

### **The risk of insolvency and the audit report**

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#### **ABSTRACT**

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When auditors detect that a company might have problems of insolvency, they have to inform about it with an emphasis paragraph where it is questioned whether it is appropriate to apply “the going concern principle”. This work analyses if auditors are effective in assessing the risk of insolvency and compares it with the Z score formula which applies the discriminant analysis to generate forecasts.

#### **KEYWORDS**

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Auditing, Insolvency, Z score, ratios.

## **1. Introduction**

In 2018, In Spain there were a total of 2,416 insolvency proceedings, the highest number since 2013, with a 9,97% annual increase. Given the problems resulting from a situation of insolvency proceeding, investors expects that the auditors give notice when the future of the company could be problematic. For this reason, when the auditor detects that the future of the company might face problems of insolvency, he has to inform the investors with an emphasis of matter paragraph stating whether the company is compliant with the “going concern principle”.

This work analyses whether the financial auditing process is efficient in assessing the risk of insolvency and compares it with the Z score formula which applies the discriminant analysis to generate forecasts.

Basically, the authors analyse the Spanish companies that presented an insolvency proceeding within the last 4 years and that were also audited during that period of time. In this way, it is possible to assess whether the auditors gave a timely notice about the problems.

Moreover, a Z score formula (Amat et al., 2016) will be applied to check whether this is a valid method to forecast cases of insolvency.

The first objective of this work is to assess whether the audit reports are informative about possible problems of insolvency and financial stability of a company. Secondly, there is the intention of testing whether the Z score is a more efficient forecasting model for insolvency.

## **2. Insolvency proceedings**

Insolvency proceedings is a legal procedure starting when a natural or legal person faces a situation of insolvency and he finds himself unable to to meet his debt obligations. This legal procedure is regulated by the Law 22/2003, of the 9th of July.

Generally speaking, an insolvency proceeding has two main objectives. On the one hand, it aims at organising the insolvent person’s finances such that most of the creditors can collect most of their credits. On the other hand, it aims at protecting the public interest and the interests of its own debtor with the objective of helping the company to survive, when usually a legal person would be destined to extinction.

The main reason why it is advantageous to declare insolvency when there is inability of meeting multiple debt obligations, is because procedures such as bank account

garnishments can be stopped. Furthermore, the debts' generation of interests will be stopped and there is even the possibility of reducing or postponing the debts repayments. Insolvency proceedings can be initiated by companies, legal persons or natural persons. The request can be presented by either the debtor or its creditors. In the case of the debtor, he must present his request within 2 months he was fully aware of his insolvency. In the case of a creditor, he needs to present his request when he understands that he could be harmed by the short term insolvency of its debtor. To be able to present the request of insolvency proceedings, there must be proof of a current or a near future state of insolvency. Once the insolvency proceeding is requested, and all the due documentation is provided, the procedure will not start until the judge, after scrutinising the required documentation deems it appropriate.

If the judge accepts the request, it must be published in a double order. On the one hand, it must be published in the general bulletin of the state and in the major newspaper of the area where the debtor has his main interests. In this way, possible future creditors will be informed about their debtor situation and they will be warned that their credits will be treated as credits after insolvency proceedings, which implies disadvantages for their collection. Moreover, the aim of the general publicity is to inform those people who have outstanding credits with the insolvent person, to let the judge know about those outstanding credits, so the judge can include them into the insolvency proceedings and try collecting them. On the other hand, it is published in the commercial or civil registry based on whether the insolvent debtor is a natural or legal person.

Once bankruptcy is declared, there is a series of effects affecting the outstanding credits:

- If some creditors are debtors among themselves, or if the insolvent person has a right to collect from one of his creditors, it is prohibited the compensation of such credits.
- The accrual of interests is suspended and all debts stop generating interests. This is to avoid that debts keep growing during the proceeding.
- The injunction of debts claims during the proceeding is suspended, so debts cannot go under prescription and creditors can collect their credits.

The moment in which the insolvency proceeding/bankruptcy is declared is a crucial moment to classify the credits outstanding. In this moment, credits are divided into blocks:

- Credits related to the insolvency that were born after the declaration of insolvency proceedings and that were contracted to face the administration of the insolvency proceeding or with the authorisation to finance the processing of the insolvency proceeding, or to keep the business of the insolvent firm still alive are outside of the liabilities of the insolvency proceeding and must be paid with priority with respect to any other debit the assets of the insolvent entity are bearing.
- Insolvency credits already existing before the declaration of insolvency which are classified based on the collection preference. There are 4 groups within the insolvency credits:
  - First of all, there are credits with special privilege, which are those pledged to real assets. For example, a mortgage. Secondly, there are credits with general privilege, this group includes credits with the tax agency, social security, workers' salary, and those credits belonging to the creditor who started the insolvency proceedings, this applies under the circumstance that the proceeding was started by a creditor of course. It is worth mentioning that these credits with general interests are paid only partially as credit with priority.
  - Next, there are the ordinary credits. These are the credits with neither special nor general privilege.
  - Finally, there are the subordinate credits. These are made of those credits that were communicated after the insolvency proceeding declaration, but they existed previously. Also, those credits with people close to the debtor such as his family are included. These are the last ones to be paid to avoid fraud against creditors.

There are two types of insolvency proceedings depending on who requests it:

- **Voluntary:** It is requested by the debtor himself who realises to be in an insolvency situation or close to an insolvency situation Basically, he realises that he cannot meet his debts' payments regularly.

**Needed:** When it is requested by the creditors.

### **3. Reference to the audit report of solvency**

The audit report is the result of the auditor work. This document has a standard model that is regulated through the NIA-ES, the series 700. Basically, the NIA-ES 570 deals with the auditor responsibilities in relation to the going concern principle and the audit reports' implications.

When the auditor forecasts that the company might face solvency problems, in the audit report there will be a record about this uncertainty with an emphasis paragraph where will be mentioned the existence of doubts regarding the company's ability to comply with the going concern principle. The existence of this paragraph is an explicit warning that the stability of the company might be an issue. Speaking of the companies under proceeding, it would have been desirable that the auditor warned about this danger.

In 2016, the ICAC (Instituto de Contabilidad y Auditoría de Cuentas, The Institute of Accounting and Audit of Accounts, the Spanish accounting regulatory body) published a Resolution with the modification of certain auditing technical standards (including the NIA-ES 700 and 570) which affect the auditor's report. These modifications apply to the auditing of accounts for fiscal years beginning on June 17, 2016 as well as for all those works contracted or commissioned as of January 1, 2018. In the new audit reports, when there is a relevant risk in connection with the future of the company, a specific paragraph called "*Material uncertainties related to the application of the going concern principle*" must be put in place, and, in this paragraph, the auditor, after performing the auditing tests, must value if there exist serious doubts about the continuity of the activity.

Therefore, the only obligation that the auditor has to carry out the necessary auditing tests and, from there, evaluate whether based on the tests carried out, the company has a risk of continuity. And this should be done in each one of the exercises that are audited, and evaluate, in each exercise, whether or not there is or remains a risk in the case that it already existed in the previous year or not.

Sometimes, when a company falls into insolvency proceedings and the auditor did not detect the problem, investors question the utility of the audit report. In any case, what is clear is that there is a gap of expectations between the auditor's obligation with regard to this subject and what the reader expects from an audit report.

#### **4. Literature review**

While performing the literature review, the authors found no evidence of the existence of a study relating the auditor's opinion with a company's future insolvency. Pessoa (2016), for instance, analyses the insolvency proceeding using a static model, but without relating it with the companies' audit reports. Vega (2016), instead analyses the insolvency proceeding issue without using any kind of financial analysis tool, giving special attention to the debtor responsibilities.

According to the objective of this work, we are going to relate both concepts because we think that at the moment of an insolvency proceeding, the audit report gains special relevance. With respect to the Z score formula, there are several studies using many different variables. In our analysis, we adopted only methods related to imminent insolvency situations.

The use of the Z score formula to forecast insolvency was first introduced by Altman (1968) using a model of discriminant analysis. The Z score formula, is prepared using ratios allowing to discriminate solvent companies against insolvent companies. This formula combines numbers obtained from the balance sheet and the Income statement. Altman used data of publicly listed companies in the manufacturing sector that ended up bankrupt. Altman's method was then applied in many countries. Ohlson (1980) used a logistical analysis to learn about publicly listed companies that went bankrupt between the years 1970 and 1976. Taffer (1982) works, were based on several univariate analysis applied to publicly listed British companies. Dietrich and Kaplan (1982) assessed the risk of commercial loans as a tool to assess insolvency situations. Other authors such as Zavgren (1985) or Rose and Giroux (1984), adopted the strength of the financial statements to forecast insolvency, concluding that the key information are within profitability, liquidity and leverage.

In the case of Spain, one of the most adopted formulas is the Amat et al. (2016):

$$\text{UPF Z} = -3,9 + 1,28 (\text{Current Assets/ Current liabilities}) + 6,1 (\text{Equity / Assets}) + 6,5 (\text{Net profit / Assets}) + 4,8 (\text{Net profit / Equity})$$

The result of the formula is interpreted as follows:

$Z > 0$ : The company is more likely to be solvent

$Z < 0$ : The company is more likely to be insolvent

Some studies concluded that this formula has a high level of accuracy in forecasting insolvency. For example, Fitó et al. (2017) stated that this formula forecasts insolvencies with a 95,80% level of accuracy.

## **5. Methodology**

The methodology adopted to conduct this study is quantitative in nature. Data were obtained from the SABI database that stores the balance sheet and income statements data of the Spanish companies which deposit their accounts in the commercial registry. Consequently, some filtering has been applied to obtain a list of companies to apply the Z score to.

The filtering selected the 24th of April 2019 is the following:

- Spanish companies
- Companies under insolvency proceedings
- Legal denomination: Limited companies or limited partnership
- Audited at least in one of the following business years: 2017, 2016, 2015, 2014 or 2013.

After applying this filters we obtained a sample of 320 companies. Then for each one of these companies, it has been checked whether within the two years prior entering insolvency proceedings the audit report questioned the compliance with the going concern principle. finally, we applied the Z score formula to check whether there was risk of insolvency.

Then, we classified the results based on 9 scenarios resembling the data we obtained (see figure 1). The classification is as follows: the company does not have data stored in SABI for that year, the auditor mentions some level of uncertainty within the report, or the

auditor does not mention any level of uncertainty in its report. Speaking of the results, there are three possible outcomes: either the auditor was correct, the auditor was wrong, or there is no data available. This last case takes place when there were no audit reports available during neither one of the two years before the company entered insolvency proceedings. Hence, it makes it impossible to assess whether the auditor warned or not against solvency problems.

<b>Scenario</b>	<b>N-1 One year before insolvency proceeding</b>	<b>N-2 Two years before insolvency proceeding</b>	<b>Result</b>
1	No data	Warn	Correct
2	No data	Did not warn	Wrong
3	No data	No data	Company discarded for lack of data
4	Warned	Warn	Correct
5	Warned	Did not warn	Correct
6	Warned	No data	Correct
7	Did not warn	Warn	Correct
8	Did not warn	Did not warn	Wrong
9	Did not warn	No data	Wrong

**Figure 1.** Possible scenarios based on the availability of data and whether the audit report warned about uncertainty or not.

## **6. Results**

Throughout the analysis of the 320 companies, some companies had to be discarded due to the lack of previous years data. In particular, 107 companies had to be discarded (33,44%) of our sample. Therefore, we ended up with a sample of 213 companies.



The first objective as already mentioned earlier in this article, is to understand whether the auditor warned about the risk of a company not complying with the going concern principle within the two years prior insolvency proceeding.

Secondly, the results for each scenario are shown in figure 2, so we can see the number of companies falling under each scenario and the accuracy if the auditors.

Scenario	N-1 One year before insolvency proceeding	N-2 Two years before insolvency proceeding	Number of Companies	Result
1	No data	Warn	46	Correct
2	No data	Did not warn	82	Wrong
3	No data	No data	107	Company discarded for lack of data
4	Warned	Warn	12	Correct
5	Warned	Did not warn	20	Correct
6	Warned	No data	4	Correct
7	Did not warn	Warn	40	Correct
8	Did not warn	Did not warn	5	Wrong
9	Did not warn	No data	4	Wrong

**Figure 2.** Number of companies showing in their audit report a warrant of uncertainty

With the data in Figure 2 it is possible to compute the percentage of wrong and correct audit reports. The percentages we obtained are shown in figure 3 where we show that 53,3% of the times the audit reports were correct.

	<b>Number of companies</b>	<b>Percentage</b>
<b>Correct</b>	122	<b>57,27%</b>
<b>Wrong</b>	91	42,73%
<b>Total</b>	213	100%

**Figure 3.** Audit reports' percentage of accuracy

Next, we applied the Z score to the same sample of companies under insolvency proceedings. Given that some companies have net loss, they also have negative net worth. For this reason, we put the negative sign to the ratios of financial profitability. As shown in figure 4, the percentage of accuracy of the Z score for our sample is of 92,02%.

	<b>Number of companies</b>	<b>Percentage</b>
<b>Z &lt; 0 in either one of the two years or both of them</b>	196	<b>92,02%</b>
<b>Z &gt; 0 in both years</b>	17	7,98%
<b>Total</b>	213	100%

**Figure 4.** Percentage of accuracy of the Z score

## 7. Conclusions

This research has studied the relationship between insolvency and the auditor's reports. The main objective has been analyzing if auditors are effective in assessing the risk of insolvency and comparing this with the Z score formula which applies the discriminant analysis to generate forecasts.

Through this study we draw the following conclusions:

- In our sample, 52,27% of the audit reports warned about problems of insolvency in connection with the companies that later went into insolvency proceedings.

- When applied to the same sample, the Z score of Amat et al. (2016) has a percentage of accuracy of 92,02%. This result is in line with other works that previously searched the effectiveness of this formula to forecast insolvency

In light of these results, it would be interesting that auditors consider using forecasting tools such as the Z score in order to better be able to assess whether the audited company might face insolvency problems.

This work has several limitations, among those, there is the fact that we applied the Z score to all the companies in the sample independently of the business sector in which they operate. In future research, given the importance of the business sectors' differentiation for the Z score formula (Manini and Amat, 2017) it would be helpful to pursue the study focusing on the companies' business sector to double check whether the results hold or not.

Another limitation is that, as it has been mentioned before, in 2016 there was a change in the regulation of this matter, so it is possible that the study has mixed years in which the regulations for the auditor's reports were different. An improvement of this research would be dividing the sample considering if the auditor's report relates to the old regulation or the new regulation.

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