行政院國家科學委員會專題研究計畫　成果報告

分析師擬制性盈餘之盈餘預測能力及其證券評價攸關性實證研究

計畫類別：個別型計畫
計畫編號：NSC92-2416-H-002-024-
執行期間：92 年 08 月 01 日至 93 年 07 月 31 日
執行單位：國立臺灣大學會計學系暨研究所

計畫主持人：葉疏

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報告類型：精簡報告

處理方式：本計畫可公開查詢

中　華　民　國 93 年 11 月 4 日

分析師擬制性盈餘之盈餘預測能力及其證券評價攸關性實證研究

摘要

本研究運用 Ohlson（1995,1999）評價模式，檢驗依一般公認會計則計算之盈餘（以下簡稱 GAAP）、分析師擬制性盈餘(Analyst Street Earnings，以下簡稱擬制性盈餘)、及營業淨利三種常見盈餘之組成項目之未來異常盈餘預測能力、及其用於企業評價時之差異。本研究按各個產業估計其異常盈餘預測回歸式及其股權價值攸關性回歸式;在回歸式內,異常 GAAP 盈餘和營業外盈餘、異常 GAAP 盈餘和擬制性盈餘剔除項目、及異常營業淨利和營業淨利扣除擬制性盈餘的數字（擬制性盈餘剔除之營業淨利），各有其回歸係數。

研究結果發現，異常營業淨利及異常擬制性盈餘都與未來盈餘預測能力及企業評價攸關。然而，營業外淨利及擬制性盈餘剔除項目與未來盈餘預測能力及企業評價無關。因此，雖然異常營業淨利及異常擬制性盈餘都可用來預測未來獲利及衡量企業之價值,營業外淨利及擬制性盈餘剔除項目卻因為對未來盈餘預測及目前企業評價無攸關性，而應被歸為暫時性盈餘項目。

研究結果亦指出，將營業淨利區分為異常擬制性盈餘及擬制性盈餘剔除項目之作法是有益的，因為，擬制性盈餘剔除之營業淨利餘缺乏預測及評價的攸關性。然而，將擬制性盈餘區分為異常營業淨利及擬制性盈餘剔除營業淨利之作法是無益的。總括而言，分析師對營業淨利增添額外資訊，但是，營業淨利與擬制性盈餘相較，並未含有額外資訊。

關鍵字：分析師擬制性盈餘、盈餘預測、證券評價、Ohlson 評價模型

Implications of Analysts Street Earnings for Future Profit Predictability And Equity Valuation

Abstract

Using the Ohlson (1995, 1999) valuation model, we examine whether there are differences in abnormal earnings forecasting ability and valuation implications of the various earnings components comprising GAAP income, analyst Street earnings numbers, and operating income. We do this by estimating sets of separate industry earnings forecasting and valuation regressions permitting separate coefficients for abnormal GAAP income and non-operating income, for abnormal GAAP income and non-Street earnings, and for abnormal operating earnings and operating income minus analyst Street earnings numbers.

Findings indicate there is benefit to decomposing GAAP income. In particular, abnormal operating earnings and abnormal Street earnings are forecasting and valuation relevant. However, non-operating earnings is essentially forecasting irrelevant and value irrelevant, and non-Street earnings is value irrelevant despite being somewhat forecasting relevant. Thus, although abnormal operating earnings and abnormal Street earnings are essential for forecasting future profitability and hence valuation, non-operating earnings and non-Street earnings behave similarly to transitory earnings components in that the former have little implication for the firm's future earnings potential and current stock valuation, and the latter have little implication for current stock valuation. Reasons for finding that non-Street earnings is forecasting relevant but value irrelevant are discussed.

Findings also indicate there is benefit to decomposing operating earnings into abnormal Street earnings and non-Street operating earnings, in that the non-Street component lacks value relevance, but there is little benefit to decomposing Street earnings into abnormal operating income and non-operating Street earnings. These findings suggest that analysts add information over and above that contained in operating income but operating income possesses no additional information not already contained in analyst Street numbers.

Key Words：Street earnings、earnings forecasting ability、valuation、Ohlson valuation model

Motivation and Purposes

The promulgation of "pro forma" earnings numbers in corporate earnings releases raises a variety of issues relevant to accounting policy makers and accounting researchers. The explanation offered by the companies that produce these "Street" earnings numbers is that they more accurately reflect the firm's true earning power, and there is some empirical support for this argument. Bradshaw and Sloan (2002), Brown and Sivakumar (2001), and Lougee and Marquardt (2002) show that stock prices correspond more closely with Street earnings numbers than with GAAP income.[1] However, many express the concern that managers use the Street numbers to manage investors' perceptions of what the firm's true earnings power is and hence what its stock is really worth.[2] Recent empirical evidence suggests such concerns may be warranted. For example, Burgstahler and Eames (2002) and Matsumoto (1999) provide evidence that firms appear to use Street numbers to meet as well as to manage analysts' earnings forecasts. The notion that GAAP income and pro forma earnings are of a different 'quality' underlies these studies as well as the discussion of pro forma earnings in the popular financial press.[3] The debate can be viewed as whether earnings management-induced biases outweigh the potential for increased informativeness of pro forma earnings (relative to GAAP income) resulting from management's private information regarding the firm's future permanent earnings.

Cornell and Landsman (2003) argue that the information necessary to assess future earnings potential and hence current value cannot be collapsed into one measure that is consistently superior to other measures either over time or across firms. What is important for valuation is that sufficient component financial statement data are available to permit detailed valuation analysis. Their argument suggests that investors will likely find separate disclosures of financial statement information that have different implications for future earnings more informative than any single aggregate earnings number. In this spirit, we exploit the Ohlson (1999) extension of the Ohlson (1995) valuation model to examine whether there are differences in

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[1] Bradshaw and Sloan (2002) and Brown and Sivakumar (2001) use pro forma earnings numbers released by IBES. In contrast, Lougee and Marquardt (2002) uses the pro forma earnings actually released by sample firms, and find that stock prices correspond more closely with pro forma earnings only for firms that provide reconciliations between GAAP income and pro forma earnings. See section 2.1 for more discussion.

[2] See, e.g., Turner (2000) and Business Week (2001).

[3] Throughout we use the terms "earnings" and "income" interchangeably.

abnormal earnings forecasting ability and valuation implications of the various earnings components comprising GAAP income, analyst Street earnings numbers ("Street earnings"), and operating income. In particular, using separate industry estimating equations based on a sample of Compustat firms with available annual data between 1990-2000, we estimate earnings forecasting and valuation equations that permit separate coefficients for abnormal GAAP income and GAAP income minus operating income—hereafter (Compustat) non-operating income. Next we estimate a second set of earnings forecasting and valuation equations that permit separate coefficients for abnormal GAAP income and GAAP income minus analyst Street earnings—hereafter (IBES) non-Street earnings. Finally, we estimate a third set of earnings forecasting and valuation equations that permit separate coefficients for abnormal operating earnings and operating income minus analyst Street earnings numbers.

The advantage of this approach is that it permits differential forecasting and valuation implications for non-operating earnings, non-Street earnings and operating income minus analyst Street earnings in the three sets of estimation equations. In particular, it may be the case that non-operating income and non-Street earnings are not useful in predicting future abnormal earnings and hence would be expected to play no material role in valuation. For example, IBES purports to exclude lower quality earnings components that are less persistent and less value relevant in its determination of Street earnings. Another advantage of this approach is that because the Ohlson model provides a rigorous link between the forecasting and valuation equations, we can determine if the valuation implications for Street earnings are justified by its ability to forecast future profitability. The use of separate industry regressions follows Barth, Beaver, Hand and Landsman (2002), Liu, Nissim and Thomas (2002) and Bhojraj and Lee (2002), and is consistent with Cornell and Landsman's (2003) conclusion that meaningful measures of earnings will likely be contextual and vary by industry.

We also estimate earnings forecasting and valuation equations that examine whether operating and Street earnings have different forecasting and valuation coefficients. We then reverse the roles of operating income and analyst Street earnings, permitting separate earnings forecasting and valuation coefficients for abnormal analyst Street earnings and analyst Street earnings minus operating income.

Research Design and Equations

To examine how the operating and non-operating, Street and non-Street components of earnings relate to equity value, we utilize the linear information system developed in the Ohlson (1999) extension of Ohlson (1995). The linear information system comprises four equations.

$$NI^a_{it} = \omega_{10} + \omega_{11} NI^a_{it-1} + \omega_{12} x_{2it-1} + \omega_{13} BV_{it-1} + \varepsilon_{1it} \quad (1)$$

$$x_{2it} = \omega_{20} + \omega_{22} x_{2it-1} + \omega_{23} BV_{it-1} + \varepsilon_{2it} \quad (2)$$

$$BV_{it} = \omega_{30} + \omega_{33} BV_{it-1} + \varepsilon_{3it} \quad (3)$$

$$MVE_{it} = \alpha_0 + \alpha_1 NI^a_{it} + \alpha_2 x_{2it} + \alpha_3 BV_{it} + u_{it} \quad (4)$$

Equation (1) is the abnormal earnings prediction equation, where abnormal earnings, NI^a_t, is defined in the usual way as earnings, NI_t, less a normal return on equity book value, BV_{t-1}, i.e., $NI_t - rBV_{t-1}$. As in Ohlson (1999) and Barth, Beaver, Hand and Landsman (1999), x_{2t} is modeled as an earnings component of NI^a_t. In the context of comparing operating and non-operating income, and Street and non-Street earnings, x_2 is either non-operating income or non-Street earnings. In equation (1), ω_{11} reflects the persistence of abnormal earnings. Prior research (e.g., Dechow, Hutton, and Sloan, 1999; Barth, Beaver, Hand, and Landsman, 1999, 2002) leads us to predict that ω_{11} is positive.

The coefficient on the earnings component x_2, ω_{12}, reflects the incremental effect on the forecast of abnormal earnings of knowing x_2. If all earnings components have the same ability to forecast abnormal earnings, ω_{12} will equal zero, and thus knowing that component of earnings does not aid in forecasting abnormal earnings. As a result, we test the null hypothesis that $\omega_{12} = 0$ against the alternative that $\omega_{12} \neq 0$. Because x_2 is a component of NI^a_t, the total coefficient on x_2 equals $\omega_{11} + \omega_{12}$.[4] Thus, if $\omega_{11} + \omega_{12} = 0$, x_2 is irrelevant for forecasting abnormal earnings. Ohlson labels this condition abnormal earnings "forecasting irrelevancy." Conversely, if $\omega_{11} + \omega_{12} \neq 0$, then x_2 is said to have abnormal earnings "forecasting relevance." To examine whether non-operating and non-Street earnings are forecasting irrelevant as suggested by company managers and analysts (Bear Stearns

[4] Viewing the total forecasting coefficient as $\omega_{11} + \omega_{12}$ follows the approach adopted by Barth, Beaver, Hand and Landsman [1999, p. 208]. This approach ignores the impact of earnings on equity book value so that forecasting relevance should be interpreted as forecasting relevance in addition to the impact of earnings on book value. The same concept applies to the valuation equation (Ohlson (1999, p. 150) and Barth, Beaver, Hand and Landsman (1999, p. 209)).

(2002)), we test the null hypothesis that $\omega_{11} + \omega_{12} = 0$ against the alternative that $\omega_{11} + \omega_{12} \neq 0$. Note that besides reflecting the persistence of abnormal earnings, ω_{11} reflects the forecasting relevance of the $NI_t^a \tilde{} \; x_{2t}$ component of NI_t^a.

Equation (2) describes the autocorrelation, or persistence, of the earnings component x_2, which Ohlson labels "predictability." Transitory earnings can be characterized as a process in which $\omega_{22} = 0$ and $\omega_{11} + \omega_{12} = 0$. For an earnings component that is not entirely transitory, the higher is ω_{22} the more predictable is the component. Thus, if non-operating and non-Street earnings are entirely transitory, then we predict $\omega_{22} = 0$.

Following Barth, Beaver, Hand, and Landsman (1999), we include Equation (3) to preserve the triangular information structure of the generalized version of Ohlson's (1999) model, but do not report its regression summary statistics.

Equation (4) is the valuation equation based on the information dynamics in equations (1) through (3). α_2 is the valuation multiple on x_2, i.e., non-operating or non-Street earnings. Analogous to the interpretation of ω_{12} in equation (1), α_2 reflects the incremental effect on valuation from knowing x_2. If all earnings components have the same relation with equity value, then α_2 will equal zero, and knowing that component of earnings does not aid in explaining equity value. Thus, we test the null hypothesis that $\alpha_2 = 0$ against the alternative that $\alpha_2 \neq 0$. Also analogous to equation (1), note that the total valuation coefficient on x_2 equals $\alpha_1 + \alpha_2$. Thus, if $\alpha_1 + \alpha_2 = 0$, x_2 is irrelevant for valuation. Ohlson labels this condition "value irrelevance." Conversely, if $\alpha_1 + \alpha_2 \neq 0$, then x_2 is "value relevant." To examine whether non-operating and non-Street earnings are value-irrelevant as suggested by company managers and analysts (Bear Stearns, 2002), we test the null hypothesis that $\alpha_1 + \alpha_2 = 0$ against the alternative that $\alpha_1 + \alpha_2 \neq 0$. Analogous to the interpretation of ω_{11} in equation (1), α_1 reflects the value relevance of the $NI_t^a - x_{2t}$ component of NI_t^a.

We estimate equations (1) through (4) cross-sectionally, industry by industry, which permits the coefficients to reflect systematic variation in economic and accounting environments across industries (Barth, Beaver, Hand, and Landsman, 1999, 2002), and using year fixed-effects. The equations are estimated as a system using Seemingly Unrelated Regressions, permitting residuals to be correlated across equations. Separate industry estimation of all equations also permits the level of conservatism and, at least partially, the cost of capital associated with abnormal earnings to vary by industry. We also report findings from pooled estimations using industry and year fixed-effects. We use the same industry classifications as in Barth, Beaver, Hand, and Landsman (2002). Following Barth, Beaver, Hand, and Landsman (1999; 2002), we estimate all equations using unscaled data (Barth and Kallapur, 1996).[5]

[5] Experimental inferences are unaltered estimating models using per-share data.

Summary and Concluding Remarks

Using the Ohlson (1999) extension of the Ohlson (1995) valuation model, we examine the source of forecasting and valuation differences between three earnings measures: GAAP income, analyst Street earnings, and operating income. We do this by estimating sets of separate industry earnings forecasting and valuation regressions based on a sample of Compustat firms that permit separate coefficients for abnormal GAAP income and non-operating income, for abnormal GAAP income and non-Street earnings, and for abnormal operating income and operating income minus analyst Street earnings.

Findings related to estimations that permit separate earnings forecasting and valuation coefficients for abnormal GAAP income and non-operating earnings indicate that abnormal operating earnings are forecasting and valuation relevant. However, non-operating earnings are essentially forecasting irrelevant and value irrelevant. Thus, although abnormal operating earnings are essential for forecasting future profitability and hence valuation, non-operating earnings behave similarly to transitory earnings components in that it they have little implication for the firm's future earnings potential and current stock valuation. Findings related to estimations permitting separate earnings forecasting and valuation coefficients for abnormal GAAP income and non-Street earnings differ somewhat from those for GAAP and non-operating earnings in that although abnormal Street earnings are forecasting and valuation relevant, non-Street earnings are somewhat forecasting relevant but value irrelevant. Thus, non-Street earnings have little implication for the firm's current stock valuation. We also explore reasons for the apparent inconsistency between finding some forecasting relevance but no value relevance for non-Street earnings. One possible explanation is that non-Street earnings should be value relevant but are not because of market inefficiency. Evidence in Doyle, Lundholm, and Soliman (2003) is consistent with this interpretation.

Findings from tests that permit separate earnings forecasting and valuation coefficients for operating income and Street earnings indicate that there is benefit to decomposing operating earnings into abnormal Street earnings and non-Street operating earnings, in that the non-Street component lacks value relevance. However, there is little benefit to decomposing Street earnings into abnormal operating income and non-operating Street earnings. These findings suggest that analysts add information over and above that contained in operating income but operating income possesses no additional information not already contained in analyst Street numbers.

The collective evidence from tests relating to Street earnings suggests that the adjustments to GAAP income made by analysts in constructing pro forma earnings are informative for purposes of forecasting future abnormal earnings and valuation. To the extent that analysts are guided by corporate pro forma releases, they appear to use the information appropriately when constructing their own pro forma amounts. Moreover, the findings in this study corroborate the argument in Cornell and Landsman (2003) that investors will likely find separate disclosures of financial statement information that have different implications for future earnings more informative than any single aggregate earnings number.

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