Limitations of prior studiesAlthough SAS standards require auditors to assess the risk of financial statement fraud, they provide few guidelines  
on how to use these risk factors for detection of fraud risk. Additionally, the previous literature presents limitations  
concerning risk factors and detection methods. First, one group of studies examined how personal judgment or the  
logistic regression model can be used to combine the risk factors identified in SAS into an overall assessment (Eining  
and Dorr, 1991; Eining et al., 1997; Bell and Carcello, 2000). The risk factors are frequently given by the binary  
values based on questionnaire responses. Moreover, only around 10 red flags in SAS relate to financial indicators, yet  
in reality several dozen financial ratios can be obtained from financial statements. Therefore, the available financial  
ratios are not fully used to detect financial statement fraud.  
The second group of studies examined the development of fraud prediction models based on financial ratios listed  
in financial statements and various computational methods (Green and Choi, 1997; Fanning and Cogger, 1998; Glancy  
and Yadav, 2011). Obviously, the financial indicators used there do not correspond to the red flags in SAS standards.  
Furthermore, non-financial factors are not used despite being crucial indicators in fraud detection. Designing an  
integrated framework that includes risk assessment factors and assessment methods thus deserves further exploration.



