Predicting audit opinion by using discriminant analysis

Discriminant analysis is a commonly used method in accounting research. One of the most known implementations of discriminant analysis in accounting research is Altmans (1968) bankruptcy prediction model. There are also a number of studies where discriminant analysis has been used for predicting audit opinions (e.g. Spathis et al. 2004). In most cases the auditor issues an unqualified audit opinion, which basically means that the financial statement is free of material misstatements and that it is in accordance with generally accepted accounting principles (GAAP). If, on the other hand, the financial statement contains material misstatements or it is not in accordance with GAAP, the auditor might issue a qualified or an adverse audit opinion. A model that could predict the audit opinion could be useful for auditors, especially in the planning and risk assessment stage of the audit.

In previous studies, mostly traditional financial ratios such as return on assets (ROA) and current ratio have been used as variables when predicting audit opinions. An alternative is to focus on earnings management red flags since it can be assumed that engaging in earning management increases the risk for a qualified or adverse audit opinion. Marquardt and Wiedman (2004) present six earnings management red flags: unexpected changes in accounts receivables (UAR), inventory (UINV), accounts payable (UAP), accrued liabilities (UACCL) and depreciation expenses (UDEP) as well as special items (SI). The unexpected changes are calculated as

\[ Ux_t = x_t - \frac{x_{t-1} \cdot y_t}{y_{t-1}} \]

where \( x \) is accounts receivable, inventory, accounts payable, accrued liabilities or depreciation. For accounts receivable and accrued liabilities \( y \) is sales, for inventory and accounts payable \( y \) is cost of goods sold and for depreciation \( y \) is gross property plant and equipment. Special items equal non-recurrent items for period \( t \). All six variables are deflated by lagged total assets. These six variables above are used as variables in this study.

The data used in this study consist of financial statement data from Finnish companies for year 2007. The financial statement data is retrieved from the Voitto+ database (Suomen
asiakastieto Oy). For year 2007 there are 15877 companies with an unqualified audit report and 830 companies with a qualified or adverse audit opinion.

At least two things need to be considered with the study outlined on the previous page. First, can the discriminant analysis be performed on all companies in the sample or should different analysis for different industries be performed? The model would likely perform better if the sample is divided into industry specific subsamples. The problem is that there are not enough companies with qualified or adverse audit opinions to perform the discriminant analysis for all industries. Second, to what extent is earnings management left undetected by auditors? Since the purpose of earnings management in most cases is to fool the company stakeholders, it might be difficult to detect. The results from the discriminant analysis might therefore be biased if there are several companies with unqualified audit opinions that have engaged in earnings management.

References

