related to the report (unmodified, not submitted or unclear) to remarks (on equity, on administration, and on balance sheet items valuation), to financial statements (with misstatements or not in accordance with the regulation) and to the liquidation proposal. With a sample of Finnish firms, they find that absolute accruals moderate audit report information, so the more accruals, the more important the information is. The most recent classification of audit report disclosures appears in Muñoz-Izquierdo et al.'s (2017) paper and it is the one selected in this study due to its completeness and because it is developed using the year prior to bankruptcy filing, so that it perfectly suits with the aim of this paper.

In summary, due to the nature of qualified reports, as well as emphasis of matter sections, it is believed that they might advise regarding signals of insolvency (Hopwood et al., 1989). However, it appears that factors related to the audit report have not been well studied as a measure of insolvency, so that research opportunities in this area still exist. The purpose of the audit report disclosures is to draw the users' attention of any matter or to express material misstatements in the financial statements. It seems

that they are likely to represent possible causes of insolvency perceived by auditors during the audit process.

In this context, based on previous arguments from the regulation and the literature, we would like to test the incorporation of circumstances that give rise to an emphasis of matter section or a modified opinion into insolvency prediction models. By doing so, we plan to examine how informative the audit report is. Our research question to be investigated is thus specified as follows:

Research question (RQ): What is the discriminating power and the ability to predict insolvency for audit report disclosures?

We expect the usage of only audit report disclosures, included as explanatory variables in insolvency prediction modelling, to have a powerful predictive accuracy to detect firms' insolvency so that they improve the accuracy of the prediction. As per our knowledge, we consider that this work may complement prior literature because this is the first study that uses exclusively audit report information for predicting failure. Additionally, we think that regulators, auditors, investors and creditors could benefit from the timely results of this study, due to the current international reporting environment, in which regulators are trying to increase confidence and transparency in the auditors' work by enhancing the information value of audit reports. Finally, in order to codify this qualitative information, this paper is based on an exhaustive classification of audit report disclosures from the literature (Muñoz-Izquierdo et al., 2017), and such a large quantity of audit information has not been applied before in failure studies.

III. SAMPLE AND VARIABLES

1. Sample and dependent variable

The insolvent sample is developed starting with the entire population of firms in the Bureau Van Dijk database (hereafter BVD)⁶⁰ that have filed for legal proceedings as of January 31st, 2015, a total of 1,821 firms. We consider a company to be insolvent if it has filed for insolvency legal proceedings (Lizarraga-Dallo, 1998; Piñeiro-Sánchez et al., 2012; 2013). We adopt this legal, objective and narrow definition because the Spanish bankruptcy process consists on a single court proceedings that start when a company is dealing with insolvency issues and, therefore, cannot pay its debts. Thus, according to this criterion, we identify all insolvent firms included in the BVD database, and we extract their financial and auditing data from this source for the fiscal year prior to the filing date.

The filing dates of the sample are manually collected from the “Registro Público Concursal” (hereafter RPC)⁶¹, as they do not appear in the BVD database. All filing dates along the data belong to the years 2004-2014. The period that the sample covers is appropriate for this study because the Spanish Bankruptcy Act 22/2003 of July 9th came into effect in 2004 and changes in the auditing reporting regulation started in 2015. Out of the 1,821 firms, we drop 280 firms, because they are not registered in the RPC and 1,137 observations with missing financial and auditing data, resulting in a final insolvent sample of 404 observations.

Prior researchers in the area of firm failure studies use a matched sample of insolvent and non-insolvent firms (Schwartz and Menon, 1985; Carcello and Neal, 2003; Knechel and Vanstraelen, 2007; Blay et al., 2011). Therefore, in the present study, we subsequently match manually each insolvent firm with a non-insolvent one. The matching procedure is done by year, firm size -using the value of total assets- and industry, following prior literature (Schwartz and Menon, 1985; Knechel

⁶⁰ The Bureau Van Dijk database in Spain is called SABI or “Sistema de Análisis de Balances Ibéricos” database. More information at <https://sabi.bvdinfo.com>.

⁶¹ The “Registro Público Concursal” is the official Spanish source of bankruptcy data, so all companies under insolvency legal proceedings must be registered here.

and Vanstraelen, 2007). We also extract financial and auditing data of the non-insolvent group from the BVD database for the correspondent year -the year identified for each insolvent pair-. This process results in a total sample of 808 Spanish private non-financial audited firms, evenly divided between 404 firms that are financially distressed and go into insolvency legal proceedings, and 404 non-insolvent firms.

As previously stated, following prior research in the failure prediction area, our dependent variable is a dummy variable (*INSOLVENT*), proxied by the insolvency filing date (Piñero-Sánchez et al., 2013). Therefore, this variable takes the value of 1 if the firm has filed for legal proceedings, and 0 otherwise.

2. Independent variables: audit report disclosures

Prior research suggests that audit report and audit opinion data contribute significantly to increase the default prediction power of models (Hopwood et al., 1989; Laitinen and Laitinen, 2009; Altman et al., 2010; Piñero-Sánchez et al., 2012; 2013). These studies consistently report a more powerful prediction when audit characteristics are included in the models, such as the type of audit opinion. Our study extends earlier research in this area by assessing the prediction ability of audit reports commentary, including audit report comments as explanatory variables in our prediction models. Particularly, we refer to comments disclosed in emphasis of matter paragraphs, qualification paragraphs or both.

The only communication mechanism between the external auditor of a firm and all interested outside parties is the audit report. When any company releases its financial statements together with the audit report, this document indicates a professional opinion regarding “the true and fair view” and completeness of the client’s financial information and disclosures (Lennox, 1999). Although professional standards clearly specify that the responsibility of auditors does not extend to predicting firms’ future viability, they do require auditors to assess the client’s risk of viability and, if necessary, they ask for mentioning in the report if a “substantial doubt” about the client’s survival exists (Blay

et al., 2011; ISA 570; SAS No. 59). In this case, a going concern modification would express this viability risk. Not only do professional standards allow auditors to disclose going concern comments, but also the audit report is the sole way for auditors to inform about any other misstatements that may concern them when reviewing each client's annual accounts. Along with this, it is reasonable to assume that a relevant number of auditors' comments might represent signals of viability concerns. Consequently, if there is a link between the causes that generate doubts about the firm's viability and the content of audit report disclosures, a classification of these comments and their inclusion as explanatory variables in failure forecast models could improve the accuracy of the prediction.

In the present study, to select the independent variables, we choose the most recent classification of audit report disclosures found in the literature (Muñoz-Izquierdo et al., 2017). Moreover, it seems to be very exhaustive as well, as it almost covers all types of content in the report identified in prior studies (see Table 5.3). Muñoz-Izquierdo et al.'s (2017) codification comprises twenty variables, being the first three of them the type of paragraph included in the report (emphasis of matter section, qualification due to a scope limitation, or qualification due to a Generally Accepted Accounting Principle violated). The remaining variables deal with the content of those paragraphs. The first twelve variables emphasize references to financial statement items, concretely, tangibles and intangibles, long-term financial assets, deferred tax assets, inventories, short-term financial assets and cash, liabilities, contingencies, recognition of revenues and expenses, accumulated losses, information omitted, specific remarks about negative working capital, and subsequent events. Finally, the last five variables underline more general comments mentioned by the auditor, not so specifically related with the financial statements. These are five disclosures about regulatory issues, market or external context, a management plan being accomplished by the firm, going concern and insolvency proceedings in progress.

In order to apply the baseline codification (Muñoz-Izquierdo et al., 2017) on the current study, we decide to focus on the seventeen disclosures' variables and to gather some of these together in order to obtain cleaner and more accurate results with the different methodologies. We believe that the

predictive accuracy will not be affected by the reduction of variables, as it is simply an aggregation of them. Even, according to prior research, models with less variables are in many cases capable of exceeding the prediction of others with more (Bellovary et al., 2007). Explicitly, we accumulate all comments regarding assets under one variable, we concentrate liabilities and contingencies under another variable, and issues related to regulation and the market under a third one. Therefore, we have summarized the classification of seventeen disclosures into an eleven-category codification. Table 5.4 defines all variables resulted.

To develop the codification in our sample, all firms' audit reports in the sample are analysed⁶². We use the audit data of the year prior to filing for the insolvent sample, and the matched year for the paired non-insolvent firms. This process is done manually by both one of the authors and an external accounting and auditing expert and results are compared to avoid any errors.

⁶² The complete audit report is not available in the Bureau Van Dijk's database. The available field, called "Auditor's opinion", contains a literal replication of a maximum of 991 characters of the report. Generally, this section holds emphasis of matter paragraphs, modification paragraphs, or both. Thus, we might consider this as a limitation of our dataset, as there might be some incomplete or missing paragraphs due to the database configuration.

Table 5.4. Classification and description of audit report variables

1	<i>ASSETS</i>	Categorical variable with a value of 1 if the audit report includes 1 disclosure regarding assets, a value of 2, 3, 4 and 5 if those are the number of assets' disclosures, 0 if no comment for assets appears. Assets' disclosures include comments related to non-current assets (tangibles and intangibles, long-term financial investments, and deferred tax assets) and current assets (inventories, short-term financial investments and cash).
2	<i>LIABIL_CONTING</i>	Categorical variable with a value of 1 if the audit report includes 1 disclosure related to long-term debts, short-term debts, or contingent liabilities, 2 if it contains two disclosures, and 0 if there are no disclosures regarding liabilities or contingencies.
3	<i>RESULT_PERIOD</i>	Dummy variable with a value of 1 if the audit report includes any commentary related to the components of the result of the period -revenue and expense accounts-, 0 otherwise.
4	<i>ACCUM_LOSSES</i>	Dummy variable with a value of 1 if the audit report informs about the firms' accumulated losses or negative results from previous years, 0 otherwise.
5	<i>INFO_OMISSION</i>	Dummy variable with a value of 1 if the audit report contains any commentary about information not provided to verify all accounts in the financial statements, 0 otherwise.
6	<i>NEGAT_WC</i>	Dummy variable with a value of 1 if the audit report contains any commentary about the firm's negative working capital, 0 otherwise.
7	<i>SUBSEQ_EVENTS</i>	Dummy variable with a value of 1 if the audit report contains any commentary about any firm's subsequent events, 0 otherwise.
8	<i>REGUL_ENVIRON</i>	Categorical variable with a value of 1 if the audit report includes one comment related to regulatory effects or external economic environment that affect the client, 2 if it contains two disclosures regarding these matters, and 0 if there are no disclosures regarding regulation or the market.
9	<i>MGMT_PLAN</i>	Dummy variable with a value of 1 if the audit report includes any commentary related to a management or viability plan being implemented by the firm, 0 otherwise.
10	<i>GC</i>	Dummy variable with a value of 1 if the audit report includes a going concern modification, thus, a comment related to the uncertainty about firm's viability, 0 otherwise.
11	<i>INSOLV_PROCEED</i>	Dummy variable with a value of 1 if the audit report informs about the firm's filing for insolvency legal proceedings, 0 otherwise.

This table summarizes the audit report variables of the study (second column) and their definition (third column). The variables are: *ASSETS* (assets), *LIABIL_CONTING* (liabilities and contingencies), *RESULT_PERIOD* (result of the period), *ACCUM_LOSSES* (accumulated losses), *INFO_OMISSION* (information omission), *NEGAT_WC* (negative working capital), *SUBSEQ_EVENTS* (subsequent events), *REGUL_ENVIRON* (regulation and environment), *MGMT_PLAN* (management plan), *GC* (going concern) and *INSOLV_PROCEED* (insolvency proceedings). These eleven variables are going to be considered as indicators of insolvency in the current work. Their discriminating power and predictive ability is tested using two methodologies. Clarification for some of the indicators follow: *RESULT_PERIOD* = Circumstances such as low valuation or incorrect accrual of expenses, and high valuation or revenues booked in advance are considered under this category. Also, this item gathers doubtful revenues and expenses with related parties. *NEGAT_WC* = When the auditor deliberately indicates that the firm has a negative working capital, so its current assets are lower than its current liabilities and the auditor is manifesting a clear evidence of liquidity issues and financial difficulties. *SUBSEQ_EVENTS* = Subsequent events are significant occurrences that happen in the firm after the closing of the year, occasionally emphasized by the auditor in the report.

IV. METHODOLOGY:

LOGISTIC REGRESSION ANALYSIS AND THE ROUGH SET

1. Logistic regression analysis

The topic of business failure has been discussed using different prediction methodologies or techniques along the years. In the literature, prediction models are of two types: parametric and non-parametric. The most commonly used parametric models are the multivariate discriminant analysis and logistic regression analysis (Balcaen and Ooghe, 2006; Altman and Sabato, 2007; Tascón-Fernández and Castaño-Gutiérrez, 2012; Cultrera and Brédart, 2016), chosen for this study.

The frequent use of the logit methodology in prior research is due to the fact that it predicts a dependent variable on the basis of continuous or categorical independent variables. This analysis determines the percent of variance in the dependent variable explained by the independent ones, and creates a score used to determine the conditional probability to file for bankruptcy (Laitinen, 2009). It requires less restrictive and simpler statistical assumptions, and allows integrating linear and non-linear independent variables. It fits with the failure problem, as the dependent variable is a dummy variable and the groups of firms are discrete and identifiable, and with no possibility for one observation to overlap (Ohlson, 1980; Altman and Sabato, 2007; Cultrera and Brédart, 2016).

As stated in prior sections, the dummy variable in this paper equals 1 if a firm files for insolvency proceedings, and 0 otherwise, and the independent variables are the categorical variables of the audit report disclosures. Once the logit regression model is constructed and this commonly used method is tested in our sample, a non-parametric methodology is applied to the dataset in order to examine whether the results among parametric and non-parametric techniques are consistent.

2. The Rough Set analysis: a decision rule model

At present, a major research approach to tackle financial problems is based on non-parametric techniques, such as artificial intelligence (Zięba, et al., 2016). The parametric techniques, basically the statistical ones, show very satisfactory results although sometimes those techniques have a drawback: when they are applied to real data, some hypotheses required by models or by data distribution are not satisfied (especially, if outliers exist). The non-parametric techniques do not entail the data to satisfy any concrete assumptions (Calderon and Cheh, 2002). Therefore, this advantage allows them to represent bankruptcy problems very accurately. Indeed, non-parametric methods have been used to predict insolvencies and risks previously (Kumar and Ravi, 2007; Wu, 2010; Chen, 2011; Koyuncugil and Ozgulbas, 2012; Kirkos, 2015, among others) and prior research has also applied these methodologies for predicting going concern issues (Lenard et al., 1995; Yeh et al., 2014).

Non-parametric methods can be explicative, such as the rule inductions or the decision trees, or non-explicative, like the neural networks. In the argot, non-explicative methods are also called “black box” methods, as the way in which the knowledge is generated on them is difficult to explain. In the present study, an explicative technique is used: the Rough Set, a decision rule model (Quinlan, 1993) of searching “association rules” that fit very well with the explanation purposes of insolvency issues, in line with Amani and Fadlalla (2017).

The Rough Set theory was developed by Pawlak (1991) in the 1980’s as a mathematical tool to resolve some uncertainties inherent to a decision-making process. There have been some revisited approaches such as Greco, Matarazzo and Slowinski (1998, 2001), but taking into account that all data used in this paper are qualitative, the classical approach is much more suitable. The philosophy behind this approach is based on the assumption that specific knowledge or data can be associated with every option considered. In the decision-making process, knowledge is regarded as the ability to classify objects. Sometimes, objects described by the same data or knowledge are indiscernible in view of

such knowledge. The indiscernibility relation leads to the mathematical basis of the Rough Set theory. Vague information causes the indiscernibility of objects depending on the data available and, as a result, this prevents precisely assigning an object to a set. Indeed, Rough Set is a collection of objects that, in general, cannot be precisely categorized by the values of a set of attributes.

A fundamental problem in the Rough Set approach is discovering dependencies between attributes, in an information table. These dependencies are able to diminish a set of attributes by removing those that are redundant or unnecessary to characterize knowledge. This problem is known as “feature selection problem”. The main concepts related to this question are the core and the reducts. A reduct is the minimal subset of attributes which provides the same quality of classification as the set of all attributes. If the information table has more than one reduct, their intersection point is called the core. In other words, the core is the collection of the most relevant attributes in the table. Once the redundant variables have been eliminated, the model can be developed and the decision rules are obtained. Obtaining the rules through feature selection is a complicated process in bankruptcy prediction and, moreover, analysing a large number of firms’ information have costs and risks (Tsai, 2009). For this reason, this procedure of getting decision rules could be useful to many stakeholders in insolvency problems such as judges, managers, judicial officers, shareholders, banks, and creditors.

V. RESULTS AND DISCUSSION

With a sample of 808 Spanish private insolvent and non-insolvent non-financial audited firms, we run different prediction models using logistic regression and Rough Set in order to test the insolvency predictive ability of audit report disclosures, that is, the predictive power of auditors' comments included in the audit report. Descriptive statistics and results for each of the methodologies are presented in the next subsections.

1. Descriptive statistics

Summary statistics for the insolvent and non-insolvent sample firms are provided in Table 5.5 (Panels A and B). As indicated in Panel A, due to our matching procedure, insolvent firms have the same frequency per industry as the non-insolvent paired sample. The total sample includes a variety of industries. The largest industrial group consists of construction and real-estate firms (35%), mainly due to the impact of the housing bubble during the financial crisis in Spain (Conefrey and Gerald 2010). There is also a large number of manufacturing (27%), commercial (20%) and services firms (17%), followed by a small group of companies that belong to the primary sector (1%).

As presented in Panel B, the average age of the sample is about 22 years for the insolvent and 23 for the non-insolvent group. Accordingly, along with our matching procedure, we include additional control for firm size in our statistical analyses measured by firms' total assets in thousands of euros.

Panel B also presents the financial condition of the sample, disaggregating insolvent and non-insolvent groups. As expected, insolvent companies have lower liquidity, as per the working capital to total assets ratio (WCTA), lower profitability than the non-insolvent group, as measured by the return on assets ratio (EBITTA) and show higher leverage, using the book value of equity to total liabilities (BVETL). These financial ratios have been frequently used in numerous default prediction studies (Bellovary, Giacomino and Akers, 2007; Tascón-Fernández and Castaño-Gutiérrez, 2012), and our univariate results are consistent with prior literature indicating that firms that have filed for

insolvency protection are generally more illiquid, less profitable, and more leveraged than non-insolvent firms (Altman et al., 2016).

Table 5.5. Descriptive summary

Panel A: Frequency of industries classified by insolvency				
	Insolvent firms	Non-insolvent firms	Total	Total (%)
Construction and real-estate	141	141	282	35%
Manufacturing	110	110	220	27%
Commercial	79	79	158	20%
Services	70	70	140	17%
Primary	4	4	8	1%
Total	404	404	808	100%

Panel B: Means and Standard Deviations by insolvency classification				
	Insolvent firms		Non-insolvent firms	
	Mean	S.D.	Mean	S.D.
Age (years)	22	13	23	14
Size (total assets)	84,352	276,969	84,431	293,514
WCTA	-.090	.401	.239	.307
EBITTA	-.169	.329	.026	.104
BVETL	.278	1.098	1.728	3.015
# of obs.	404		404	

Table 5.5 reports the summary statistics of the sample, divided into insolvent and non-insolvent firms. The total sample comprises 808 firms, of which 404 have filed for insolvency legal proceedings and they are manually matched by year, size (total assets) and industry with 404 non-insolvent companies. In Panel A, industries of the sample are shown (frequency by groups, and percentage in total). The five categories classification of industries is created based on NACE codes. In Panel B, means and standard deviations are presented for insolvent and non-insolvent groups for the following variables: age (expressed in years), size (in thousands of euros), WCTA (Working capital divided by total assets), EBITTA (Earnings before interest and taxes divided by total assets), and BVETL (Book value of equity divided by total liabilities). Data used to calculate the financial ratios is winsorized at the 1% and 99%. Finally, # of obs. states for number of observations.

2. The results of the logistic regression analysis

We present the result of the logit model in Table 5.6. The parameters of the model are presented in Panel A. The variables of the model that are statistically significant ($p\text{-value} > 0.05$) are the disclosures in the audit report related to assets, liabilities and contingencies, the result of the period, accumulated losses from prior periods, going concern and the beginning of insolvency legal procedure. As predicted, all of their coefficients have a positive sign, which suggest that when these disclosures appear, an insolvency situation may occur. Therefore, these comments represent essential data to predict insolvency situations using the audit report model pre-IAASB's new reporting regime.

In the model summary tests (see Panel B), the Nagelkerke R Square is 54%, which demonstrates a sufficient strength of association. However, the interpretation of this measure (as well as the Cox & Snell R Square) in logit models should only be used for comparison purposes, as it does not have the same meaning as for ordinary least squares regressions (Hernández-Tinoco and Wilson 2013). A good measure to verify that the model fits with the data is the Hosmer & Lemeshow test statistic. The test is not significant, which can be interpreted by saying that the logit model fits very well with the data.

The discriminating power of the model appears in Panel C, and it is calculated for the estimation sample and the test sample. The estimation sample represents the 75% of the dataset used to run the regression. For these firms, the classification accuracy is 81.4%. However, it is more reasonable to use the classification accuracy of the test sample, which is the 25% of the data not used in the regression. Using the test sample, the accuracy drops to 79.6% which goes in line with the results of other studies (Altman et al., 2016).

Table 5.6. Results of the logistic regression analysis

Dependent variable: <i>INSOLVENT</i>						
Panel A: Parameters of the model						
Variables	Coeff.	Std. Dev.	Wald statistic	Degrees of freedom	p-value	Exp (B)
<i>ASSETS</i>	1.847	.201	84.650	1	.000	6.339
<i>LIABIL_CONTING</i>	.813	.330	6.053	1	.014	2.255
<i>RESULT_PERIOD</i>	1.588	.467	11.578	1	.001	4.896
<i>ACCUM_LOSSES</i>	1.062	.528	4.040	1	.044	2.892
<i>INFO_OMISSION</i>	-.404	.466	.752	1	.386	.667
<i>NEGAT_WC</i>	-.284	.623	.208	1	.648	.753
<i>SUBSEQ_EVENTS</i>	2.011	1.158	3.013	1	.083	7.471
<i>REGUL_ENVIRON</i>	.242	.409	.352	1	.553	1.274
<i>MGMT_PLAN</i>	-.637	.716	.790	1	.374	.529
<i>GC</i>	2.548	.530	23.156	1	.000	12.783
<i>INSOLV_PROCEED</i>	1.662	.840	3.917	1	.048	5.272
<i>Constant</i>	-1.602	.156	104.958	1	.000	.202
Panel B: Model summary tests						
-2 log-likelihood	527.742		Hosmer & Lemeshow Test:			
Cox & Snell R-square	.403		Chi-square	<i>p-value</i>		
Nagelkerke R-square	.538		5.832	.442		
Panel C: Classification accuracy of the model						
Observed:	Estimation data:			Test data:		
	Predicted:			Predicted:		
	Insolvent	Non-insolv.	Correct, %	Insolvent	Non-insolv.	Correct, %
Insolvent	237	58	80.3%	86	23	78.9%
Non-insolvent	55	257	82.4%	18	74	80.4%
			81.4%			79.6%

This table presents the results of the logit model of insolvency prediction. Panel A displays the parameters of the models, or the eleven-item codification of audit report disclosures. It presents, in order, coefficients, standard errors, Wald test, degrees of freedom, p-values and B-exponential. Panel B contains measures of the model: -2 log-likelihood, Cox and Snell R-square, Nagelkerke R-square, and Hosmer and Lemeshow goodness-of-fit test. Panel C includes the classification accuracy of the model, which is calculated with the sample used to run the regression (the estimation sample, which represents 75% of the total sample) and the test sample (25% remaining) to validate the results. The absolute numbers for insolvent and non-insolvent (Non-insolv.) firms are the observed values, and the correct predicted values are displayed in percentage for the insolvent and non-insolvent samples, as well as for the overall dataset.

3. The results of the Rough Set analysis

In order to compare the results of the traditional parametric technique of logit regression with a more sophisticated methodology, we ultimately apply the Rough Set analysis to our sample to test the predictive ability of this non-parametric method.

In order to predict bankruptcy, any statistical method needs to discriminate. In our analysis, the discrimination consists of assigning firms (objects) to a decision group (insolvency or non-insolvency) based on a set of binary variables contained in the audit report (attributes). Our objective is to extract information patterns and notable regularities (rules) from the sample to get a way to predict insolvency with our data. Concretely, we have used the eleven variables from the codification of the audit report disclosures, the ones presented in Table 5.4. All these variables are dummies or categorical. They take the value of 0 if the disclosure is not contained in the report, 1 if a disclosure regarding one category appears in the report, 2 if there are two disclosures about the category, and so on. Normally, if any, there is one disclosure by category, but there can be more than one. As an example, circumstances that give rise to more than one comment are related to assets, as in some occasions auditors mention different valuation issues with tangibles, intangibles or inventories among others.

The first relevant result indicates that there is only one reduct. This finding suggests that none of the variables (the eleven-item codification of the audit report disclosures) can be eliminated from the analysis, as all of them are necessary in order to obtain the highest and more accurate prediction possible. Turning to the decision rules built by the Rough Set analysis, we have obtained seven, shown in Table 5.7. Before the interpretation of rules, the model requires validation. Thus, a cross-validation procedure is applied⁶³. The process indicates that the percentage of correctly classified firms is 80.0%,

⁶³ Cross-validation comprises of several training and testing runs. The data set is first split into several, possibly equal in size, disjointed parts. Then, one of the parts is taken as a training sample and the remainder (sum of all other parts) becomes the test sample. The classifier is constructed by means of the training sample and its performance is checked on test sample. These steps are repeated as many times as there are data parts, so that each of the parts is used as training set once. The final result of the cross-validation procedure is the average of scores from subsequent steps

so that in 80 out of 100 cases, this methodology accurately discriminates between failed and non-failed companies.

Table 5.7. Results of decision rules from Rough Set model

Dependent variable: <i>INSOLVENT</i>				
Rule	Classification	No. of cases	Correctly classified	Rule explanation
1	Non-insolvent	359	299	<i>SUBSEQ_EVENTS</i> = 0 & <i>INSOLV_PROCEED</i> = 0 & <i>NEGAT_WC</i> = 0 & <i>ACCUM_LOSSES</i> = 0 & <i>RESULT_PERIOD</i> = 0 & <i>LIABIL_CONTING</i> = 0 & <i>ASSETS</i> = 0 & <i>REGUL_ENVIRON</i> = 0.
2	Insolvent	119	77	<i>SUBSEQ_EVENTS</i> = 0 & <i>INSOLV_PROCEED</i> = 0 & <i>NEGAT_WC</i> = 0 & <i>ACCUM_LOSSES</i> = 0 & <i>RESULT_PERIOD</i> = 0 & <i>LIABIL_CONTING</i> = 0 & <i>ASSETS</i> = 1 & <i>REGUL_ENVIRON</i> = 0.
3	Insolvent	77	77	<i>INSOLV_PROCEED</i> = 1 & <i>LIABIL_CONTIN</i> = 0.
4	Insolvent	32	26	<i>INSOLV_PROCEED</i> = 0 & <i>ACCUM_LOSSES</i> = 0 & <i>RESULT_PERIOD</i> = 0 & <i>LIABIL_CONTING</i> = 0 & <i>ASSETS</i> = 2 & <i>REGUL_ENVIRON</i> = 0.
5	Insolvent	8	8	<i>LIABIL_CONTIN</i> = 2.
6	Insolvent	8	8	<i>REGUL_ENVIRON</i> = 2.
7	Insolvent	4	4	<i>ASSETS</i> = 3.

This table represents the rules generated by the Rough Set analysis to predict insolvency with our matched sample of 808 companies (404 insolvent and 404 non-insolvent). In the model, the dependent variable is *INSOLVENT*, and takes the value of 1 when the firm is under insolvency legal proceedings, and 0 otherwise. The independent variables are the eleven items of the audit report codification: *ASSETS* (assets), *LIABIL_CONTING* (liabilities and contingencies), *RESULT_PERIOD* (result of the period), *ACCUM_LOSSES* (accumulated losses), *INFO_OMISSION* (information omission), *NEGAT_WC* (negative working capital), *SUBSEQ_EVENTS* (subsequent events), *REGUL_ENVIRON* (regulation and environment), *MGMT_PLAN* (management plan), *GC* (going concern) and *INSOLV_PROCEED* (insolvency proceedings). See Table 5.4 for their detailed definitions. Rough Set analysis generates 7 rules, presented one below the other in the table. All the rules classify the group of insolvent (*INSOLVENT* = 1) except for the first one, that focuses on the healthy companies (*INSOLVENT* = 0). For each rule, number of cases, cases correctly classified and explanatory or independent variables are disclosed in the third, fourth and fifth column of the table respectively.

Moving to the decision rules, the first result to emphasize is that there are six decision rules that discriminate the group of insolvent firms, thus, when the dependent variables takes the value of 1 (class 1 = *INSOLVENT*). This indicates that, apparently, it is simpler to explain why firms enter into legal proceedings than the reasons why firms survive, in line with Camacho-Miñano et al., (2015). However, the main and most powerful rule relates to non-insolvent firms. It contains 359 cases, 299 of which the rule classifies correctly. Then, 60 observations are classified incorrectly, as failed, when they are actually healthy (or not dealing with an insolvency situation). That rule applies 8 items of the codification of the audit report (see Rule 1 in the first row of Table 5.7). This suggests that the remaining 3 other types of disclosures (concretely, *INFO_OMISSION*, *GC* and *MGMT_PLAN*) are redundant and not good predictors of non-insolvent firms.

Rule 2 (see Table 5.7) is not very precise because it contains 54.5% of mistakes (77 correctly classified versus 42 wrong cases). This rule is related to comments in the audit report regarding the assets that a firm owns. Another strong rule for insolvent firms is Rule 3 (see Table 5.7). Without any mistakes, it discriminates 77 insolvent cases. This rule means that the reports in which the auditor informs about the client's filing for insolvency proceeding (normally voluntary legal processes), and the auditor does not find any uncertainties or reservations regarding assets, the company has a high probability to go insolvent. Logically, if a firm asks for a legal court process, its financial condition is not very robust. This rule demonstrates that the other disclosures in the report are not that necessary to discriminate insolvent firms. This result might seem obvious but, according to our findings, many of the reports of insolvent companies do not contain a comment regarding the initial steps of a legal process, so we consider the result as to be mentioned.

The rest of the decision rules are not very strong although they are consistent with the literature because companies with high probabilities to go into legal insolvency proceedings are those which their audit reports have disclosures about assets, contingencies and liabilities, regulatory concerns or external economic and environmental circumstances. In Spanish firms, this is the case of companies related to the construction industry. In recent years, even well-managed construction companies are

suffering from financial difficulties due to the global financial crisis and its domino effect. That is, the crisis starts affecting their suppliers and customers, and hits the company afterwards.

These results are in line with the ones obtained by the logistic regression. Thus, we can predict insolvency situations analyzing firms' audit reports. Combining the most significant results of the two methodologies, we can conclude that if there is a disclosure about assets, a going concern uncertainty or a comment regarding the voluntary legal proceedings in the audit report of the year prior to legal filing, these pieces of information help the user to predict the imminent insolvency.

VI. GENERAL CONCLUSION, IMPLICATIONS AND LIMITATIONS

The aim of this paper is to analyse the explanatory power of audit report information when predicting firms' insolvency situations. More precisely, this study examines the ability of audit report disclosures to explain insolvency. It means that audit data for the year prior to insolvency legal proceedings is applied to establish the prediction rules, in order to distinguish between insolvent and non-insolvent firms. Using a matched sample of 404 Spanish private non-financial insolvent and 404 non-insolvent firms manually extracted from the BVD database, and data of these companies from the year prior to legal proceedings, we apply different parametric and non-parametric methodologies to build several estimation models: the logistic regression, a traditional statistic approach as the parametric technique, and the Rough Set, an artificial intelligence technique as the non-parametric one.

The two methodologies used have around 80% of accuracy power when predicting insolvency, slightly higher in the case of the Rough Set and followed by the logit regression. Therefore, our evidence indicates that the disclosures mentioned in audit reports are useful tools to analyse the probability of filing for an insolvency legal procedure.

Some implications are drawn from these results. Firstly, insolvency can be predicted not only from financial and accounting information, which is the most commonly source of data used (Balcaen and Ooghe, 2006; Bellovary et al., 2007; Altman et al., 2016), but also from audit report information. Traditionally, following this idea, research combines accounting data with others sources of information. Our results might contribute to this line of research because we obtain a valuable explanatory power when predicting firms' insolvency situations avoiding the use of accounting information and using only audit information that is an innovative contribution.

Secondly, on the one hand, we find evidence that companies that issue a clean report have fewer probabilities of filing for bankruptcy. However, on the other hand, the probability of insolvency seems to be higher if auditors inform about issues regarding going concern, valuation of firms' assets, subsequent events, or initial steps of insolvency legal proceedings. The implications of these results

are very important because we identify that the audit report is a valuable tool not only for predicting insolvency but also for anticipating financial distress in order to avoid companies' extinctions. Every economy intends to grow, so that this implies not only the development of start-ups but also the survival of existing firms. In this sense, the role of auditors should be crucial in this point. In fact, our results suggest that the role of auditors is essential for detecting issues with firms' survivals, even though this is not the main purpose of the report. In particular, if the remarks mentioned above (about going concern uncertainties, assets, subsequent events and legal court proceedings) are found in an audit report, the auditor is notably assisting in identifying a company that is about to fail.

Thirdly, our findings indicate that the audit report could be a 'first glance' warning/signal of financial distress. Even when the auditor does not inform about going concern uncertainties, other auditors' comments have to be taken into consideration as key information to predict insolvency according to the Rough Set results. As the audit report is structured, standardized and well-defined, any user could easily identify signs of insolvency mentioned.

Finally, our evidence may represent a timely and important contribution for regulators and the auditing profession, due to the current international auditing environment, in which regulatory changes are occurring worldwide with the main purpose of highlighting the confidence, transparency and information value of the audit report. For instance, in March 2016, Dan Montgomery (Chair of the Auditor Reporting Implementation Working Group and former Deputy Chair of the IAASB) suggested that the current changes are the greatest in the audit report worldwide in more than 50 years. Basically, the changes are resulting in a "new and improved audit report that provides more transparency about important aspects of the audit, and better describes what an audit is and what the auditor does" (IAASB, 2016).

This paper is not free of limitations. Along the text, we have already highlighted the audit report data limitation due to the database configuration. Moreover, we have also mentioned the specific codification process of audit report disclosures in this study. Although two professionals classified

the sample separately, the procedure is manual and might be considered subjective. In a future line of research, new automatic techniques for qualitative data should be used to analyse audit reports of companies under financial difficulties. Additionally, this study could be expandable to other regulatory contexts, in order to compare the predictive ability of Spanish audit reports with others.

CHAPTER 6

DO PRIOR AUDIT OPINIONS AFFECT NEXT ONES?

Abstract

When conducting an audit for a firm with a conclusive poor (healthy) financial condition, the result leads to an indubitable going concern (unqualified) opinion. However, when financial distress symptoms are not that explicitly interpreted by the accounting data, the audit opinion could be influenced by diverse factors. The aim of this paper is to analyze whether the prior year audit opinion can sway the next report choice in doubtful financial conditions in contrast with unequivocal negative conditions (experiment 1). Additionally, we test if auditor experience tempers this effect (experiment 2). In both between-subjects experiments, the prior year opinion is manipulated in four levels. In the first level, the prior report is not provided. In the other three levels, participants receive different prior opinions: unqualified, unqualified with a matter section, or going concern. Results show that unqualified and going concern prior opinions persuade auditors when suggesting the next report choice more than other situations (unavailability of prior report or a matter paragraph issued). In addition, our evidence suggests that auditor experience mitigates the influence of prior opinions on auditors' judgments.

Keywords: experiment, behavioral audit, audit opinion, viability, going concern, qualifications, matter paragraphs.

I. INTRODUCTION

This paper investigates the effects of prior audit opinions and auditor experience on auditor judgments. We examine whether different types of prior opinions and levels of experience influence auditor judgments related to upcoming reporting choices.

Auditor judgments may be affected by individual factors, or factors that relate to single auditor characteristics which vary between auditors (El-Masry and Hansen, 2008), such as confirmation bias and auditor experience. Prior research has examined whether or not auditor assessments are influenced by confirmation bias, and the results are mixed (Smith and Kida, 1991; McMillan and White, 1993; Anderson and Maletta, 1994; Bamber, Ramsay and Tubbs, 1997). Confirmation bias is defined as a tendency to search for information that confirms the favored or initial hypothesis generated by an auditor (Bonner, 2008; Järvinen, 2012). Smith and Kida (1991) relate confirmation bias with an auditor's conservative approach, as the profession is trained to uncover potential material errors. Following this line, subsequent work by McMillan and White (1993) demonstrate the link between conservative and confirmation bias. They show that auditors often opt for an error-framed hypothesis (intentional or unintentional misstatements in the financial statements) when explaining error fluctuations in financial statement ratios rather than justifying the errors by environmental causes. In contrast, the results of Anderson and Maletta (1994) do not confirm that initial hypotheses persuade auditors to search for positive or negative evidence. Lastly, Bamber et al. (1997) demonstrate the auditors' confirmation bias proneness in fraud and non-fraud tasks. In our study, we propose the usage of different prior audit opinions to test whether or not auditors favor information that confirms rather than refutes those preceding opinions. Apparently, the impact of prior audit opinions on auditor judgments has not been tested in prior literature and this effect has seen an increased interest lately (Libby, Bloomfield and Nelson, 2002; Nelson and Tan, 2005). Thus, the present study examines for the first time the persuasive effect of prior opinions on next auditors' assessments.

Other studies in auditing have documented that experience affects auditor judgments (e.g. Waller and Felix, 1984; Biggs, Mock and Watkins, 1988; Choo and Trotman, 1991; Libby and Luft, 1993; Davis, 1996; Simnett, 1996). In general, the overall findings of this research indicate that experienced auditors are more effective and efficient in the acquisition and usage of information. For instance, when acquiring information, experienced auditors select fewer cues (Davis, 1996) and fewer ratios (Simnett, 1996) compared to less experienced auditors. Also, the information usage is more balanced in experienced auditors (Waller and Felix, 1984), and they are more efficient when evaluating evidence that reduces the doubts about a company's going concern (Choo and Trotman, 1991).

Few prior studies have found mixed evidence when testing whether an increase in auditor experience reduces the tendency towards confirmation bias. Kaplan and Reckers (1989) report that auditor experience softens confirmation bias when analyzing ratio fluctuations. On the other hand, Bamber et al. (1997) find that a low level of experience does not exacerbate confirmation bias, although less experienced auditors tend to focus on information that confirms their initial expectations more than experienced auditors. Despite the vast literature on auditor experience, the present work contributes presenting, for the first time, evidence on the influence of auditor experience on how auditors evaluate the prior audit report. This influence has not been tested before, so our paper helps fill this gap.

The topic of this paper is timely, relevant and of interest due to the current international auditing reporting environment. A more informative audit report model has already been implemented in some countries, such as the United Kingdom, the Netherlands, South Africa or Australia. Also, these regulatory changes are considered in the United States and, in the European Union (EU), the International Auditing and Assurance Standards Board has recently issued new and revised standards with the general purpose of increasing auditor transparency throughout this new format of the report. In April 2014 the EU adopted a new legislation to reform the statutory audit market which started to apply in June 2016 (Directive 2014/56/EU) for the EU members. Apart from other changes, the new regulation includes a series of auditor reporting requirements designed to enhance investors' understanding of the audit process, including the critical judgments made during the audit (KPMG,

2014). The new regulation states that for all statutory audits in the EU, the audit report will need to “provide a statement on any material uncertainty relating to events or conditions that may cast significant doubts about the entity’s ability to continue as a going concern” (Directive 2014/56/EU). There has been little research on the impact of prior audit opinions on auditors’ next reports, so our paper can contribute to this matter and can provide useful insight to regulators regarding the information consulted before issuing a new audit report. Moreover, although research on confirmation bias and auditor experience was mainly conducted in the 1980s and 1990s, both recent accounting scandals (in which auditors did not anticipate viability issues) and the current regulatory reporting changes are raising concerns among academics and practitioners. These concerns relate to the evidence auditors evaluate when making their assessments, concretely on substantial doubts and going concern modifications (Carson, Fargher, Geiger, Lennox, Raghunandan and Willekens, 2013), and how searching and evaluating that information may affect their final judgments.

We consider whether the audit opinion of the year before the audit influences the auditor judgments about the opinion choice of the next period. Specifically, in relation to confirmation bias, we predict that an auditor will agree more with the prior opinion, favoring that opinion over others, but this effect will diminish when auditor experience raises as the proneness towards confirmation bias might be mitigated by increasing auditor experience (Kaplan and Reckers, 1989; Bamber et al., 1997). We expect the “stickiness” of the prior audit opinion to reduce with experience, due to the fact that experienced auditors have been involved in more audit engagements and their knowledge and understanding of the auditing process is enhanced.

We conduct two experiments to empirically demonstrate whether subsequent reporting choices are affected by different prior opinions and experience levels. In both experiments, after evaluating

financial and non-financial data of a hypothetical company, participants suggest an audit opinion for the financial year of which the financial information is presented⁶⁴.

In the first experiment, we manipulate type of prior year audit opinion (no prior audit information, unqualified opinion, unqualified opinion with emphasis of matter paragraph, and going concern qualified opinion) and financial information (negative versus neutral) in a 4 x 2 between-participants design in which participants are non-experienced auditors (master in auditing students). As expected, regarding the new reporting choice, results suggest that it is difficult for an auditor to judge negatively the financial statements of a company when the prior audit report is clean. Consequently, we find evidence of confirmation bias when an unqualified audit opinion is provided to auditors. Similarly, our results also suggest that a prior going concern modification moves auditors towards the issuance of the same modification in the year after. As mentioned above, these results have important implications for the current regulatory context. Regulators worry about risk disclosures in audit reports because some auditors have failed to warn in the report about insolvency issues of some companies that went bankrupt afterwards and affected investors worldwide.

Based on the results in Experiment 1, we conduct a second experiment to clarify issues related to the experience of participants in Experiment 1. In Experiment 2, based on prior research on auditor experience, subjects have different levels of experience. Using the neutral financial information from Experiment 1, and master in auditing students (non-experienced auditors) versus junior and senior, we manipulate type of prior year audit opinion as in Experiment 1 and level of experience in a 4 x 3 between-participants design. Results in Experiment 2 indicate that auditor experience affects the audit opinion. As experience increases, the effect of prior opinions when issuing new ones gets reduced.

This evidence is important, as we find differences when suggesting a new audit opinion between conditions with no experience, low and high experience. This difference is more notable when the

⁶⁴ The materials for the experiments are disclosed in the Annex. Materials are available in the website both in English and in Spanish. Annex contains English materials only.

prior auditor issued a going concern opinion, which affects non-experienced auditors' attendance to negative information. This result indicates that less experienced auditors are more prone to rate more highly information that confirmed their initial belief in a negative frame (McMillan and White, 1993; Bamber et al., 1997).

Our findings have several important implications. First, the overall significance of our results is that a manipulation of the prior year audit opinion might impair auditor judgments in some scenarios. More precisely, when prior audit reports are clean or present a going concern modification, they influence the next auditor's judgments to perform the audits in favor of one initial hypothesis, ignoring other relevant information that may not be correlated with their selected hypothesis. These findings represent a key contribution to the literature and the auditing profession because they help to demonstrate that auditors' opinions can be guided by the prior opinion more than by their own judgments.

Second, very few studies have examined the effects of two individual factors—both confirmation bias and experience—on auditor judgments, finding mixed results. In an experimental setting with different prior audit opinions provided to participants to make judgments, our results can contribute to the debate about the existence of confirmation bias and its mitigation through auditor experience. Consistent with prior findings, although only in a few cases, less experienced auditors rate preceding opinions too high, such as going concern opinions, ignoring signals that mitigate the threat to continued existence (Choo and Trotman, 1991).

Third, experimental research in auditing has focused on the importance of going concern qualifications on auditor judgments (Nelson and Tan, 2005; Trotman, 2005; Messier, 2010). Academics have raised concerns about the need for studies that investigate the pieces of evidence auditors evaluate during audit engagements where substantial doubt exists about the client's going concern assumption (Carson et al., 2013). Regulators highlight the need for research on new requirements of the audit report, such as the statement on any material uncertainties that may cause

doubts about a company's viability in the international standards (Directive 2014/56/EU). Thus, our results are informative to the current needs, as they indicate that auditors' individual factors – confirmation bias– do appear to have some influence over next reporting choices.

Finally, our study adds to limited empirical evidence about the impact of different prior audit opinions on auditor judgments. Despite the remarkable number of works on how going concern qualifications affect auditor judgments (Nelson and Tan, 2005; Trotman, 2005; Messier, 2010), there is a call in the literature for additional research on other types of audit opinions (Libby et al., 2002; Nelson and Tan, 2005). As per our knowledge, there is only a related archival study that demonstrates the existence of an effect of prior audit opinions on going concern receptions (Cahyono, 2014), so our study might fill this gap.

II. BACKGROUND AND HYPOTHESES

1. Background – Confirmation bias, experience and prior audit opinions

The impact of auditors' individual factors, such as confirmation bias and auditor experience, has been previously studied in the auditing context. Confirmation bias is a judgment bias which implies that auditors may seek to verify their beliefs and so may favor information that corroborates rather than refutes their initial thoughts (McMillan and White, 1993). Auditor experience, or the number of years that an auditor has been working in the auditing profession, is also present on studies about auditor judgments (Choo and Trotman, 1991; Hoffman, Joe and Moser, 2003). How do different prior audit opinions received by auditors affect their judgments? Are their judgments influenced by confirmation bias and experience?

In the auditing literature, while some works verify a confirmation bias proneness of auditors in fraud and non-fraud tasks (Bamber et al., 1997), others do not find evidence about the existence of this bias (Anderson and Maletta, 1994). It seems that when confirmation bias and experience have been studied together, experience appears to mitigate the proneness towards this bias (Kaplan and Reckers, 1989). For example, an auditor with few years of experience is likely to be more confirmation bias prone in explaining ratio fluctuations (Kaplan and Reckers, 1989).

In our hypothesis development, we measure the impact of different prior year audit opinions on confirmation bias and experience, which has not been tested so far. In the experimental literature, significant emphasis has been placed on the importance of prior going concern opinions on auditor judgments (Nelson and Tan, 2005; Trotman, 2005; Messier, 2010). For instance, Hoffman et al. (2003) argue that experienced auditors make more optimistic survival judgments of going concern firms when the auditing process has no constraints. The focus on going concern is due to the issuance of standards related to this decision and its complexity, as it implies that the firm may not continue in business for the foreseeable future (ISA 570; SAS 59). However, other prior audit opinions different

from going concern (i.e., unqualified and emphasis of matter paragraphs) might also affect subsequent auditors' judgments (Libby et al., 2002; Nelson and Tan, 2005). Previous researchers have studied the relationship between the auditor behavior and the issuance of a going concern opinion (Altman, 1982; Menon and Schwartz, 1987; Hopwood, McKeown and Mutchler, 1989; McKeown, Mutchler and Hopwood, 1991; Chen and Church, 1996). However, there are also a few studies about the effects of qualifications other than going concern (Dopuch, Holthausen and Leftwich, 1987; Menon and Schwartz, 1987; Bell and Tabor, 1991; Carcello and Palmrose, 1994; LaSalle and Anandarajan, 1996; Blay, 2005). Also, Nelson and Tan (2005) states that "given that much archival research addresses audit opinions, additional judgment and decision making research on opinion modification can offer converging evidence and potentially explain puzzling archival results by capitalizing on the comparative advantages of the experimental approach, such as the use of controlled setting, manipulation of key constructs and randomization".

2. Hypotheses development

According to Carson et al. (2013), studies that investigate what auditors are evaluating to determine the likelihood of a client failure represent a need for the extant literature. Prior studies have revealed that accounting ratios can provide useful information for auditor when judging continuity problems (Kida, 1980). Mutchler (1984), who expands Kida's investigation, designs an interview and a questionnaire to capture auditors' perceptions in going concern decisions. She presents a set of fourteen accounting and auditing related variables perceived by auditors as useful in identifying a company with a potential financial distress situation, being "enter receivership", "enter reorganization" and "inability to meet interest due" the top three variables on the list. Nevertheless, the variable "going concern audit report in previous year" presents large variances on the responses. The lack of consensus on this variable may represent an issue of misinterpretation as, according to Mutchler (1984), if a firm receives a going concern report in the previous period, the auditor will consider this firm as one to be examined carefully to determine its survival the upcoming year. Generalizing this statement to any type of audit report in the prior year, we believe that prior audit opinions will influence auditors' assessments in the upcoming period representing an essential source of information in the decision-making process of issuing a new opinion. Therefore, we hypothesize the following:

H1: An unqualified (qualified) opinion is suggested by auditors for the current period when they receive a prior year unqualified (qualified) report.

The impact of auditor experience on complex decision processes has been substantially documented in experimental research. For instance, the association between experience and the assessment of management fraud risk, a complicated decision with which few auditors have had experience, is studied by Eining, Jones and Loebbecke (1997). Earley (2002) examines whether or not the lack of problem recognition is primarily due to lack of experience in a real estate valuation task. Later on, some studies find that auditor negotiation experience may cause an impact on the client-auditor

negotiation context in the presence of engagement risk (Brown and Johnstone, 2009) and in the interaction with different client negotiation styles in terms of an asset impairment write-down task (Fu, Tan and Zhang, 2011). The vast majority of these studies have found that experienced auditors make better decisions, because of a more developed knowledge of the content and structure of the auditing process. Also, an increase in auditor experience appears to reduce auditor individual biases, such as confirmation bias, leading to more balanced and efficient audit procedures and strategies (Kaplan and Reckers, 1989). The present paper introduces, for the first time, a study where auditor experience is tested by the influence of prior opinion on auditors' assessments, which has not been previously done before.

Using a going concern task, there are also some studies that suggest that experienced auditors perform more accurate than less experienced auditors when identifying information that might decrease the threat of continued existence (Choo and Trotman, 1991; Hoffman et al., 2003). Then, generalizing this evidence of going concern judgments to different audit opinions, we generate our second hypothesis:

H2: The influence of the prior year audit opinion on the new reporting choices decreases as auditor experience increases.

III. EXPERIMENT ONE

1. Design and Participants

To test hypothesis one (H1), we conduct a going concern task using a website (www.behavioralexperiments.com), adapting materials from Blay (2005) and Bauer (2015). The design is a 4 x 2 between-subjects experiment. The prior year audit opinion (PYAO) and the financial information provided (FI) contain the manipulations. Thus, participants receive different information regarding the previous audit and financial data, generating 8 conditions to which subjects are randomly assigned.

We manipulate the prior year audit report in four types: no prior audit report (NAO), unqualified audit opinion (UAO), unqualified opinion with emphasis of matter paragraph (UEAO), and a going concern qualified opinion (GCAO). Regarding financial information, we manipulate the seriousness of the firm's financial condition according to two levels: negative (Neg) versus neutral (Neu). We include this manipulation as a control, because audit judgments are mainly based on accounting records underlying the financial statements (ISA 500; Simunic, 1980). As audit judgments are going to be based on financial information prepared by firms, we control for the impact of the firm financial condition on auditor judgments in order to isolate later the influence of the prior audit opinion when two different financial conditions are provided. In the negative condition, financial information used is the same as in the case prepared by Blay (2005), which shows a firm with negative retained earnings, negative working capital, poor liquidity, and high financial leverage. As these materials might influence participants to provide very low viability assessments, we develop the neutral condition extending his materials. This condition still shows a company with financial difficulties, but losses are less dramatic and the financial distress might not be that obvious, creating a more ambiguous case for the auditor to assess.

Questions are equivalent across the treatment conditions. By providing the same amount of information and equally reinforcing the manipulation in all conditions, we expect equal decision making processes, but different audit judgments between conditions.

A total of 175 Master in Auditing students participated in Experiment One. Despite their low experience judging the ability of a firm to survive, they are familiar with the accounting concepts in the experimental materials, as they have already taken courses about Advanced Financial Accounting, Financial Statement Analysis, Accounting regulation, and Managerial Accounting in their training sessions. According to Kennedy (1993), this task, although complex, is not unreasonable for Master students given their business interests and educations (Chewning and Harrell, 1990; Kennedy, 1993).

2. Procedures and Variables

The task requires participants to evaluate financial and non-financial data of a hypothetical medium-sized manufacturing firm (see Annex for more details). Subjects are asked to assume that they are the in-charge auditor of the firm and they have to judge the viability of the firm in the subsequent year and recommend an audit opinion for the current period, based on the data provided: firm's background information, including a business description, a two-year comparative balance sheet, a three-year comparative income statement, a three-year comparative cash flow statement summarized, the prior year audit report, and a set of significant events of the year.

At the beginning of the case, participants are guaranteed that all answers are anonymous. After completing a survey of background questions (i.e. gender, Big 4 or non-Big 4 auditor, years of experience, and title), participants proceed to the task. At the end of the experiment, subjects complete a brief post experimental questionnaire containing manipulation checks to verify that they have understood the task.

The dependent variable of the experiment contains the report choices. The subsequent audit report choices offered to participants are four: unmodified (U), unmodified with emphasis of matter

paragraph (UE), modified report due to other reasons but going concern (OQ) and going concern modified report (GCQ).

3. Experiment One Results

We predict that an auditor's subsequent reporting choice will be influenced by the prior year audit opinion (H1). Summary statistics for the dependent variable are shown in Table 6.1. Also, we include a 4 x 2 analysis of variance (ANOVA) with audit opinion as the dependent variable, and results are illustrated in Table 6.2.

Differences appear between the frequency of reporting types depending on the financial statements' data (Neg and Neu). As predicted, the frequency of the new audit opinion in absolute figures shows that auditors' opinion tend to be more qualified when the financial condition of the company is in danger (Neg). More unqualified opinions appear when financial statements present a more ambiguous situation (Neu).

We also find effects on the next opinion of both independent variables (see Table 6.2 Panel A). We demonstrate a main effect on financial information [$F = 7.05$; $p = .031$] and prior audit opinion [$F = 4.054$; $p = .008$]. However, the interaction is not statistically significant [$F = .683$; $p = .696$].

There are studies that have shown the impact of going concern qualifications on auditor judgments (Nelson and Tan 2005; Trotman 2005; Messier 2010; Cahyono 2014). Also, in the other direction, it seems reasonable to expect that unqualified opinions might as well condition the next auditor, although this result has not been demonstrated in the literature, as per our knowledge. In line with this reasoning, we decide to test an a priori contrast to see differences of the new going concern opinion in comparison with the other choices (Table 6.2 Panel B). In these a priori contrasts, we show that the dependent variable is certainly affected by the prior reports when going concern opinions are presented [$\chi^2 = 9.021$; $p = .029$] and only when the accounting and financial information is not very negative.

**Table 6.1. Descriptive statistics of the new audit opinion (dependent variable):
Frequency by condition**

Subsequent audit opinion	Financial information (FI)	Prior year audit opinion (PYAO)				Overall
		NAO	UAO	UEAO	GCAO	
U	Neg	0 (0%)	1(5%)	0(0%)	1(5%)	2(2%)
UE		8 (36%)	9(45%)	6(30%)	4(20%)	27(33%)
OQ		13(59%)	10(50%)	11(55%)	12(60%)	46(56%)
GCQ		1(5%)	0(0%)	3(15%)	3(15%)	7(9%)
Overall		22	20	20	20	82
U	Neu	5(26%)	7(28%)	3(12%)	3(13%)	18(19%)
UE		7(37%)	11(44%)	11(44%)	4(17%)	33(36%)
OQ		5(26%)	4(16%)	6(24%)	10(41%)	25(27%)
GCQ		2(11%)	3(12%)	5(20%)	7(29%)	17(18%)
Overall		19	25	25	24	93
Overall		41	45	45	44	175

The independent variables are financial information (FI) and prior year audit opinion (PYAO). Financial information is represented in two levels: Neg = Negative financial information; Neu = Neutral financial information. Prior year audit opinion is coded as follows: NAO = No audit opinion; UAO = Unqualified audit opinion; UEAO = Unqualified with matter section audit opinion; GCAO = Going concern audit opinion. The dependent variable or subsequent audit opinion is categorized as unqualified (U), unqualified with matter paragraph (UE), other qualifications but going concern (OQ) and going concern qualification (GCQ). For the new audit opinion, the frequency is reported by condition.

Table 6.2. Experiment 1: Statistical analysis

Panel A: Analysis of Variance (Between-Subjects Effect)						
Source of variance	Sums of squares	Degrees of freedom	Mean Square	F-statistic	<i>p</i> -value	η^2
FI	3.310	1	3.310	4.705	.031	.027
PYAO	8.556	3	2.9852	4.054	.008	.068
FI x PYAO	1.442	3	.481	.683	.696	.012
Total between-cells variance	13.509	7	1.930	2.743	.564	.103
Error	117.486	167				
Total	1283.000	175				

Panel B: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]			
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value
Neg [0, -2, 0, 2]	5.105	3	.164
Neu [0, -2, 0, 2]	9.021	3	.029

The independent variables are financial information (FI) and prior year audit opinion (PYAO). Prior year audit opinion is coded as follows: NAO = No audit opinion; UAO = Unqualified audit opinion; UEAO = Unqualified with matter section audit opinion; GCAO = Going concern audit opinion. The interaction between independent variables is shown as FI x PYAO. A priori contrasts are coded across the four cells where: Cell 1 = NAO; Cell 2 = UAO; Cell 3 = UEAO; Cell 4 = GCAO.

In order to validate the results, we also combine the four types of new audit opinions into two. Basically, those two choices are a clean report versus a qualified report, the most recurrent types of opinions. On the one hand, a clean report contains both an unqualified opinion and an unqualified with a matter section (U+UE). On the other hand, the qualified report combines going concern qualifications and any other types (OQ+GCQ). When we apply this combination, similar results are obtained and they are detailed in Table 6.3. Descriptive statistics show very clear differences among groups with different prior audit opinions. There is a main effect on financial information [$F = 7.291$; $p = .008$] and prior audit opinion [$F = 3.817$; $p = .011$] but the interaction is not significant from a statistical point of view [$F = .525$; $p = .665$]. Ignoring the statistical significance, we can observe an obvious effect of the prior report in the new audit report decision. For instance, when the financial information is neutral (Neu), clean opinions move from around 63% without prior year report (NAO) or unqualified prior opinion (UAO) to only 29% when a prior going concern report is provided

(GCAO). We finally test the a priori contrasts for unqualified and going concern prior opinions. By doing so, we verify that the dependent variable is mainly affected by the prior reports when they present a going concern modification [$\chi^2 = 8.608$; $p = .003$] and this happens only when the accounting and financial information is not very negative.

Table 6.3. Experiment 1: Descriptive and statistical analysis

Panel A: Descriptive statistics: Frequency by condition						
Subsequent audit opinion	Financial information (FI)	Prior year audit opinion (PYAO)				Overall
		NAO	UAO	UEAO	GCAO	
U+UE	Neg	8 (36%)	10(50%)	6(30%)	5(25%)	29(35%)
OQ+GCQ		14(64%)	10(50%)	14(70%)	15(75%)	53(65%)
Overall		22	20	20	20	82
U+UE	Neu	12(63%)	18(72%)	14(56%)	7(29%)	51(55%)
OQ+GCQ		7(37%)	7(28%)	11(44%)	17(71%)	42(45%)
Overall		19	25	25	24	93
Overall		41	45	45	44	145
Panel B: Analysis of Variance (Between-Subjects Effect)						
Source of variance	Sums of squares	Degrees of freedom	Mean Square	F-stat.	<i>p</i> -value	η^2
FI	1.686	1	1.686	7.291	.008	.042
PYAO	2.648	3	.883	3.817	.011	.064
FI x PYAO	.365	3	.122	.525	.665	.009
Total between-cells variance	4.808	7	.687	2.970	.006	.111
Error	38.620	167				
Total	460.000	175				
Panel C: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]						
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value			
Neg [1, 1, 1, -3]	1.243	1	.200			
Neu [1, 1, 1, -3]	8.608	1	.003			
Panel D: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]						
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value			
Neg [-3, 0, 0, 3]	.633	1	.323			
Neu [-3, 0, 0, 3]	4.968	1	.027			
Panel E: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]						
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value			
Neg [0, 3, 0, -3]	2.667	1	.095			
Neu [0, 3, 0, -3]	8.990	1	.003			
Panel F: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]						
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value			
Neg [0, 0, 3, -3]	.125	1	.500			
Neu [0, 0, 3, -3]	3.600	1	.053			

The independent variables are financial information (FI) and prior year audit opinion (PYAO). Financial information is represented in two levels: Neg = Negative financial information; Neu = Neutral financial information. Prior year audit opinion is coded as follows: NAO = No audit opinion; UAO = Unqualified audit opinion; UEAO = Unqualified with matter section audit opinion; GCAO = Going concern audit opinion. The dependent variable or subsequent audit opinion is coded as unqualified (U+UE) and qualified (OQ+GCQ). A priori contrasts are coded across the four cells where: Cell 1 = NAO; Cell 2 = UAO; Cell 3 = UEAO; Cell 4 = GCAO.

IV. EXPERIMENT TWO

1. Design and Participants

To test hypothesis two (H2), we conduct the same going concern task as in Experiment One (see Annex for experiment materials). The design is a 4x3 between-subjects experiment. However, in Experiment Two, the financial information provided to participants is the neutral one (explained in Experiment 1) so the manipulation is only contained in the prior year audit opinion (PYAO). We manipulate the audit report in four types –NAO, UAO, UEAO, and GCAO– and subjects have three levels of experience: master in auditing students, juniors and seniors. Then, participants receive randomly different prior year audit information and questions are equivalent across the treatment conditions. The procedures and dependent variables tested are similar to Experiment One.

A total of 32 master in auditing students, 31 junior auditors and 20 senior auditors participate in Experiment Two.

2. Experiment Two Results

We predict that the influence of the prior year audit opinion on auditors' reporting choice will be reduced as the auditor experience increases (H2). We include a 4 x 3 analysis of variance (ANOVA) with audit opinion as the dependent variable –current year audit opinion–, the results of which are shown in Table 6.4.

The analysis of the subsequent audit opinion is shown in Tables 6.4 and 6.5. Statistics are presented in Table 6.4 and the analysis of variance in Table 6.5. An effect on experience (EXP) is found [$F = 8.654$; $p = .023$], as noted in Panel A of Table 6.5. This is particularly due to the differences in the GCAO condition [$F = 3.415$; $p = .038$] (see post hoc contrast of Table 6.5 Panel B). In line with this reasoning, we decide to test a priori contrasts to see differences of the new going concern opinion in comparison with the other choices (Table 6.5 Panels C-F). This result suggests that low experienced

auditors are influenced by the prior year going concern opinion. In contrast, auditors with high experience analyze the financial and non-financial information of the client more thoroughly and suggest a new opinion based on the situation of the firm, focusing less on the prior auditors' reporting choice.

**Table 6.4. Descriptive statistics of the new audit opinion (dependent variable):
Frequency by condition**

Subsequent audit opinion	Experience (EXP)	Prior year audit opinion (PYAO)				Overall
		NAO	UAO	UEAO	GCAO	
U	Master students	1	2	1	1	5(17%)
UE		3	5	5	0	13(40%)
OQ		1	0	0	0	1(3%)
GCQ		2	2	3	6	13(40%)
Overall		7	9	9	7	32
U	Junior	2	3	1	0	6(19%)
UE		3	0	3	1	7(23%)
OQ		1	1	2	3	7(23%)
GCQ		1	1	3	6	11(35%)
Overall		7	5	9	10	31
U	Senior	1	3	2	1	7(35%)
UE		1	2	5	1	9(45%)
OQ		1	1	1	0	3(15%)
GCQ		0	0	1	0	1(5%)
Overall		3	6	9	2	20
Overall		10	11	18	12	51

The independent variables are experience (EXP) and prior year audit opinion (PYAO). Experience is represented in three levels: master students in auditing (non-experienced auditors), junior (low experience) and senior (high experience). Prior year audit opinion is coded as follows: NAO = No audit opinion; UAO = Unqualified audit opinion; UEAO = Unqualified with matter section audit opinion; GCAO = Going concern audit opinion. The dependent variable or subsequent audit opinion is categorized as unqualified (U), unqualified with matter paragraph (UE), other qualifications but going concern (OQ) and going concern qualification (GCQ). For the new audit opinion, the frequency is reported by condition.

Table 6.5. Experiment 2: Statistical analysis of new audit opinion

Panel A: Analysis of Variance (Between-Subjects Effect)					
Source of variance	Sums of squares	Degrees of freedom	Mean Square	F-statistic	<i>p</i> -value
EXP	8.654	2	4.327	3.998	.023 (.101)
PYAO	6.578	3	2.193	2.026	.118 (.079)
EXP x PYAO	4.739	6	.790	.730	.627 (.058)

Panel B: Post hoc Contrast					
Source of variance	Sums of squares	Degrees of freedom	Mean Square	F-statistic	<i>p</i> -value
NAO	.958	2	.479	.443	.644(.012)
UAO	1.1111	2	.556	.513	.601(.014)
UEAO	2.074	2	1.037	.958	.388(.026)
GCAO	7.391	2	3.695	3.415	.038(.088)

Panel C: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]					
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value		
Stu [1, 1, 1, -3]	9.765	3	.021		
Jun [1, 1, 1, -3]	9.765	3	.021		
Sen [1, 1, 1, -3]	.600	3	.897		

Panel D: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]					
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value		
Stu [3, 0, 0, -3]	8.751	2	.036		
Jun [3, 0, 0, -3]	8.751	2	.036		
Sen [3, 0, 0, -3]	.833	2	.659		

Panel E: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]					
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value		
Stu [0, 3, 0, -3]	7.196	2	.027		
Jun [0, 3, 0, -3]	7.196	2	.027		
Sen [0, 3, 0, -3]	.444	2	.801		

Panel F: A priori Contrast [Cell 1, Cell 2, Cell 3, Cell 4]					
Source of variance	χ^2 -statistic	Degrees of freedom	<i>p</i> -value		
Stu [0, 0, 3, -3]	5.841	2	.054		
Jun [0, 0, 3, -3]	5.841	2	.054		
Sen [0, 0, 3, -3]	.917	2	.821		

The independent variables are experience (EXP) and prior year audit opinion (PYAO). Prior year audit opinion is coded as follows: NAO = No audit opinion; UAO = Unqualified audit opinion; UEAO = Unqualified with matter section audit opinion; GCAO = Going concern audit opinion. The interaction between the independent variables is shown as EXP x PYAO. Stu = master in auditing students; Jun = junior auditors; Sen = senior auditors.

V. CONCLUSION

The aim of this paper is to examine experimentally whether the audit opinion of the year prior to conducting the audit influences the auditor judgments about the opinion choice of the subsequent period. We predict that the auditor will be frequently in favor of the prior opinion, favoring that opinion over others. This prediction is motivated by the concept of confirmation bias, which is defined as a tendency to search for information that confirms the favored or initial hypothesis generated by an auditor (Bonner, 2008; Järvinen, 2012).

Also, according to the literature, confirmation bias will be mitigated by auditor experience (Kaplan and Reckers, 1989; Bamber et al., 1997) and we also examine the effect of auditor experience on auditor judgments in our study. We expect the “stickiness” of the prior audit opinion to reduce with experience, due to the fact that experienced auditors have been involved in more audit engagements and their knowledge and understanding of the auditing process is enhanced.

We conduct two experiments to empirically demonstrate whether the subsequent reporting choice is affected by both different prior audit opinions and experience. In both experiments, after evaluating financial and non-financial data of a hypothetical company, participants assess if the firm will remain viable in the subsequent period by suggesting an audit opinion for the year of which the financial information is presented (see Annex for experiments’ materials).

In summary, our results might provide an improved understanding of the influence of prior audit opinions on auditor judgments, and whether this influence is mitigated by auditor experience. The results of the study suggest that unqualified opinions affect the auditor when issuing a new opinion in the next period. Also, our evidence states that a going concern modification can sway the following reporting choice. These results get partly diminish by an increase in auditor experience. These findings can be interpreted by saying that when an auditor sees that a prior report is totally clean (unqualified) or contains a going concern modification, it is very hard to change the direction of the next audit report, so the following opinion will be in line with the prior one, being influenced by it.

This means that, given a company with the same financial condition, auditors favor their assessments to more positive judgments when there is a prior unqualified opinion than when they receive a preceding qualified report. This result is important, since auditor judgments should not be conditioned by any type of prior audit opinions.

This paper contributes to the academic literature in different ways. Firstly, by providing evidence about the auditor decision making process, as previous evidence that evaluates the impact of prior audit opinion on audit judgments is still scarce. Secondly, this paper may contribute to earlier experiments on going concern modified opinions, by extending the conclusions to other types of audit opinions and different levels of auditor experience. Nelson and Tan (2005) express the need of experimental studies on opinion modification to offer converging evidence to the numerous archival studies addressing audit opinions. Moreover, Messier (2010) points out the importance of audit tasks within the audit process and the need of further investigation at this level. Thirdly, this work might also respond to some needs mentioned by Carson et al. (2013) of studies that investigate what evidence auditors evaluate during audit engagements where substantial doubt exists about the client's going concern assumption.

Finally, this study represents a worthy and timely contribution to regulators and the auditing profession because it provides evidence related to the audit report, which is the central focus of the current international auditing environment. Due to prior auditing and accounting scandals, regulatory changes are occurring in the EU (International Standards on Auditing) and are being considered in the United States. According to these changes, the reporting model is being modified drastically, in order to provide more information and increase the transparency of the audit process. Thus, for example, this study is of interest because in the EU, starting in June 2016, the audit report needs to include critical judgments made during the audit as a statement disclosed on any material uncertainty (Directive 2014/56/EU), so this work would be of help to know if the statement is influenced by prior audit opinions.

This work is not free of limitations. Due to the difficulty of finding subjects to participate in the experiment, the size of the sample is relatively small and we had to use master students as part of our sample. As a follow up on this research, it would be helpful to increase the number of seniors answering the experiment.

GENERAL CONCLUSION

This PhD dissertation offers an analysis of the audit information of firms dealing with a financial distress situation in the period immediately preceding an insolvency legal procedure. Along the dissertation, we examine the relation between audit information and the topic of financial distress from different approaches and using diverse methodologies.

Our first study (included in Chapter 1 '*The usefulness of financial information in the bankruptcy process*' published in *Revista de Derecho Concursal y Paraconcursal*) might contribute to the audit regulation literature as well as to the research related to the legal side of the insolvency proceedings. We test the importance of financial information along insolvency legal proceedings, by examining the circumstances disclosed in the audit regulation (IAS 570) that may be indicative of an insolvency situation as well as past Spanish jurisprudence, where financial information is mentioned in the final court decision. Based on our results, there is evidence that determines that all parties involved in legal proceedings (such as bankruptcy administrators, lawyers, judges, and so on) should consider the financial information as a key determinant of a financial distress situation. For them, the usage of the audit report and the financial statements might help to detect insolvencies in an early stage, avoiding the expensive legal processes. For instance, they should pay attention to remarks about going concern uncertainties or the use of liquidation values in the financial statements (instead of book values) because these remarks are frequently mentioned in both sources of information (IAS 570 and legal jurisprudence).

The advantage of our second study (Chapter 2 '*The audit report: classification and analysis of emphasis of matter and qualification paragraphs*', published in *Revista de Derecho Concursal y Paraconcursal*) goes to the auditing literature. We highly contribute with this study to prior research by providing a 20-item codification of the content of audit reports in the year prior to filing for insolvency proceedings, as there is not any commonly used classification of the audit reports disclosures in prior studies. First, we contribute to previous research by providing a very complete tool to analyze audit reports, as the codification considers the type of paragraph (emphasis of matter, scope limitation and GAAP violation) and another 17 items of the contents of those paragraphs

segregated into disclosures about accounting elements and disclosures that deal with environmental circumstances mentioned by auditors. Second, we manually read and labeled all reports from a large dataset built merging different data sources, which makes our study unique.

The third study (Chapter 3 *'The content of the audit report in the year prior to bankruptcy filing. Empirical evidence from Spain'*, published in *Spanish Journal of Finance and Accounting*) also contributes to the auditing literature. It provides a thorough analysis of the propensity to issue different disclosures in the audit report depending on different variables: auditor size, change in auditor, firm's industry and financial condition, quarter on which the court order is imposed and legal resolution type (either reorganization, liquidation or a firm still under court proceedings). Evidence suggests that there are significant differences regarding all variables except change in auditor. Such a wider study of the association between the content of the report and all these variables has not been presented before. For instance, this is the first study that examines the relation between the content of the report and the bankruptcy resolution, or the date in which the judge decides to start the legal process.

Our fourth study *'Does audit report information improve financial distress prediction over Altman's traditional Z''-Score model in Spanish private firms?'* contributes to the default prediction literature. This work represents a comparison of the classification accuracy and predictive power of two types of variables (accounting ratios and auditing information) in logit models. The contribution of this study relies on the usage of different types of audit information as predictive indicators: audit opinions, types of paragraphs disclosed, number of disclosures in the report, and the content of those disclosures. All these variables have not been applied before in one distress prediction study. Our findings are consistent with prior literature that suggests that the combination of variables increase the predictive ability (Hernández-Tinoco and Wilson, 2013; Altman, Iwanicz-Drozowska, Laitinen and Suvas, 2015); namely, the usage of audit information in assessing financial distress increases the predictive power over accounting ratios only. Modeling the prediction of financial distress has been a recurrent research topic in the academic literature for decades. However, this study that uses

auditing data in the prediction is also considered of current interest for the following reason. Apart from a boost in bankruptcy failures due to the global financial crisis in recent years, there have also been some accounting scandals in which auditors failed to warn investors about imminent bankruptcies in the reports. Thus, a lot of responsibility is asking to auditors when issuing a report under these circumstances where a possible insolvency may occur.

Our Chapter 5 (*'The ability of audit report disclosures to explain insolvency: a comparison using traditional and artificial intelligence methodologies'*) shows, for the first time in the default prediction literature, as per our knowledge, a study that predicts using only audit report information variables as indicators of financial distress. Thus, first, it sheds light on the default prediction literature by providing new evidence in which only the content of the audit report is used to anticipate financial distress. As expected, the classification accuracy is slightly lower than the combined model of accounting plus auditing data, but it still contributes to the previous studies by confirming the ability of the audit report to assess situations in which a bankruptcy may occur. Second, the results of this chapter also represents a contribution for the regulators. This is due to the current audit reform being held worldwide that focuses on the content of the audit report. For instance, regarding the new and revised International Auditing Standards issued by the IAASB on this matter, they become effective at the end of 2016 and, as per this reform, the reporting model is changing drastically. In the report, auditors will be required to provide an explanation of key audit matters in the report as well as a statement on any material uncertainty relating to events that may cast significant doubt about the entity's ability to continue as a going concern. As per the above, our study might shed some light on the interest of regulators on increasing auditors' transparency by issuing a more informative and extended audit report.

After showing the high predictive ability of external audit information in financial distress situations, we question the audit report. In the last study (Chapter 6 *'Do prior audit opinions affect next ones?'*), using a between-subjects experiments, we test if the audit information can also be analyzed erroneously. We study whether the audit report might affect next auditors' assessments. We test

whether the prior audit opinion might sway the next auditor's subsequent reporting choice. Results demonstrate that clean and going concern prior year opinions influence next auditors' judgments. Therefore, these results have important implications for the auditing profession and the regulators. They indicate that the prior audit opinion should always be carefully examined because these our findings imply that it seems difficult for auditors to issue a report that deviates significantly from the one issued by the prior auditor.

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CHAPTER 5 - The ability of audit report disclosures to explain insolvency: a comparison using traditional and artificial intelligence methodologies

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ANNEXES

ANEXO:

CAPÍTULO 3 - Contenido del informe de auditoría en el año previo a la declaración del concurso de acreedores. Contraste empírico para el caso español

Clasificación del contenido del informe de auditoría: definiciones de las variables identificadas

Bloque A: Tipos de párrafos utilizados. Según el hecho detectado, el auditor utiliza uno de estos tres tipos de párrafos para reflejarlo en su informe: énfasis, salvedad por limitación al alcance o salvedad por incumplimiento de principios y criterios contables.

-
1. Párrafo de énfasis. Este tipo de párrafo se utiliza para destacar algún aspecto que se juzga muy relevante, aunque ya esté recogido en la información preparada por la entidad auditada.

 2. Párrafo de salvedad por limitación al alcance. Se utiliza para informar de situaciones que han impedido al auditor aplicar los procedimientos necesarios para obtener evidencia.

 3. Párrafo de salvedad por incumplimiento de principios y criterios contables. Se utiliza para comunicar la existencia de errores e incumplimientos importantes del marco normativo aplicable, así como la omisión de informaciones obligatorias.
-

Bloque B: Partidas contables afectadas. En este bloque se clasifican las partidas contables señaladas por el auditor en los párrafos anteriores. Como en muchas ocasiones estas observaciones afectan a dos partidas – una de balance y otra de resultados –, para evitar duplicidades se ha optado por marcar la partida explícitamente indicada por el auditor.

-
4. Inmovilizado material e intangible. Discrepancias apuntadas por el auditor en relación con el reconocimiento y valoración (amortización, deterioros, etc.) de los elementos patrimoniales incluidos en estas partidas.

 5. Inmovilizado financiero. Observaciones referidas a las inversiones financieras a largo plazo, generalmente participaciones en sociedades vinculadas.

 6. Activos por impuestos diferidos. Cuando se considera muy improbable que la empresa llegue a recuperar estos créditos.

 7. Existencias. Cuando el auditor ha obtenido evidencia sobre la incorrecta valoración de esta partida, por no haberse contabilizado su deterioro por un importe adecuado o si manifiesta que, por el motivo que fuere, no pudo presenciar la toma de inventarios.

 8. Créditos a corto plazo y tesorería. Discrepancias en relación con los créditos a corto plazo – de naturaleza comercial o financiera –, las inversiones financieras temporales o la tesorería.

 9. Deudas. Observaciones referidas a cualquiera de las partidas representativas del endeudamiento, excepto los pasivos contingentes.

 10. Contingencias. Existencia de circunstancias que, previsiblemente, originarán en el futuro pasivos para la entidad auditada.

 11. Resultado del ejercicio. Observaciones sobre los ingresos y gastos del ejercicio (valoración, reconocimiento o periodificaciones) o sobre la cifra de resultados.

 12. Pérdidas acumuladas. Existencia de pérdidas significativas, con origen en el ejercicio actual y/o en ejercicios anteriores, tanto si tales pérdidas obligan a reducir capital o a disolver la sociedad como si no acarrear estas exigencias legales.

 13. Omisión de información. Cuando el auditor manifiesta que se han omitido informaciones, financieras y/o no financieras, requeridas por la normativa contable.
-

Bloque C: Otras circunstancias señaladas. Conjunto de situaciones de carácter general, o que afectan a muchas de las partidas relacionadas en el bloque B, señaladas por el auditor tanto en párrafos de énfasis como en párrafos de salvedades.

14. Fondo de maniobra negativo. Cuando el pasivo corriente de la entidad auditada supera a su activo corriente, lo que se interpreta como indicio de dificultades en el desempeño de la actividad ordinaria y en la liquidez.

15. Hechos posteriores al cierre. Existencia de hechos significativos acaecidos después de la fecha de cierre del ejercicio, aunque no afecten a las cuentas anuales auditadas.

16. Efectos normativos. Cuando se han producido cambios normativos que han afectado a las cuentas auditadas o que pueden afectar en el futuro.

17. Coyuntura económica. Menciones al comportamiento negativo de la coyuntura económica general y/o del sector en el que opera la entidad auditada

18. Plan de negocio. Si el auditor comunica acciones emprendidas por la empresa para mejorar su posición ante incertidumbres que puedan comprometer su continuidad.

19. Dudas sobre gestión continuada. Cuando se indica la existencia de circunstancias que afectan a la viabilidad del negocio o cuando el auditor advierte de la aplicación inapropiada del principio de empresa en funcionamiento.

20. Concurso de acreedores. Si en los informes analizados, correspondientes al año anterior a la entrada en concurso, el auditor comunica que se ha solicitado la declaración de concurso voluntario o que la sociedad se encuentra inmersa en cualquier fase del proceso concursal.

ANNEX:

CHAPTER 6 - Do prior audit opinions affect next ones?

To begin with, the main structure of the webpage is presented in the Annex of the paper. The webpage is divided into 6 different screens. In order, it shows (1) a letter of information, (2) a brief general questionnaire, (3) the general description of the company and the task, (4) the post-experiment questionnaire, (5) the final general questionnaire, and (6) a thank you page. The content for each screen in detail is shown below. Secondly, financial information for the condition where the financial information is very negative is provided (Neg). Thirdly, we disclose financial information for the neutral financial condition (Neu). In the website, the financial information is included in screen (2) the general description of the company and the task.

Structure and content of the webpage (www.behavioralexperiments.com)

- (1) Letter of Information:

THANK YOU for your participation! We invite you to complete a task that **will only take you between 10 to 15 minutes**. The task consists of reviewing financial information about a hypothetical company to answer questions about:

- (1) *your assessment about the company's viability*, and
- (2) *the type of audit opinion you suggest*.

Please respond and proceed through the case as you would in practice. **All information you provide is completely confidential** and you will not be asked to identify yourself at any point. The study has received ethics clearance through the Office of Research Ethics at Complutense University of Madrid.

If you have any questions or comments, please contact the authors at the following address: nmunoz@ucm.es.

- (2) Brief general questionnaire:

Please respond to the following questions:

1. Gender

Female

Male

2. I work for the following auditing firm:

Big 4 (Deloitte, EY, KPMG o PWC)

Other audit firm

3. Approximately how many years (in number) have you worked in auditing?

Round to the nearest whole number

4. My current job title is:

Junior or staff (or level below senior)

Senior (or equivalent level)

Manager (or level above manager)

- (3) General description of the company and the task:

Assume it is now March 1, 2015 and **you are the in-charge auditor on the audit of Highpoint Computer Corporation**, a new client for your firm.

Highpoint **manufactures and sells computer systems and equipment** and provides maintenance services to several industries, including gaming, air-traffic control, weather analysis, and financial market data services. Highpoint's **common shares are traded on a stock exchange**, the company has been **involved in the business for 20 years** and has personnel with significant expertise.

Your partner has asked you (1) to provide your assessment about the company's ability to continue to exist for the foreseeable future and (2) to suggest an audit opinion for the year ended December 31, 2014. To do so, you need to respond to a brief questionnaire in the next page. **You can review the pieces of information provided below as many times as needed** while responding the questionnaire.

Basic information

- Balance Sheets
- Cash Flow Statements summarized
- Income Statements

[NAO condition: no audit information]

- No prior year audit information

[UAO condition: unqualified opinion]

- Prior year External Audit Report summarized

[UEAO condition: unqualified opinion with emphasis of matter paragraph]

- Prior year External Audit Report summarized

[GCAO condition: going concern qualified opinion]

- Prior year External Audit Report summarized

List of additional information:

- Accrued expenses
- Acquisition information
- Asset sales
- Competition
- Facilities management
- Financing and liquidity information
- Human resources
- Inventory management
- Legal proceedings
- Long-term debt
- Management's plans related to financial distress
- Marketing and distribution
- Markets and products
- Order backlog
- Other significant events during the year 2014
- Receivables management
- Research and development
- Restructuring information
- Selected cash generating ability ratios
- Selected profitability ratios
- Selected solvency/leverage ratios
- Subsequent events and Jan/Feb financial data
- Suppliers
- Trading securities

- (4) Post-experiment questionnaire:

Please respond to the following questions:

IMPORTANT NOTE: If you need to go back to the pieces of information [click here](#). The information will be opened in a new tab, where you can review it as many times as needed. Remember to continue responding to the questionnaire in the current tab.

1. Based on the pieces of information presented about Highpoint Computer Corp., how likely do you think it is that the company will remain viable in the subsequent accounting period (year 2015)?

1	2	3	4	5	6	7
Not likely						Very likely

2. Provide a brief explanation of your assessment of the company’s viability in question 1. (Optional)

3. How confident do you feel about your assessment in question 1?

-3	-2	-1	0	1	2	3
Not very confident			Neutral			Very confident

4. Based on the pieces of information presented about Highpoint Computer Corp., which type of audit opinion will you suggest for the year ended December 31, 2014?

Unqualified Opinion (without emphasis of matter paragraphs)
 Unqualified Opinion (with emphasis of matter paragraphs)
 Going Concern Qualified Opinion
 Qualified Opinion for other reason but going concern

5. Provide a brief explanation of the reason or reasons to issue the type of audit opinion in question 4. (Optional)

6. How confident do you feel about the type of audit opinion chosen in question 4?

-3	-2	-1	0	1	2	3
Not very confident			Neutral			Very confident

[NAO condition: no audit information]

7. Below is a list of the basic information provided to make your assessments. Rank the items of the list from 1 to 3 (“1” being “the most useful” to “3” being “the less useful”) for the decision you made regarding the company’s viability in question 1.

7.1 Two-year comparative Balance Sheet (for the years ended December 31, 2014 and 2013)

7.2 Three-year comparative Income Statement (years 2014, 2013 and 2012)

7.3 Three-year comparative Cash Flow Statement summarized (years 2014, 2013 and 2012)

8. Below is a list of the basic information provided to make your assessments. Rank the items of the list from 1 to 3 (“1” being “the most useful” to “3” being “the less useful”) for the decision you made regarding the type of opinion in question 4.

8.1 Two-year comparative Balance Sheet (for the years ended December 31, 2014 and 2013)

8.2 Three-year comparative Income Statement (years 2014, 2013 and 2012)

8.3 Three-year comparative Cash Flow Statement summarized (years 2014, 2013 and 2012)

[UAO condition: unqualified opinion]

[UEAO condition: unqualified opinion with emphasis of matter paragraph]

[GCAO condition: going concern qualified opinion]

7. Below is a list of the basic information provided to make your assessments. Rank the items of the list from 1 to 4 (“1” being “the most useful” to “4” being “the less useful”) for the decision you made regarding the company’s viability in question 1.

- 7.1 Two-year comparative Balance Sheet (for the years ended December 31, 2014 and 2013)
- 7.2 Three-year comparative Income Statement (years 2014, 2013 and 2012)
- 7.3 Three-year comparative Cash Flow Statement summarized (years 2014, 2013 and 2012)
- 7.4 Prior year external audit report summarized (year 2013)

8. Below is a list of the basic information provided to make your assessments. Rank the items of the list from 1 to 4 (“1” being “the most useful” to “4” being “the less useful”) for the decision you made regarding the type of opinion in question 4.

- 8.1 Two-year comparative Balance Sheet (for the years ended December 31, 2014 and 2013)
- 8.2 Three-year comparative Income Statement (years 2014, 2013 and 2012)
- 8.3 Three-year comparative Cash Flow Statement summarized (years 2014, 2013 and 2012)
- 8.4 Prior year external audit report summarized (year 2013)

9. Below is a list of the additional information provided to make your assessments. Click on the item or items (if any) you found useful to make your decision regarding the company’s viability in question 1.

- Accrued expenses
- Acquisition information
- Asset sales
- Competition
- Facilities management
- Financing and liquidity information
- Human resources
- Inventory management
- Legal proceedings
- Long-term debt
- Management’s plans related to financial distress
- Marketing and distribution
- Markets and products
- Order backlog
- Other significant events during the year 2014
- Receivables management
- Research and development
- Restructuring information
- Selected cash generating ability ratios
- Selected profitability ratios
- Selected solvency/leverage ratios
- Subsequent events and Jan/Feb financial data
- Suppliers
- Trading securities

10. Below is a list of the additional information provided to make your assessments. Click on the item or items (if any) you found useful to make your decision regarding the type of opinion in question 4.

- Accrued expenses
- Acquisition information
- Asset sales
- Competition
- Facilities management
- Financing and liquidity information
- Human resources
- Inventory management
- Legal proceedings
- Long-term debt
- Management's plans related to financial distress
- Marketing and distribution
- Markets and products
- Order backlog
- Other significant events during the year 2014
- Receivables management
- Research and development
- Restructuring information
- Selected cash generating ability ratios
- Selected profitability ratios
- Selected solvency/leverage ratios
- Subsequent events and Jan/Feb financial data
- Suppliers
- Trading securities

- (5) Final general questionnaire

Please respond to the following questions:

1. The experimental task was realistic to the audit duties I perform on a regular basis.

-3	-2	-1	0	1	2	3
Strongly disagree			Neutral			Strongly agree

2. How confident did you feel in your ability to complete the audit task and provide an appropriate assessment?

-3	-2	-1	0	1	2	3
Not very confident			Neutral			Very confident

3. Approximately how many audits (in number) do you conduct/participate in per year? (Optional)

4. Approximately how many audits (in number) have you participated in the last two years in where there was substantial doubt about the entity's ability to continue to exist for the foreseeable future (regardless of the type of report issued)? (Optional)

5. Related to question 4 – Approximately how many of those audits (in number) resulted in the client providing Note disclosure about material uncertainty in meeting the going concern assumption? (Optional)

6. Related to question 4 – Approximately how many of those audits (in number) resulted in a qualified audit opinion? (Optional)

7. If your audits have been lately focused on any specific industries (e.g. Manufacturing, Financial Institutions, etc.), please provide them: (Optional)

- (6) Thank you

THANK YOU for completing the study! Please close all opened tabs.

[Neg Condition]: Financial information for experiment

- Basic information

1. Balance sheets (in thousands of dollars)

	December 31,	
	2014	2013
ASSETS		
Current assets:		
Cash and cash equivalents	4,275	6,874
Securities held for trading	12,092	-
Accounts receivable, net	33,538	30,547
Inventory, net	14,020	17,412
Prepaid expenses	<u>2,860</u>	<u>5,164</u>
Total current assets	66,785	59,997
Property, plant and equipment, net	29,782	51,080
Other long-term assets	<u>14,088</u>	<u>6,954</u>
Total assets	<u>110,655</u>	<u>118,031</u>
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	54,872	42,055
Deferred revenue	5,398	5,809
Current portion of long-term debt	<u>7,505</u>	<u>9,894</u>
Total current liabilities	67,775	57,758
Long-term debt	22,322	11,443
Other long-term liabilities	<u>12,077</u>	<u>6,625</u>
	<u>102,174</u>	<u>75,826</u>
Shareholders' equity		
Common shares	101,596	88,098
Retained deficit	<u>(93,115)</u>	<u>(45,893)</u>
	<u>8,481</u>	<u>42,205</u>
Total liabilities and shareholders' equity	<u>110,655</u>	<u>118,031</u>

2. Cash Flow Statements summarized (in thousands of dollars)

	Year ended December 31		
	2014	2013	2012
Net cash provided by operating activities	3,928	11,099	6,232
Net cash used in investing activities	(3,832)	(6,168)	(9,101)
Net cash used in financing activities	<u>(2,695)</u>	<u>(9,306)</u>	<u>(22,388)</u>
Net decrease in cash and cash equivalents for the year	<u>(2,599)</u>	<u>(4,375)</u>	<u>(25,258)</u>

3. Income Statements (in thousands of dollars)

	Year ended December 31		
	2014	2013	2012
Net sales:			
Computer systems	50,916	86,489	120,352
Service and other	<u>64,044</u>	<u>81,684</u>	<u>94,486</u>
Total net sales	114,960	168,173	214,838
Cost of sales:			
Computer systems	32,984	46,367	65,420
Service and other	<u>39,658</u>	<u>49,006</u>	<u>58,168</u>
Total cost of sales	<u>72,642</u>	<u>95,373</u>	<u>123,588</u>
Gross margin	42,318	72,800	91,250
Operating expenses:			
Research and development	16,604	23,357	28,588
Selling, general and administrative	36,214	44,305	58,381
Restructuring charge	<u>29,376</u>	<u>2,640</u>	<u>12,672</u>
Total operating expenses	<u>82,194</u>	<u>70,302</u>	<u>99,641</u>
Income (loss) from operations	(39,876)	2,498	(8,391)
Interest and other income (expenses), net	<u>(6,350)</u>	<u>(2,866)</u>	<u>(4,006)</u>
Loss before income taxes and extraordinary item	(46,226)	(368)	(12,397)
Provision for income taxes	<u>1,860</u>	<u>2,040</u>	<u>1,560</u>
Loss before extraordinary item	(48,086)	(2,408)	(13,957)
Extraordinary loss on extinguishment of debt	=	=	<u>(33,832)</u>
Net loss	(48,086)	(2,408)	(47,789)

4. Prior year External Audit Report summarized

[NAO Condition: no audit information]

- No prior year audit information shown.

[UAO Condition: unqualified opinion]

Prior Year Audit Opinion (Year ended December 31, 2013): Unqualified Opinion

The predecessor auditor issued an unqualified opinion, with the following Opinion paragraph: “In our opinion, the financial statements give a true and fair view of the financial position of Highpoint Computer Corporation as at December 31, 2013, and of its financial performance and its cash flows for the year then ended in accordance with the Reporting Standards that apply”.

[UEAO Condition: unqualified opinion with emphasis of matter paragraph]

Prior Year Audit Opinion (Year ended December 31, 2013): Unqualified Opinion with an Emphasis of Matter paragraph

The prior year financial statements contained management disclosure of material uncertainty about Highpoint’s ability to continue as a going concern.

Therefore, the predecessor auditor issued an unqualified opinion with the following Emphasis of Matter paragraph: “Without qualifying our opinion, we draw attention to Note 3 to the financial statements, which indicates that Highpoint Computer Corporation incurred significant losses during the last three years. This situation, along with other matters as set forth in Note 2, indicates the existence of a material uncertainty that may cast significant doubt about Highpoint’s ability to continue as a going concern”.

[GCAO Condition: going concern qualified opinion]

Prior Year Audit Opinion (Year ended December 31, 2013): Going Concern Qualified Opinion

The prior year financial statements did not contain management disclosure of material uncertainty about Highpoint’s ability to continue as a going concern. However, the predecessor auditor disclosed this fact in the report.

Therefore, the predecessor auditor issued a qualified opinion with the following “Basis for Qualified Opinion paragraph”: “Highpoint’s financial difficulties and liquidity issues indicate the existence of a material uncertainty that may cast significant doubt on the company’s ability to continue as a going concern and therefore the company may be unable to realize its assets and discharge its liabilities in the normal course of business. The financial statements and notes thereto do not fully disclose this fact”.

- List of additional information

1. Accrued expenses

As of December 31, 2014, the company owes approximately \$54 million in accounts payable and accrued expenses, compared to \$42 million in the prior year. The primary increase is a result of **liabilities accrued related to the restructuring charge**, equal to a \$12.5 million increase in restructuring liabilities. The majority of these liabilities relate to employee termination payments that will likely be made throughout the next fiscal year. During the first two months of 2015, the company has made \$4.7 in cash payments to employee related to these liabilities. There are no other significant fluctuations in the composition of accrued expenses and other accounts payable.

2. Acquisition information

In June, 2014, Highpoint acquired a former competitor, Marten, Inc., in exchange for approximately 13,000,000 shares of stock and \$11.0 million of long-term debt. The value of the acquired net assets and their cost was almost the same (no goodwill).

In connection with the acquisition, Highpoint recorded a \$1.7 million liability related to the estimated costs of terminating employees and exiting certain activities of the acquired business.

The company believes that the acquisition provides a number of **strategic benefits**, due to the combination of technologies and production, the larger market coverage and the cost savings.

3. Asset sales

During the quarter ended March 30, 2014, the company recorded a non-recurring charge of \$2.0 million to adjust the book value of one of its Indiana facilities to its fair value. During September 2014, the company **completed the sale of this facility**. The net proceeds from this transaction amounted to \$2.8 million. Upon completion of this transaction, the company made a mandatory prepayment of 75% of the proceeds as part of a debt agreement (50% was applied to the next six scheduled monthly payments, 50% was applied to the final maturity payment).

During the first quarter of 2015, the company entered into a purchase and sale agreement providing for the **sale-leaseback** of another of its Indiana facilities. The transaction is contingent on the buyer's ability to lease approximately 100,000 square feet of the 300,000 square foot facility. The transaction is expected to close during the June-December 2015 time period at a sale price of \$5.5 million. In accordance with the terms on the new long-term debt, the company is required to prepay 75% of the net proceeds on the sale (\$4.1 million) to repay the loan, leaving approximately \$1.4 million for working capital purposes.

4. Competition

The company operates in a **highly competitive market**, driven by rapid technological innovation and where product differentiation represents an important factor. The company competes against a number of firms, many of which have greater financial and operating resources. Competition comes from four main sources:

- Companies that layer hardware or software on top of their product platforms (for example, Hewlett-Packard Corporation).
- Provide solutions for specific characteristics, such as high-performance graphics (for example, Silicon Graphics, Inc.).
- Provide platforms on which third party vendors add capabilities (for example, IBM Corp. and Sun Microsystems, Inc.).
- Provide applications integrated into customer's information systems (for example, Motorola, Inc.).

5. Facilities management

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Total asset turnover	1.07	1.27	1.28	1.32	1.37	1.36

Highpoint's manufacturing operations are in South Florida and Indiana. Manufacturing operations occupy approximately 60,000 square feet in the South Florida facility. The company has entered into an agreement for the sale and partial leaseback of its Indiana facility. The transaction is expected to be completed by the end of the second quarter of fiscal 2015. Approximately 40,000 square feet are expected to be maintained in Indiana for the manufacture of only certain proprietary systems.

Utilization of manufacturing capacity is currently at 40% based on limited two shift operation schedule during 2014. Management believes that the manufacturing capacity available at its existing facilities could significantly increase (with minimal capital expenditures) to meet increased manufacturing requirements either by raising the utilization rate or by adding assembly personnel on its first and second shift, or by adding a third shift.

6. Financing and liquidity information

During 2014, Highpoint entered into a new agreement providing for a \$17.6 million credit facility which matures on September 1, 2017. As of December 31, 2014, outstanding balances under the credit facility were \$14.1 million. The loan is payable in 30 monthly installments of approximately \$150,000 beginning January 1, 2015 and ending June 1, 2017. The facility may be repaid and reborrowed at any time without penalty. The company has pledged as collateral substantially all of its assets. In the event of a sale or a sale-leaseback of its largest facility, Highpoint would be required to make a prepayment on the credit facility equal to 75% of the net proceeds from the sale. **Management has no other borrowing facilities available at the present time.**

Management expects that the acquisition of its largest competitor and its continued integration of the businesses will improve the company's liquidity. Future liquidity is highly dependent on the revenue growth expected during the upcoming period.

As of December 31, 2014, the company has \$4.3 million in cash on hand, a decrease of \$2.6 million from the prior year. However, the company holds publicly traded stock with a market value of \$12.1 million. Management intends to sell some of this stock for liquidity purposes.

7. Human resources

The company currently has approximately 1,000 employees worldwide, with approximately 500 employed in the United States.

The company intends to reduce the total number of employees to approximately 800 by the end of the next fiscal year as part of a continuing restructuring plan.

Key Personnel

CEO/Chairman – Edward Laudilee, 58, has over 30 years of experience. He has worked with Highpoint for 18 years and has been CEO for the past 7. Prior to his current position, he was chief of engineering. His background is in simulation product development and he is known for being a pioneer in the area.

CFO – Cheryl Smith, 52, has been with Highpoint for 15 years, the past 8 in the current position. She is highly respected and is a CPA with prior audit experience with a national firm.

Research and Development – James Funderburg, 42, heads a department of 40 employees actively creating and testing new products. He is considered to be an outstanding innovator and was responsible for creating the top-selling products in the simulation area.

Marketing and Sales – Michael Wallenback, 35, was appointed as the head of marketing 3 months prior to year-end. He has worked with Highpoint for 7 years. Since taking over the department, he has attempted to improve the distribution channels for the company's products.

8. Inventory management

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Inventory turnover	4.62	4.92	5.18	6.39	6.08	7.25

As of December 31, 2014 and 2013, respectively, components of inventories are as follows (in thousands of dollars):

	December 31	
	2014	2013
Raw materials	10,547	12,711
Work-in-process	422	1,288
Finished goods	3,051	3,413
Total	14,020	17,412

9. Legal proceedings

There are no material legal proceedings pending to which the company is a party or to which any of its property is subject.

10. Long-term debt

The long-term debt of \$22.3 million consists of several items:

- The first relates to a credit facility, with a current balance of approximately \$14.1 million, of which \$6.5 million is classified as a current liability. The remainder is due at the rate of \$150,000 per month until it is paid off in September, 2017 in a balloon payment.
- The second is a new \$11.0 million debt as a result of the new acquisition. This debt carries a 14% annual interest rate and is payable in three balloon payments beginning December 2016.
- The remaining consists of a separate credit facility, total amount of \$4.7, of which \$1.0 million is classified as a current liability. The remaining amount will be payable in annual installments for the subsequent 4 years.

11. Management's plans related to financial distress

Management plans to undertake several efforts to return the company to profitability:

- Use its new alliance with their prior competitor to help develop new relationships for marketing and distribution of products, and expand existing strategies both domestically and internationally.
- Continue to reduce general and administrative expenses.
- The company recently restructured operations, recognizing a \$29.4 million restructuring charge. Management anticipates that this restructuring, which included cutting the number of employees by 200, closing an unsuccessful plant, and various asset write-downs, will improve the efficiency of the company's operations, and allow for the company to return to profitability.

12. Marketing and distribution

Highpoint operates in most major markets worldwide through both direct sales and services offices, as well as through a network of distributors. The company does not believe that it is reliant on any one distributor.

The company's **primary customers** are original equipment manufacturers and independent software vendors. These customers account for approximately 60% of the company's sales, with 40% going to end users. The percentage of sales to resellers is far below the industry average of 80%.

Servicing products accounted for 55% of the company's revenue last year. The service department consistently gets high ratings from customers and is considered an important part of the company's future success.

Currently, the company's largest single customer is the U.S. **Government** at 15% of all revenues in 2014. This is down from 30% in 2012 and 27% in 2013. No other single customer accounts for more than 10% of revenues. All contracts with the Government contain provisions for cancellation at the convenience of the Government. Substantially all of the company's sales to the Government are standard items which could be sold to others in the event of cancellation. To date, there have been no material cancellations.

13. Markets and products

Highpoint focuses its business on several strategic target markets:

- **Simulation.** The company and the newly acquired competitor are recognized as leaders in systems for simulation. The primary applications for the simulators involve commercial and military aviation, planning, bottle management, and engineering design for avionics and automotive labs. The market for these products has grown at a rate of 60% over the past three years. However, the company's sales related to this product line have decreased at a rate of approximately 30% in the past three years. This product line accounted for approximately 50% of the company's sales in 2014.

- **Data Acquisition.** The company is a leading supplier of systems for radar data processing and control. For example, the company provides the computer systems which power the Department of Commerce's Radar weather programs. Other customers include the Navy and NASA. The market for this class of products has not grown significantly in the past three years and the company's sales related to this product line have decreased at a rate of 10% per year. This product line accounted for approximately 25% of the company's sales in 2014.

- **Interactive Real-Time.** Highpoint is pursuing this area which has emerged as a tremendous growth market in the past several years, in industries such as gaming, hotels, and airlines. The company is the largest provider of systems for the gaming industry and public lotteries. The market for this class of products has grown at a rate of 100% over the past three years. The company's sales related to this product line have increased at a rate proportional to the market. This product line accounted for approximately 15% of the company's sales in 2014.

- **Digital services.** Highpoint is focusing on the digital market, developing new digital services applications for all types of mobile devices. The market for this class of products has grown at a rate of 60% over the past three years. The company's sales related to this product line have increased at a rate of 30% per year and this line accounted for approximately 10% of the company's sales in 2014.

14. Order backlog

The company generally includes in backlog any orders that it anticipates shipping within the subsequent six months. As of December 31, 2014, order backlog was \$10.9 million, as compared to \$14.6 million for the prior year-end. Management does not believe that order backlog is a useful measure of future sales or business trends because more customers are placing orders within the quarter where delivery is expected, thus backlog is a less meaningful measurement of anticipated revenue.

15. Other significant events during the year 2014

Other significant events during the year ended December 31, 2014 were:

- The industry has continued to change rapidly. New competitors entered the market and several competitors failed.
- Net sales fell 31% this year and gross margin percentage declined from 43% to 36%.
- Highpoint completed the sale of one of its least cost-effective factories for liquidity purposes.
- During June, Highpoint acquired one of its largest competitors (Marten, Inc.) in exchange for common shares and long-term debt. This acquisition increased the number of shares outstanding by 33% and doubled Highpoint's long-term debt. Management expects the acquired division to provide significant revenues in the future.

16. Receivables management

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Receivables turnover	3.59	4.67	4.97	5.65	5.95	6.22

Highpoint does not have any significant concentration of credit risk. The company's receivables are divided among many different customers and, historically, losses on receivables have been immaterial. The company has a strong process for granting credit, and generally does not grant credit to less financially sound customers. According to management, the company often waits extended periods of time for payment on Government contracts, but receives timely payment on the majority or their other receivables. Working papers show that 10% of current receivables are government related, compared to 18% at the end of the prior year. Also, the receivables turnover ratio for non-government related receivables was 4.30 in 2014, compared to 5.12 for 2013.

17. Research and development

The company believes that its continued success depends heavily on researching and utilizing the latest available computer technology. Highpoint, together with its recently acquired competitor, invested \$21, \$28, and \$33 million on research and development in 2014, 2013, and 2012, respectfully. Management acknowledges that the raw amount spent on research and development has decreased, however, they believe the current investments are more targeted towards the markets upon which they are focusing.

18. Restructuring information

The company recorded a restructuring provision of \$29.4 million during the year ended December 31, 2014. This charge included the estimated costs related to the rationalization of facilities, workforce reductions, assets writedowns (primarily facilities and inventories), and other costs. Cash payments related to the restructuring were \$4.7 million and occurred during the first quarter of 2015. The majority of the cash paid related to employee termination costs.

The company has also recorded smaller restructuring charges ranging from \$2.3 million to \$12.6 million in each year since 2009.

19. Selected cash generating ability ratios

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
CFO/Current debt	.06	.21	.08	.04	.01	.06
CFO/Total debt	.05	.18	.07	.03	.00	.03
Cash interest coverage	2.69	5.10	2.90	3.67	1.93	3.17

20. Selected profitability ratios

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Return on Equity	-	-	-	9.26%	10.36%	9.94%
Return on Assets	-	-	-	2.67%	2.12%	3.83%
Sales Change %	-31.64%	-21.72%	-18.79%	60.64%	68.99%	84.70%
Gross Margin %	36.81%	43.29%	42.47%	39.72%	39.32%	40.57%

21. Selected short term solvency and leverage ratios

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Current ratio	.99	1.04	.99	3.49	3.37	3.53
Quick (Acid-test)	.74	.65	.65	2.57	2.51	2.79
Days sales in inventory	78.97	74.26	70.44	57.12	60.03	50.34
Days sales in receivables	101.74	78.10	73.42	64.60	61.34	58.68
Debt/Equity	12.05	1.80	2.51	.86	.90	.85

22. Subsequent events and Jan/Feb financial data

Selected financial data (in thousands of dollars)

Income Statement data

	<u>Jan-Feb, 2015</u>	<u>Jan -Feb, 2014</u>
Net sales	18,597	19,659
Cost of sales	<u>11,346</u>	<u>10,650</u>
Gross margin	7,251	9,009
Other expenses	<u>14,724</u>	<u>12,068</u>
Net income	(7,473)	(3,059)

Balance Sheet data

	<u>28 Feb, 2015</u>	<u>31 Dec, 2014</u>
Cash and securities	7,009	16,367
Other current assets	49,091	50,418
Total assets	102,127	110,655
Current liabilities	67,809	67,775
Total liabilities	99,389	102,174
Stockholders' equity	2,738	8,481

Cash Flow data

	<u>Jan-Feb, 2015</u>	<u>Jan -Feb, 2014</u>
Cash from operations	(2,435)	25
Cash from investing	123	556
Cash from financing	<u>16</u>	<u>(1,672)</u>
Net cash flows	(2,296)	(1,091)

Other subsequent events

Highpoint entered into a contract for a sale-leaseback transaction on one of its facilities for \$5.5 million. The transaction is expected to close later this year. 75% of the net proceeds (\$4.1 million) will be used to repay a portion of the long-term debt owed to the other party in this transaction. The 25% remaining (\$1.4 million) will be used for working capital purposes. The agreement is contingent upon the buyer's ability to lease approximately 100,000 square feet of area in the building to third parties and management is not assured that the transaction will be completed as contemplated.

Management states that the slow sales during the first two months are due to slower than expected transitioning with the new acquisition. However, management believes that product sales will increase as the year progresses.

During February, the company received \$2.5 million of proceeds on the sale of some trading securities it had been holding. The company recognized a \$1 million loss on the sale which is included in the net income for the first two months. In addition, the company made a \$2.7 million mark-to-market adjustment on the remaining securities (also a charge to income), which now have a book value of approximately \$5.0 million.

23. Suppliers

Highpoint has many suppliers throughout the world. There is one primary exception to this:

- The company is reliant on one supplier for the availability of a component used in the manufacture of three main products which account for 25% of the company's sales. Any delay in supplier performance may cause a delay in shipments. The firm estimates that it would take approximately 24 months to find an alternative supplier and the company has never had any delays relating to the supplier.
- Management believes that it has good relationships with its suppliers and the firm carefully monitors the ability of all suppliers to timely meet the company's requirements.

24. Trading securities

As of December 31, 2014, the company possessed securities acquired as part of the acquisition of a division of a competitor. They are 100,000 shares of a publicly traded company, Reynold Computing, and represent the 3% of that firm. Reynold Computing has shown losses in the prior three years.

Subsequent to year-end, the company sold 30,000 shares for liquidity purposes. The remaining shares were marked down to market value (a \$2.7 million loss recognized during the first quarter) and as of February 29 have a market value of \$5.0 million.

[Neu Condition]: Financial information for experiment⁶⁵

- Basic information

1. Balance sheets (in thousands of dollars)

	December 31,	
	2014	2013
ASSETS		
Current assets:		
Cash and cash equivalents	4,275	6,874
Securities held for trading	12,092	-
Accounts receivable, net	33,538	30,547
Inventory, net	14,020	17,412
Prepaid expenses	<u>2,860</u>	<u>5,164</u>
Total current assets	66,785	59,997
Property, plant and equipment, net	29,782	51,080
Other long-term assets	<u>14,088</u>	<u>6,954</u>
Total assets	<u>110,655</u>	<u>118,031</u>
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	<i>3,512</i>	<i>18,551</i>
Deferred revenue	<i>1,398</i>	<i>2,809</i>
Current portion of long-term debt	<u><i>1,505</i></u>	<u><i>1,894</i></u>
Total current liabilities	<i>6,415</i>	<i>23,254</i>
Long-term debt	22,322	<i>1,443</i>
Other long-term liabilities	<u><i>1,077</i></u>	<u><i>1,625</i></u>
	<u>29,814</u>	<u>26,322</u>
Shareholders' equity		
Common shares	101,596	88,098
Retained earnings (deficit)	<u><i>(20,755)</i></u>	<u><i>3,611</i></u>
	<u>80,841</u>	<u>91,709</u>
Total liabilities and shareholders' equity	<u>110,655</u>	<u>118,031</u>

2. Cash Flow Statements summarized (in thousands of dollars)

	Year ended December 31		
	2014	2013	2012
Net cash provided by operating activities	3,928	11,099	6,232
Net cash used in investing activities	<i>(3,832)</i>	<i>(6,168)</i>	<i>(9,101)</i>
Net cash used in financing activities	<u><i>(2,695)</i></u>	<u><i>(9,306)</i></u>	<u><i>(22,388)</i></u>
Net decrease in cash and cash equivalents for the year	<u><i>(2,599)</i></u>	<u><i>(4,375)</i></u>	<u><i>(25,258)</i></u>

⁶⁵ Differences between the financial information conditions (Neg and Neu) appear in *italics* in the paper (not in the website).

3. Income Statements (in thousands of dollars)

	Year ended December 31		
	2014	2013	2012
Net sales:			
Computer systems	50,916	86,489	120,352
Service and other	<u>64,044</u>	<u>81,684</u>	<u>94,486</u>
Total net sales	114,960	168,173	214,838
Cost of sales:			
Computer systems	32,984	46,367	65,420
Service and other	<u>39,658</u>	<u>49,006</u>	<u>58,168</u>
Total cost of sales	<u>72,642</u>	<u>95,373</u>	<u>123,588</u>
Gross margin	42,318	72,800	91,250
Operating expenses:			
Research and development	<i>6,604</i>	23,357	28,588
Selling, general and administrative	<i>26,214</i>	44,305	<i>55,381</i>
Restructuring charge	<u>29,376</u>	<u>2,640</u>	<u>0</u>
Total operating expenses	<u>62,194</u>	<u>70,302</u>	<u>83,969</u>
Income (loss) from operations	<i>(19,876)</i>	2,498	7,281
Interest and other income (expenses), net	<u>(6,350)</u>	<u>(2,866)</u>	<u>(4,006)</u>
Loss before income taxes and extraordinary item	<i>(26,226)</i>	(368)	3,275
Provision for income taxes	<u>1,860</u>	<u>2,040</u>	<u>(1,560)</u>
Loss before extraordinary item	<i>(24,366)</i>	(2,408)	1,715
Extraordinary loss on extinguishment of debt	=	=	=
Net loss	<i>(24,366)</i>	(2,408)	1,715

4. Prior year External Audit Report summarized

[NAO Condition: no audit information]

- No prior year audit information shown.

[UAO Condition: unqualified opinion]

Prior Year Audit Opinion (Year ended December 31, 2013): Unqualified Opinion

The predecessor auditor issued an unqualified opinion, with the following Opinion paragraph: “In our opinion, the financial statements give a true and fair view of the financial position of Highpoint Computer Corporation as at December 31, 2013, and of its financial performance and its cash flows for the year then ended in accordance with the Reporting Standards that apply”.

[UEAO Condition: unqualified opinion with emphasis of matter paragraph]

Prior Year Audit Opinion (Year ended December 31, 2013): Unqualified Opinion with an Emphasis of Matter paragraph

The prior year financial statements contained management disclosure of material uncertainty about Highpoint’s ability to continue as a going concern.

Therefore, the predecessor auditor issued an unqualified opinion with the following Emphasis of Matter paragraph: “Without qualifying our opinion, we draw attention to Note 3 to the financial statements, which indicates that Highpoint Computer Corporation incurred significant losses during the last three years. This situation, along with other matters as set forth in Note 2, indicates the existence of a material uncertainty that may cast significant doubt about Highpoint’s ability to continue as a going concern”.

[GCAO Condition: going concern qualified opinion]

Prior Year Audit Opinion (Year ended December 31, 2013): Going Concern Qualified Opinion

The prior year financial statements did not contain management disclosure of material uncertainty about Highpoint’s ability to continue as a going concern. However, the predecessor auditor disclosed this fact in the report.

Therefore, the predecessor auditor issued a qualified opinion with the following “Basis for Qualified Opinion paragraph”: “Highpoint’s financial difficulties and liquidity issues indicate the existence of a material uncertainty that may cast significant doubt on the company’s ability to continue as a going concern and therefore the company may be unable to realize its assets and discharge its liabilities in the normal course of business. The financial statements and notes thereto do not fully disclose this fact”.

- List of additional information

1. Accrued expenses

As of December 31, 2014, the company owes approximately \$4 million in accounts payable and accrued expenses, compared to \$19 million in the prior year. The majority of these liabilities relate to employee termination payments that will likely be made throughout the next fiscal year. During the first two months of 2015, the company has made \$2.7 in cash payments to employee related to these liabilities. *The primary decrease is a result of cancellations of accounts payable with suppliers.*

2. Acquisition information

In June, 2014, Highpoint acquired a former competitor, Marten, Inc., in exchange for approximately 13,000,000 shares of stock and \$11.0 million of long-term debt. The value of the acquired net assets and their cost was almost the same (no goodwill).

In connection with the acquisition, Highpoint recorded a \$1.7 million liability related to the estimated costs of terminating employees and exiting certain activities of the acquired business.

The company believes that the acquisition provides a number of **strategic benefits**, due to the combination of technologies and production, the larger market coverage and the cost savings.

3. Asset sales

During the quarter ended March 30, 2014, the company recorded a non-recurring charge of \$2.0 million to adjust the book value of one of its Indiana facilities to its fair value. During September 2014, the company **completed the sale of this facility**. The net proceeds from this transaction amounted to \$2.8 million. Upon completion of this transaction, the company made a mandatory prepayment of 75% of the proceeds as part of a debt agreement (50% was applied to the next six scheduled monthly payments, 50% was applied to the final maturity payment).

During the first quarter of 2015, the company entered into a purchase and sale agreement providing for the **sale-leaseback** of another of its Indiana facilities. The transaction is contingent on the buyer's ability to lease approximately 100,000 square feet of the 300,000 square foot facility. The transaction is expected to close during the June-December 2015 time period at a sale price of \$5.5 million. In accordance with the terms on the new long-term debt, the company is required to prepay 75% of the net proceeds on the sale (\$4.1 million) to repay the loan, leaving approximately \$1.4 million for working capital purposes.

4. Competition

The company operates in a **highly competitive market**, driven by rapid technological innovation and where product differentiation represents an important factor. The company competes against a number of firms, many of which have greater financial and operating resources. Competition comes from four main sources:

- Companies that layer hardware or software on top of their product platforms (for example, Hewlett-Packard Corporation).
- Provide solutions for specific characteristics, such as high-performance graphics (for example, Silicon Graphics, Inc.).
- Provide platforms on which third party vendors add capabilities (for example, IBM Corp. and Sun Microsystems, Inc.).
- Provide applications integrated into customer's information systems (for example, Motorola, Inc.).

5. Facilities management

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Total asset turnover	1.07	1.27	1.28	1.32	1.37	1.36

Highpoint's manufacturing operations are in South Florida and Indiana. Manufacturing operations occupy approximately 60,000 square feet in the South Florida facility. The company has entered into an agreement for the sale and partial leaseback of its Indiana facility. The transaction is expected to be completed by the end of the second quarter of fiscal 2015. Approximately 40,000 square feet are expected to be maintained in Indiana for the manufacture of only certain proprietary systems.

Utilization of manufacturing capacity is currently at 40% based on limited two shift operation schedule during 2014. Management believes that the manufacturing capacity available at its existing facilities could significantly increase (with minimal capital expenditures) to meet increased manufacturing requirements either by raising the utilization rate or by adding assembly personnel on its first and second shift, or by adding a third shift.

6. Financing and liquidity information

During 2014, Highpoint entered into a new agreement providing for a \$17.6 million credit facility which matures on September 1, 2017. As of December 31, 2014, outstanding balances under the credit facility were \$14.1 million. The loan is payable in 30 monthly installments of approximately \$150,000 beginning January 1, 2015 and ending June 1, 2017. The facility may be repaid and reborrowed at any time without penalty. The company has pledged as collateral substantially all of its assets. In the event of a sale or a sale-leaseback of its largest facility, Highpoint would be required to make a prepayment on the credit facility equal to 75% of the net proceeds from the sale. **Management has no other borrowing facilities available at the present time.**

Management expects that the acquisition of its largest competitor and its continued integration of the businesses will improve the company's liquidity. Future liquidity is highly dependent on the revenue growth expected during the upcoming period.

As of December 31, 2014, the company has \$4.3 million in cash on hand, a decrease of \$2.6 million from the prior year. However, the company holds publicly traded stock with a market value of \$12.1 million. Management intends to sell some of this stock for liquidity purposes.

7. Human resources

The company currently has approximately 1,000 employees worldwide, with approximately 500 employed in the United States.

The company intends to reduce the total number of employees to approximately 800 by the end of the next fiscal year as part of a continuing restructuring plan.

Key Personnel

CEO/Chairman – Edward Laudilee, 58, has over 30 years of experience. He has worked with Highpoint for 18 years and has been CEO for the past 7. Prior to his current position, he was chief of engineering. His background is in simulation product development and he is known for being a pioneer in the area.

CFO – Cheryl Smith, 52, has been with Highpoint for 15 years, the past 8 in the current position. She is highly respected and is a CPA with prior audit experience with a national firm.

Research and Development – James Funderburg, 42, heads a department of 40 employees actively creating and testing new products. He is considered to be an outstanding innovator and was responsible for creating the top-selling products in the simulation area.

Marketing and Sales – Michael Wallenback, 35, was appointed as the head of marketing 3 months prior to year-end. He has worked with Highpoint for 7 years. Since taking over the department, he has attempted to improve the distribution channels for the company's products.

8. Inventory management

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Inventory turnover	4.62	4.92	5.18	6.39	6.08	7.25

As of December 31, 2014 and 2013, respectively, components of inventories are as follows (in thousands of dollars):

	December 31	
	2014	2013
Raw materials	10,547	12,711
Work-in-process	422	1,288
Finished goods	3,051	3,413
Total	14,020	17,412

9. Legal proceedings

There are no material legal proceedings pending to which the company is a party or to which any of its property is subject.

10. Long-term debt

The long-term debt of \$22.3 million consists of several items:

- The first relates to a credit facility, with a current balance of approximately *\$7.6 million*. The remainder is due at the rate of \$150,000 per month until it is paid off in September, 2017 in a balloon payment.
- The second is a new \$11.0 million debt as a result of the new acquisition. This debt carries a 14% annual interest rate and is payable in three balloon payments beginning December 2016.
- The remaining consists of a separate credit facility, total amount of \$4.7, of which \$1.0 million is classified as a current liability. The remaining amount will be payable in annual installments for the subsequent 4 years.

11. Management's plans related to financial distress

Management plans to undertake several efforts to return the company to profitability:

- Use its new alliance with their prior competitor to help develop new relationships for marketing and distribution of products, and expand existing strategies both domestically and internationally.
- Continue to reduce general and administrative expenses.
- The company recently restructured operations, recognizing a \$29.4 million restructuring charge. Management anticipates that this restructuring, which included cutting the number of employees by 200, closing an unsuccessful plant, and various asset write-downs, will improve the efficiency of the company's operations, and allow for the company to return to profitability.

12. Marketing and distribution

Highpoint operates in most major markets worldwide through both direct sales and services offices, as well as through a network of distributors. The company does not believe that it is reliant on any one distributor.

The company's **primary customers** are original equipment manufacturers and independent software vendors. These customers account for approximately 60% of the company's sales, with 40% going to end users. The percentage of sales to resellers is far below the industry average of 80%.

Servicing products accounted for 55% of the company's revenue last year. The service department consistently gets high ratings from customers and is considered an important part of the company's future success.

Currently, the company's largest single customer is the U.S. **Government** at 15% of all revenues in 2014. This is down from 30% in 2012 and 27% in 2013. No other single customer accounts for more than 10% of revenues. All contracts with the Government contain provisions for cancellation at the convenience of the Government. Substantially all of the company's sales to the Government are standard items which could be sold to others in the event of cancellation. To date, there have been no material cancellations.

13. Markets and products

Highpoint focuses its business on several strategic target markets:

- **Simulation.** The company and the newly acquired competitor are recognized as leaders in systems for simulation. The primary applications for the simulators involve commercial and military aviation, planning, bottle management, and engineering design for avionics and automotive labs. The market for these products has grown at a rate of 60% over the past three years. However, the company's sales related to this product line have decreased at a rate of approximately 30% in the past three years. This product line accounted for approximately 50% of the company's sales in 2014.

- **Data Acquisition.** The company is a leading supplier of systems for radar data processing and control. For example, the company provides the computer systems which power the Department of Commerce's Radar weather programs. Other customers include the Navy and NASA. The market for this class of products has not grown significantly in the past three years and the company's sales related to this product line have decreased at a rate of 10% per year. This product line accounted for approximately 25% of the company's sales in 2014.

- **Interactive Real-Time.** Highpoint is pursuing this area which has emerged as a tremendous growth market in the past several years, in industries such as gaming, hotels, and airlines. The company is the largest provider of systems for the gaming industry and public lotteries. The market for this class of products has grown at a rate of 100% over the past three years. The company's sales related to this product line have increased at a rate proportional to the market. This product line accounted for approximately 15% of the company's sales in 2014.

- **Digital services.** Highpoint is focusing on the digital market, developing new digital services applications for all types of mobile devices. The market for this class of products has grown at a rate of 60% over the past three years. The company's sales related to this product line have increased at a rate of 30% per year and this line accounted for approximately 10% of the company's sales in 2014.

14. Order backlog

The company generally includes in backlog any orders that it anticipates shipping within the subsequent six months. As of December 31, 2014, order backlog was \$10.9 million, as compared to \$14.6 million for the prior year-end. Management does not believe that order backlog is a useful measure of future sales or business trends because more customers are placing orders within the quarter where delivery is expected, thus backlog is a less meaningful measurement of anticipated revenue.

15. Other significant events during the year 2014

Other significant events during the year ended December 31, 2014 were:

- The industry has continued to change rapidly. New competitors entered the market and several competitors failed.
- Net sales fell 31% this year and gross margin percentage declined from 43% to 36%.
- Highpoint completed the sale of one of its least cost-effective factories for liquidity purposes.
- During June, Highpoint acquired one of its largest competitors (Marten, Inc.) in exchange for common shares and long-term debt. This acquisition increased the number of shares outstanding by 33% and *raised* Highpoint's long-term debt. Management expects the acquired division to provide significant revenues in the future.

16. Receivables management

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Receivables turnover	3.59	4.67	4.97	5.65	5.95	6.22

Highpoint does not have any significant concentration of credit risk. The company's receivables are divided among many different customers and, historically, losses on receivables have been immaterial. The company has a strong process for granting credit, and generally does not grant credit to less financially sound customers. According to management, the company often waits extended periods of time for payment on Government contracts, but receives timely payment on the majority or their other receivables. Working papers show that 10% of current receivables are government related, compared to 18% at the end of the prior year. Also, the receivables turnover ratio for non-government related receivables was 4.30 in 2014, compared to 5.12 for 2013.

17. Research and development

The company believes that its continued success depends heavily on researching and utilizing the latest available computer technology. Highpoint, together with its recently acquired competitor, invested \$21, \$28, and \$33 million on research and development in 2014, 2013, and 2012, respectfully. Management acknowledges that the raw amount spent on research and development has decreased, however, they believe the current investments are more targeted towards the markets upon which they are focusing.

18. Restructuring information

The company recorded a restructuring provision of \$29.4 million during the year ended December 31, 2014. This charge included the estimated costs related to the rationalization of facilities, workforce reductions, assets writedowns (primarily facilities and inventories), and other costs. Cash payments related to the restructuring were *\$2.7 million* and occurred during the first quarter of 2015. The majority of the cash paid related to employee termination costs.

The company has also recorded smaller restructuring charges ranging from \$2.3 million to \$12.6 million in each year since 2009.

19. Selected cash generating ability ratios

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
CFO/Current debt	.61	.48	.58	.04	.01	.06
CFO/Total debt	.13	.42	.37	.03	.00	.03
Cash interest coverage	2.69	5.10	2.90	3.67	1.93	3.17

20. Selected profitability ratios

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Return on Equity	-30.14%	-2.63%	-	9.26%	10.36%	9.94%
Return on Assets	-17.96%	2.12%	-	2.67%	2.12%	3.83%
Sales Change %	-31.64%	-21.72%	-18.79%	60.64%	68.99%	84.70%
Gross Margin %	36.81%	43.29%	42.47%	39.72%	39.32%	40.57%

21. Selected short term solvency and leverage ratios

	Highpoint Computer Corporation			Industry averages		
	2014	2013	2012	2014	2013	2012
Current ratio	10.41	2.58	1.99	3.49	3.37	3.53
Quick (Acid-test)	7.78	1.61	1.61	2.57	2.51	2.79
Days sales in inventory	78.97	74.26	70.44	57.12	60.03	50.34
Days sales in receivables	101.74	78.10	73.42	64.60	61.34	58.68
Debt/Equity	0.37	0.29	0.51	.86	.90	.85

22. Subsequent events and Jan/Feb financial data

Selected financial data (in thousands of dollars)

Income Statement data

	<u>Jan-Feb, 2015</u>	<u>Jan -Feb, 2014</u>
Net sales	18,597	19,659
Cost of sales	<u>11,346</u>	<u>10,650</u>
Gross margin	7,251	9,009
Other expenses	<u>14,724</u>	<u>12,068</u>
Net income	(7,473)	(3,059)

Balance Sheet data

	<u>28 Feb, 2015</u>	<u>31 Dec, 2014</u>
Cash and securities	7,009	16,367
Other current assets	49,091	50,418
Total assets	102,127	110,655
Current liabilities	67,809	6,415
Total liabilities	99,389	29,814
Stockholders' equity	2,738	80,841

Cash Flow data

	<u>Jan-Feb, 2015</u>	<u>Jan -Feb, 2014</u>
Cash from operations	(2,435)	25
Cash from investing	123	556
Cash from financing	<u>16</u>	<u>(1,672)</u>
Net cash flows	(2,296)	(1,091)

Other subsequent events

Highpoint entered into a contract for a sale-leaseback transaction on one of its facilities for \$5.5 million. The transaction is expected to close later this year. 75% of the net proceeds (\$4.1 million) will be used to repay a portion of the long-term debt owed to the other party in this transaction. The agreement is contingent upon the buyer's ability to lease approximately 100,000 square feet of area in the building to third parties and management is not assured that the transaction will be completed as contemplated.

Management states that the slow sales during the first two months are due to slower than expected transitioning with the new acquisition. However, management believes that product sales will increase as the year progresses.

During February, the company received \$2.5 million of proceeds on the sale of some trading securities it had been holding. The company recognized a \$1 million loss on the sale which is included in the net income for the first two months. In addition, the company made a \$2.7 million mark-to-market adjustment on the remaining securities (also a charge to income), which now have a book value of approximately \$5.0 million.

23. Suppliers

Highpoint has many suppliers throughout the world. There is one primary exception to this:

- The company is reliant on one supplier for the availability of a component used in the manufacture of three main products which account for 25% of the company's sales. Any delay in supplier performance may cause a delay in shipments. The firm estimates that it would take approximately 24 months to find an alternative supplier and the company has never had any delays relating to the supplier.
- Management believes that it has good relationships with its suppliers and the firm carefully monitors the ability of all suppliers to timely meet the company's requirements.

24. Trading securities

As of December 31, 2014, the company possessed securities acquired as part of the acquisition of a division of a competitor. They are 100,000 shares of a publicly traded company, Reynold Computing, and represent the 3% of that firm. Reynold Computing has shown losses in the prior three years.

Subsequent to year-end, the company sold 30,000 shares for liquidity purposes. The remaining shares were marked down to market value (a \$2.7 million loss recognized during the first quarter) and as of February 29 have a market value of \$5.0 million.

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EDUCATION

Ph. D. in Accounting, Complutense University of Madrid. October 2013 - Present.

Dissertation: "The impact of auditing on financial distress prediction" (submitted October 2016).

Ph. D. supervisors: Dra. María-del-Mar Camacho-Miñano and Dr. David Pascual-Ezama.

Visiting Ph. D., University of Vaasa, Finland. August - December 2015.

Department of Accounting and Finance. Collaboration with Prof. Erkki K. Laitinen.

Master's degree in Research in Accounting, Complutense University of Madrid. October 2012 - September 2013.

Dissertation: "The impact of fair value accounting in the Spanish banking sector".

New York University (NYU), New York City. March 2010 - June 2011.

Certificate in Financial Analysis. Specialty: Financial Statement Analysis and Corporate Finance.

BA in Business Administration, CUNEF. October 2004 - June 2009.

Graduated with Honors.

TEACHING EXPERIENCE

CUNEF - University College of Financial Studies. February 2013 - Present.

Instructor. Accounting Department. Courses taught for undergraduates: Introduction to Financial Accounting, Intermediate Accounting and Managerial Accounting (English and Spanish).

Teaching award for highest undergraduates teaching ratings in 2013, 2014 and 2015.

WORKING EXPERIENCE

BBVA New York. July 2009 - September 2012. Senior Analyst in the Finance Department.

Bank of Spain. July 2008 - November 2008. Analyst in the Central Balance Sheet data office.

PUBLICATIONS

Muñoz-Izquierdo, N., Camacho-Miñano, M. M. and Pascual-Ezama, D. (2017). The content of the audit report in the year prior to bankruptcy filing. Empirical evidence from Spain. *Spanish Journal of Finance and Accounting*, 46(1), 92-126. ISSN: 0210-2412. [JCR 2015: 0,350; Q4 BUS & FIN] [SJR 2015: 0,194; Q3 ECO; Q4 ACO & FIN]

Muñoz-Izquierdo, N., Camacho-Miñano, M. M. and Pascual-Ezama, D. (2016). Informe de auditoría: clasificación y análisis de “énfasis” y “salvedades”. *Revista de Derecho Concursal y Paraconcursal*, 24, 429-439. ISSN: 1698-4188. [CARHUS+ 2014: Group B] [CIRC 2012: Group B]

Muñoz-Izquierdo, N. and Camacho-Miñano, M. M. (2015). La utilidad de la información financiera en el concurso de acreedores. *Revista de Derecho Concursal y Paraconcursal*, 23, 281-291. ISSN: 1698-4188. [CARHUS+ 2014: Group B] [CIRC 2012: Group B]

Muñoz-Izquierdo, N. (2014) El impacto de la aplicación del valor razonable en el sector bancario español. *Análisis financiero*, 125, 25-42.

Muñoz-Izquierdo, N. (2013) Principales modificaciones propuestas por el FASB sobre instrumentos financieros. *Revista Contable*, 14-21.

BOOK CHAPTERS

Muñoz-Izquierdo, N. y Ramos Méndez, E. (2016). Información de auditoría y concurso de acreedores. En *Avances y Retos en Economía Financiera y Empresarial*, 301-314. Cruz Rambaud, S., De Pablo Redondo, R. y De la Fuente Sánchez, D. (Coordinadores). Editorial Universitaria Ramón Areces, Madrid. ISBN-13: 978-84-9961-245-4.

WORKING PAPERS AND RESEARCH PROJECTS

Does audit report information improve financial distress prediction over Altman’s traditional Z”-Score model? (with Prof. Erkki K. Laitinen, Dra. María-del-Mar Camacho-Miñano and Dr. David Pascual-Ezama).

The ability of audit report disclosures to explain insolvency: a comparison using traditional and artificial intelligence methodologies (with Dra. María-Jesús Segovia-Vargas, Dra. María-del-Mar Camacho-Miñano and Dr. David Pascual-Ezama).

Do prior audit opinions affect next ones? (with Prof. William Jr. Messier, Dr. David Pascual-Ezama and Dra. María-del-Mar Camacho-Miñano).

What explains bankruptcy better, internal or external reasons? Evidence from auditors’ reports (with Dra. María-Jesús Segovia-Vargas, Dra. María-del-Mar Camacho-Miñano and Dr. David Pascual-Ezama).

Member of INIFCO-UCM Research Group (Grant number GR3/14 - Research Group number 931559), financially supported by Santander Bank and Complutense University of Madrid.

PRESENTATIONS AT CONFERENCES, WORKSHOPS, SYMPOSIUMS AND DOCTORAL COLLOQUIUMS

Muñoz-Izquierdo, N., Segovia-Vargas, M. J., Camacho-Miñano, M. M. and Pascual-Ezama, D. *The ability of audit reports to explain insolvency: a comparison using traditional and artificial intelligence methodologies*. Spanish Association of Law and Economics (AEDE) Conference 2017. Carlos III University of Madrid (UC3M), Spain, June 2017.

Muñoz-Izquierdo, N., Segovia-Vargas, M. J., Camacho-Miñano, M. M. and Pascual-Ezama, D. *The ability of audit reports to explain insolvency: evidence pre-IAASB's new reporting regime*. European Accounting Association (EAA) Conference 2017. University of Valencia, Spain, May 2017.

Muñoz-Izquierdo, N., Segovia-Vargas, M. J., Camacho-Miñano, M. M. and Pascual-Ezama, D. *Audit report disclosures as a value-added tool for insolvency prediction: Empirical evidence using parametric and non-parametric methodologies*. XXII Workshop on Accounting and Management Control "Memorial Raymond Konopka". University of Vigo, Orense, Spain, January 2017.

Muñoz-Izquierdo, N., Segovia-Vargas, M. J., Camacho-Miñano, M. M. and Pascual-Ezama, D. *What explains bankruptcy better? Evidence from the auditor's report using decision trees*. XXII Workshop on Accounting and Management Control "Memorial Raymond Konopka". University of Vigo, Orense, Spain, January 2017.

Muñoz-Izquierdo, N., Segovia-Vargas, M. J., Camacho-Miñano, M. M. and Pascual-Ezama, D. *Audit report disclosures as a value added tool for bankruptcy prediction: Empirical evidence*. XXIV Finance Forum (AEFIN). CUNEF, Madrid, Spain, July 2016.

Muñoz-Izquierdo, N., Pascual-Ezama, D. and Camacho-Miñano, M. M. *The effect of prior audit and financial information on auditor judgments: Experimental evidence*. XII International Accounting Symposium: Current Trends in Accounting Research. Autonomous University of Madrid (UAM), Madrid, Spain, June 2016.

Muñoz-Izquierdo, N., Laitinen, E. K., Camacho-Miñano, M. M. and Pascual-Ezama, D. *Does audit report information improve bankruptcy prediction over traditional financial information models?* XVII Encuentro ASEPUC. University of the Basque Country, Bilbao, Spain, June 2016.

Muñoz-Izquierdo, N., Pascual-Ezama, D. and Camacho-Miñano, M. M. *Does the audit report affect future firms' viability? An experiment with auditors*. VII Jornadas AECA: La importancia de la gestión de riesgos y la auditoría para la viabilidad empresarial. Vigo, Spain, June 2016.

Muñoz-Izquierdo, N., Laitinen, E. K., Camacho-Miñano, M. M. and Pascual-Ezama, D. *Does audit report information improve bankruptcy prediction over traditional financial information models?* European Accounting Association (EAA) Doctoral Colloquium 2016. Maastricht University, Vaals, Holland, May 2016.

Muñoz-Izquierdo, N., Pascual-Ezama, D. and Camacho-Miñano, M. M. *The effect of prior year audit opinions on viability assessments: Experimental evidence*. III Research Forum on Challenges in Management Accounting and Control. Pablo de Olavide University, Seville, Spain, April 2016.

Muñoz-Izquierdo, N. *The impact of audit variables on firm failure prediction*. Presentation of the Ph.D. dissertation project in the Doctoral Colloquium of the XX Workshop on Accounting and Management Control "Memorial Raymond Konopka". IE, Segovia, Spain, January 2015.

RESEARCH INTERESTS

Bankruptcy and financial distress.

Behavioral Auditing.

Behavioral Economics.

Financial Accounting.

Managerial Accounting.

ADDITIONAL TRAINING

Workshop about research in auditing, Autonomous University of Madrid (UAM), October 2016 (5 hours), October 2016.

Propensity Score Matching (PSM) course, CUNEF, Madrid (6 hours), July 2016.

Doctoral seminar: research in auditing, University of Vaasa, Finland (30 hours), March and May 2015.

Stata course, University of Zaragoza (12 hours), January 2015.

Insolvency Law course. Madrid Open University (UDIMA), October 2014 - March 2015.

Stata course, International University of Andalusia (UNIA) (12 hours), August 2014.

Research seminars, University Complutense of Madrid, courses 2013-2016.

LANGUAGES

Spanish: Native.

English: Fluent.

MEMBERSHIP OF PROFESSIONAL ASSOCIATIONS

AECA (Asociación Española de Contabilidad y Administración de empresas).

ASEPUC (Asociación Española de Profesores Universitarios de Contabilidad).

EAA (European Accounting Association).

