

Patterns of Changes in Financial Statement Numbers in Restated Financial Statements

Ryo Tamura and Natsuki Sato

Course of Engineering
Graduate School of Engineering, Kanagawa University
Kanagawa, Japan
r202570163bg@jinda.jp, r202370185cu@jindai.jp

Ayuko Komura

Faculty of Business Administration
Toyo University
Tokyo, Japan
komura@toyo.jp

Hirohisa Hirai

School of Creative Science and Engineering
Waseda University
Tokyo, Japan
hirai@waseda.jp

Abstract

Many real-life sets of numeric data dealing with natural and social phenomena follow Benford's Law, which also applies to accounting numbers. Prior studies show that restated financial statements conform more closely to Benford's Law and that first-digit deviations (FSD-Score) may help detect accounting fraud. In contrast, some studies have pointed out that, depending on the relationship between pre-restatement and post-restatement figures, such deviations from Benford's Law may not be detectable. This study examines how financial statement numbers were changed in firms that restated their financial statements. Our sample consists of annual financial statement data from Japanese companies with accounting fraud for the period 2007–2020. Changes first occurred in revised numerical values shows that changes occurred in the first-digit in 33% of cases, the second-digit in 35%, the third-digit in 23%, the fourth-digit in 8%, the fifth-digit in 1% and the sixth-digit in 0.1%. Given that many prior studies have limited their analyses to the first-digit, approximately one-third of numerical changes may not have been taken into account in the calculation of the FSD-Score. Our results suggest that the extent to which deviations from Benford's Law contribute to financial statement fraud detection may be limited.

Keywords

accounting fraud, Benford's Law, financial statement numbers, FSD-Score, restated financial statement

Biographies

Ryo Tamura is a master student of the course of engineering at the Graduate School of Engineering at Kanagawa University, Japan.

Natsuki Sato is a PhD student of the course of engineering at the Graduate School of Engineering at Kanagawa University, Japan.

Ayuko Komura is an associate professor at the Faculty of Business Administration at Toyo University, Japan. Her research topics include operating profit stability and management controls. She earned her PhD in Business Administration at Meiji University. She received a fellowship from the Japan Society for the Promotion of Science between 2017 and 2019.

Hirohisa Hirai is a professor at the School of Creative Science and Engineering at Waseda University, Japan. He earned his PhD in Engineering at Osaka University. His research is an empirical study of management accounting, firm analysis, and applied statistics, particularly firm valuations. He has received awards from several academic societies in accounting and management.