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# ACCOUNTING AND REGULATORY ISSUES

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## Financial Ratio Adjustment: Industry-Wide Effects or Strategic Management

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Financial ratios are used for various purposes, such as credit evaluation, security analysis, and management performance analysis. Ratios can change over time because of industrywide conditions and attempts by managers to move the ratios toward long-term targets. The authors present an econometric model that describes the dynamics of ratio adjustment, including the passive changes in ratios resulting from exogenous factors and the active changes in ratios resulting from management intervention. They use the model to measure the relative importance of ratio changes associated with these two factors. The authors find that the amount of ratio smoothing from active adjustment by management is substantial and the speed of convergence toward the optimal target varies with industry and firm size.

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Financial ratios are used to measure a firm's financial and operating performance. Uses include evaluating credit, valuing a firm, monitoring a firm's operations, and measuring the performance of management. Ratios change over time because of the dynamic interaction of industrywide and other exogenous forces and because of active management of the financial and operating ratios by the firm's management. Normally, ratio analysis is conducted in a static environment by comparing a firm's ratios with some benchmark, typically an industry average or standard. Because, as previously

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mentioned, ratios change over time, Wu and Ho use a model that captures the dynamic adjustment process.

The model assumes that a firm's financial ratios are related to its respective industry averages. The dynamics of adjustment of a firm's ratios are determined by a rational distributed-lag model of industry average ratios. The model requires the firm's ratios to converge to some target value, not necessarily the industry mean. The model separates the changes in ratios into passive industry-wide effects and active adjustment by management, and it allows for measurement of the speed of the adjustment process. The model also can be estimated using regression techniques, and as a result, the target values need not be specified. In addition, the model is well suited for forecasting future values of the ratios.

The authors test the model using Compustat data on 105 firms in nine industries for a 20-year period. They examine six ratios that measure liquidity, long-term solvency, financial leverage, inventory management, and asset profitability.

The results of the model testing indicate that the speed of convergence toward the target values is highest for the current ratio and the ratio of net operating income to assets. With respect to passive industrywide effects, the authors find that the ratios of inventory turnover and net operating income to sales exhibit the strongest effects. They determine that a substantial amount of financial ratio smoothing is the result of active adjustment by management, with the speed of adjustment varying across firms of different sizes and in different industries. Small firms tend to be more susceptible to external effects than large firms but are able to restore their ratios to desired levels faster than large firms.

Analysts are also interested in forecasting ratios for use in credit evaluation and bankruptcy predictions. Wu and Ho find that their model has a higher degree of predictive ability than a simpler adjustment model developed by Lev (*Journal of Accounting Research*, 1969). The results show that Wu and Ho's model has smaller average forecasting error and standard deviation of forecasting error than Lev's model. The authors conclude that their model is a more suitable framework than the simpler model for describing the behavior of financial ratios.