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# Market Valuation of Accounting Earnings; Review of Evidence and Methodological Issues

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## ABSTRACT

**Purpose**: The purpose of this paper is to review the evidence pertaining to accounting valuation and accounting earnings. The paper presents evidence so far on how capital markets value accounting information with specific reference to accounting earnings numbers.

**Design/Methodology/Approach**: The specific review of the development of models used in valuation of accounting information is beyond the scope of this study. However, the paper makes a general review of literature on how capital markets value accounting information with specific reference to accounting earnings numbers.

**Findings**: It is evident from literature review that accounting information is related to prices and market value; therefore accounting earnings are related to market returns. However, evidence is provided that accounting earnings consists of different components such as cash flows, non discretionary accruals and discretionary accruals; each with different implications on market valuation.

**Originality/Value**:  This paper is the first review of its kind that focuses specifically on the market valuation of accounting earnings.

**Keywords**: *Accounting valuation, Capital Markets, Earnings*

## 1.  ACCOUNTING VALUATION AND ACCOUNTING EARNINGS

One of the ways in which accounting numbers can be assessed, is to evaluate how they relate to stock returns. Finance theory hypothesizes that, capital markets are efficient, such that market prices always reflect the underlying value of the securities traded. Therefore, accounting numbers should revise the market's beliefs and generate a change in returns in response. But the key issues are, how do we measure the change and how do we know that any observed change is due to the information we have identified and observed (Kothari, 2001).

Dumontier and Raffournier (2002) argue that, in capital markets, accounting figures are aimed at providing investors with relevant information for their investment decisions, such as prediction of future cash flows , assessment of future securities risk and return. Returns earnings association studies do not presume that investors use only accounting numbers in their investment decisions. Instead they argue that if accounting numbers are a good summary measure of events incorporated in security prices, then they are value relevant to the extent that they provide an estimate of value for the firm that is close to that of the market (Dumontier and Raffournier, 2002). Thus, returns earnings association studies test whether and how quickly accounting measures capture changes in the information set that is reflected in security returns over a given period (Kothari, 2001).

The first technique for measuring the market impact of accounting numbers was developed primarily by Ball and Brown (1968). Ball and Brown (1968) were interested in measuring the impact of the information at the time it is disclosed, but also its anticipation in the period up to the announcement date. Ball and Brown (1968) find a significant relationship between earnings announcement and stock returns; that is, they confirm that earnings reflect some of the information in security prices. Since the time of the Ball and Brown (1968) study, returns earnings association has seen considerable interest among accounting researchers (e.g. Beaver et al., 1980; Kormendi and Lipe, 1987; Easton et al., 1992; Beaver et al., 1997 ; Kothari, 2001 etc).

Beaver et al. (1980) develop the idea that the information reflected in prices is richer than that in contemporaneous accounting earnings. They explain the difference between predicted and estimated values of the earnings response coefficient by introducing three interrelated ideas, that is, price lead earnings, a true earnings plus noise model of accounting earnings, and a reverse regression econometric research design.

The common findings in the literature about the earnings response coefficient (ERC) is that the estimated returns–earnings relation is rather weak; that is, only a small portion of price variation has been explained by accounting earnings (Beaver et al., 1979, Lev, 1989; Lev and Zarowin, 1999). Explanations for the weak link between returns earnings relation include the imprecise earnings measurement and value irrelevant components of earnings. Beaver et al. (1979) indicate that managers can manipulate accounting earnings by choosing different accounting methods and this could be one source of the weak link between the returns earnings relation. They suggest

separating the reported earnings into two components; permanent earnings that are value relevant information and transitory earnings that are value irrelevant information.

Moreover, Beaver et al. (1980) also suggest that accounting earnings are sum of 'true earnings' plus a value irrelevant component uncorrelated with stock prices or returns in all periods. However, evidence from Rayburn (1986) and Dechow (1994) shows that the value irrelevant components which Beaver et al. (1980) refer to is an accrual component which is value relevant and informative.

Lipe (1986) argues that reported accounting earnings consists of different components, each with different implications; it is therefore inappropriate to expect the same price reaction to each component of earnings. Lev (1989) states that, "While misspecification of the return earnings relation or the existence of investor irrationality may contribute to the weak association between earnings and stock returns, the possibility that the fault lay with the low quality (information content) of reported earnings looms large". This lack of in formativeness could be due to accounting earnings not being designed to measure value changes alone (Watts and Zimmerman, 1986).

Additionally one of the objectives of financial reporting is the prediction of future investor cash flows or stock returns. Using the earnings returns correlation as a measure, there has been an argument that GAAP is deficient in fulfilling this financial reporting objective. Deficient GAAP is claimed to produce low quality earnings that exhibit only weak correlation with security returns. Thus the primary objective of financial reporting is not a predictor for future investor cash flows or stock returns (Kothari, 2001).

Kothari (2001) argues that the deficient GAAP is another form of prices leading earnings argument. Perhaps the deficient GAAP argument assumes that financial statements are slow to capture information that is reflected in the market therefore the greater correlation of earnings with returns the more desirable the GAAP that produces such accounting numbers.

However, Jindrichovska (2001) argues that, in an efficient and mature market, price changes tend to reflect the revision of the capital markets expectation of future cash flows. Therefore in comparison, accounting earnings have only a limited ability in this respect. However, in an earlier study, Kothari and Sloan (1992) argue that the primary reason for this is the objectivity, verifiability and other conventions that underlie GAAP, limit the ability of accounting earnings to contemporaneously reflect the markets revision of future cash flow expectations. Thus, the change in prices is a response to a much wider set of information so that the response coefficient may be down ward biased.

Kormendi and Lipe (1987), Easton and Zmisjewski (1989) show that the greater the impact of an earnings innovation on the market participants' expectations of future earnings, that is, the more persistent the time series property of earnings, the larger the price change or earnings response coefficients. Easton and Zmisjewski (1989) also show that greater risk implies a larger discount rate, which reduces the discounted present value of the revisions in the expected future earnings, that is, the earnings response coefficient.

Collins and Kothari (1989) find that a firm's ability to earn above normal rates of return on its current or future investment does not contradict capital market efficiency. This is because in an efficient capital market, prices adjust immediately to reflect changing expectations about a firms earnings generating ability such that at any point in time an investor can only expect a normal rate of return on the investment in any stock. So long as current earnings are informative about the firm's growth opportunities, the price change is expected to be large.

Anthony and Ramesh (1992) argue that depending on a firm's stage in its life cycle; financial statement information is differentially informative about a firm's cash flow generating ability such that earnings response coefficients are predictably related to a firm's stage in its life cycle.

Watts (1992) observes that earnings response coefficient determinants do not control for differences in accounting earnings ability to proxy for current and future cash flows and differences in accounting methods. This raises a possibility of a correlated omitted variables problem, an argument similar to the findings of the study of Salamon and Kopel (1991).

Easton et al. (1992) argues that temporal aggregation of earnings is a key to a strong relation between returns and earnings. Similarly, an association between earnings and returns is stronger as the aggregation interval is lengthened (Kothari and Sloan, 1992; Dechow, 1994). However, Donnelly and Walker (1995)[1] show that the extent to which prices anticipate earnings in the UK is less compared to that reported by Kothari and Sloan (1992) for US sample. Suggesting the differences may be due to the informational environment or due to difference in the UK and US application of the generally accepted accounting principles.

In modelling the returns earnings relationship, Easton and Harris (1991), argue that book value of equity is

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[1]  Donnely and Walker (1995) investigate the extent to which share prices anticipate future earnings changes by estimating earnings response coefficients on sample of UK companies.

noisy proxy for the market value of equity and assuming clean surplus, they argue that earnings measures change in the market value of equity. They argue that earnings deflated by price should be used in addition to earnings change deflated by price in explaining earnings.

Kothari (1992) and Ohlson and Shroff (1992) offer alternative, earnings expectations based motivation for using earnings deflated by price to explain stock returns in a return earnings association. Ohlson (1991) and Ohlson and Shroff (1992) and Kothari (1992) show that, because price embeds expectations about future performance, it serves not only as deflator with economic benefits but it in effect correlates returns with the unexpected component of the performance.

Ohlson (1995) introduces modelling residual income, instead of total income or changes in income as an autoregressive process. The model assumes a linear relation exists between value (price) and accounting variables such as, earnings, book values and dividends.

The Ohlson (1995) model is said to better capture the intuitive economic effects of product market competition. Dechow et al. (1999) report evidence that supports the economic modelling of residual income. However, Dechow et al. (1999) argue that economic modelling of residual income is only able to achieve modest improvements in explanatory power compared to earnings capitalization model and dividend discounting models.

Other studies, Biddle et al. (1997), Vincent (1999), Dhaliwal et al. (1999), Fields et al. 1998) have examined new performance measures, that is, comprehensive income compared to primary earnings per share. Evidence from these studies suggests that performance measures that have evolved voluntarily in an unregulated environment are more likely to be incrementally informative than those mandated by regulation.

Moreover, Kothari and Zimmerman (1995) argue that the correlation of the entire performance measure that is earnings (comprehensive income) with prices is indeed important because current price contains information in the surprise as well as the anticipated components of the performance measure.

Financial accounting information should be useful in assessing the amount, timing, and uncertainty of future cash flows; by comparing performance measures on the basis of their correlation with future cash flows (Kothari, 2001)[2]. Kothari (2001) argues that the benefit of using price is that it contains information about expected future cash flows in an efficient market; which means the vector of

expected future cash flows is collapsed into single number price. Kothari (2001) argues that in an efficient market price changes instantaneously incorporate the present value of the revisions in the market's expectations of future net cash flows. In contrast, because of the revenue realization and the expense matching principles that are fundamental to the earnings determination process, accounting earnings incorporate the information reflected in the price changes systematically with a lag. Kothari (2001) also argues that Beaver et al.'s (1980) findings suggest that prices lead earnings[3] which means the information set in price changes is richer than that in accounting earnings.

Some studies attempts to improve on the earnings association by breaking down reported earnings into different components like, extraordinary vs. ordinary earnings, nondiscretionary vs. discretionary accruals (Subramanyam and Wild, 1996), and looking at different financial statement item lines (Ohlson and Penman, 1992; Barth, Beaver and Landsman, 1992). Sloan (1996) finds that stocks with high accruals, subsequently have lower returns and underperform stocks with lower accruals. A possible explanation for this is the association of accruals with earnings management or the fixation of investors on headline earnings.

However, Kothari (2001) argues that regardless of whether accruals are informative or are of low quality, it seems unlikely that earnings without accruals would be true income. He further argues that there is no intuition to suggest that an earnings measurement process that emphasizes a transaction based approach would generate "true income", which means earnings that capture all of the information that is in economic income, that is, the change in equity market capitalization.

Prior studies have also broken down earnings into permanent and transitory components. Evidence is provided that the weak earnings returns response coefficients is because of earnings that are transitory; which means that earnings change is expected to be non permanent, which is a departure from the random walk assumption (Luberrink, 2000). There is evidence from the literature of smaller earnings response coefficients on transitory earnings as proxy for by non recurring items reported in financial statements (Hayn, 1995, Ramakrisshnan and Thomas, 1998). The argument is that, markets do not expect extreme negative or positive earnings changes to be permanent, so stock price adjustment will always be smaller implying a non linear relation between stock returns and accounting earnings.

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[2] Other studies that have examined the earnings correlation with future cash flows include Finger, (1994), Dechow et al., (1999) and Barth et al., (1999).

[3] The argument that stock prices lead earnings has been empirically tested by Collins et al.,(1987),Kothari (1992),Kothari and Sloan (1992) , Donnelly and Walker (1995) Kothari and Zimmerman(1995) and Kothari (2001) etc .

Hayn (1995) finds that losses are not useful in predicting future earnings and so attenuate the returns earnings relation. This is because losses are not expected to continue indefinitely, since shareholders have the liquidation option. She argues that by excluding loss observations from the sample, the relation between returns and earnings becomes much stronger. This argument has been supported by Martikainen et al. (1997) and Kallunki and Martikainen (1997).

Easton et al. (2000) argues that differences in earnings response coefficients are associated with the degree in permanence of earnings and the accounting recording lag. They argue that the failure to recognize the impact of both factors may lead to wrong inferences. For example, since accounting recording lag is the cause of prices leading earnings, it can be inferred that a low earnings response coefficient may reflect either transitory earnings with high value relevance and or a great effect of prices leading earnings that is, low value relevance.

The argument of Easton et al.(2000) above is supported by Lubberink (2000) who argues that low earnings response coefficients are often interpreted as a result of low quality financial statements, while low earnings response coefficient can be the result of investors anticipation (of earnings) that is not correctly captured by the association model. However, Lubberink (2000) observes that isolating the two effects empirically is very difficult.

Balsam, Bartov and Marquadt (2002) suggest that investors reassess reported earnings figures using financial statement information and that this reassessment is associated with substantial stock price change. While Francis, LaFond, Olsson and Schipper (2005), argue that, investors price securities in a manner that reflects their awareness of accruals quality: lower quality of accruals is associated with smaller price multiples and with larger equity betas. Moreover accruals quality loads as a separate factor in explaining variation in excess returns.

Ohlson (1995) and Feltham and Ohlson (1995) have also stimulated plenty of research on equity valuation using the price models. Studies that use price earning models to measure the association between share prices and earnings, for instance Collins, Pincus and Xie (1999), show that price earnings association (value relevance) shifts from earnings to book values especially when earnings are negative or as firms face financial distress. Collins et al. (1999) also show that when the book value of equity is included in the price earnings relation, the coefficient on earnings for loss firms is significantly positive overall. They document evidence that shows that simple earnings capitalization model is misspecified due to omission of book value of equity. They demonstrate that this omission induces a negative bias in the coefficient on earnings for loss firms and positive bias in the coefficient on earnings for profit firms.

Moreover, Collins et al. (1999) also show that the price earnings relation is not homogenous across profit and loss firms even using a model that includes earnings and book values of equity. In particular Collins et al. (1999) findings show that the coefficient on earnings is significantly larger for profit firms compared to loss firms; which is consistent with Hayn's (1995) results that the market regards losses as being transitory. However, Collins et al. (1999) arguments are inconsistent with the findings of Kothari and Zimmerman (1995) that the coefficient on earnings in the simple capitalization model is unbiased.

## 2. THE USE OF THE RETURNS AND PRICE MODELS IN ACCOUNTING VALUATION OF EARNINGS

In the previous section is presented the empirical evidence of the relation between security market values or changes in values and accounting numbers or information in order to assess the validity of accounting numbers. As noted in the previous section, primarily two approaches are used in the valuation of earnings. These are the returns model and the price model. Both of these models have a theoretical basis in the linear information model by Ohlson (1995).

The Ohlson (1995) residual income valuation model conceptualizes how value relates to the three accounting variables, that is, earnings, book values and dividends. The theory rests directly on the clean surplus relation[4] and the feature that dividends reduce book values but leave current earnings unaffected and it comprises of three basic assumptions;

- Security valuation: the present value of expected dividends determines the market value;
- Equity accounting: accounting data and dividends satisfy the clean surplus relation and dividends reduce current book value but do not affect current earnings; and
- A linear model frames the stochastic time series behaviour of abnormal earnings[5].

Both the price and return models begin with standard valuation model in which price is the discounted present value of expected net cash flows. Both models also rely on the premise that current earnings contain information about expected future cash flows (Watts and Zimmerman, 1986; Kormedi and Lipe, 1987; Ohlson, 1991, and Ohslon, 1995, Kothari and Zimmerman, 1995).

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[4] Clean surplus relation implies that all changes in assets and liabilities unrelated to dividends must pass through the statement of comprehensive income.

[5] Abnormal earnings is defined as current earnings minus the risk free rate times the beginning of period book value, that is, earnings minus the charge for the use of capital.

Given that the market's expectations of future cash flows are unobservable, empirical specifications of price-earnings often use current earnings as proxy for the market's expectations (Kothari and Zimmerman, 1995).

The price model is the theoretical foundation for many studies of the relation between share price, book value of equity and earnings. The regression is typically run on per share basis and based on Ohlson (1995) the price model[6] is specified thus,

$$P_t = \beta_0 + \beta_1 E_t + \beta_2 BV_{t-1} + \varepsilon_t$$

Where,

$P_t$ = Price per share
$E_t$ = current year's earnings per share
$BV_{t-1}$ = Beginning book value of equity for the year per share

The returns model is stated thus,
$$R_t = \beta_0 + \beta_1 E_t + \varepsilon_t$$

Where,

$$R_t = \frac{\{(P_t - P_{t-1}) + d_t\}}{P_{t-1}}$$ , represents the abnormal share return

Earnings (E) are normally scaled by total assets or market value at the beginning of the year (Beisland, 2009).

The review of existing evidence suggests that the returns model and the price model differ in the following ways. The returns model reflects both earnings surprise and change in the expectation of future earnings as a fraction of initial price; while the price model reflects only the expected future earnings (Ye, 2009).

Studies that have used both price model and returns model on the same sample have reported inconsistent and rather confusing results. These inconsistencies are associated with the poor econometric properties of these models, that is, scale effect and their estimation of value relevance as measured by the earnings response coefficients and adjusted R-square.

Harris, Lang and Moller (1994) compare the value relevance of accounting data for the US and the German firms. They report that the $R^2$ for German firms (7%) using the returns model is comparable to that of U.S firms (7%).

However, the $R^2$ obtained for German firms (14%) using the price model is less than half that for the U.S firms (34%). Similarly, Francis and Schipper (1999) with U.S firms, Lev and Zarowin (1999) with the U.S firms and Ota (2001) with the Japanese firms report significant differences in the $R^2$ for return models and the price models. In these studies the price models exhibited larger $R^2$ compared to the returns models. Ota (2001) observes that these findings give the impression that accounting data is useful in equity valuation (using price models) and accounting information is of less value to the stock market ( using returns model).

However, Kothari and Shanken (2003) argue that, it is meaningless to compare R square across different data sets, such as data from different years or different countries. They argue that a data set for homogenous firms with high quality accounting may produce a much lower R square compared to a data set in which accounting is of low quality but firms are heterogeneous.

In order to make a correction to the econometric properties of R square, Brown et al. (1999) suggests adjusting for the variance of the regression variables. While Chang (1998) suggests the use of the mean squares of logarithm ratio of predicted price to price. And Gu (2001)[7] suggests using error variance. In addition, Chang (1998) argues that R square is unrealistic and difficult to interpret due to heteroscedasticity. Brown et al. (1999)[8] and Gu (2001) argue that, the problem is due to scaling not heteroscedasticity and that R squares are sensitive to the scaling of variables.

Ye (2009), suggests that, the price model needs adjustment for scaling variable as firms differ in size. He argues that firm size is correlated with many variables, omitting the size variable in regression analysis may lead to serious bias in model estimation. In addition, size causes heteroscedasticity[9] in the model, which reduces the accuracy of the parameter estimation. There is no consensus in accounting literature on the best measure of size (scaling factor). The frequently used variables include book value of equity, market value of equity, total assets, lagged share price and number of shares issued.

Brown et al. (1999) suggests the use of lagged share price in price models. Barth and Clinch (1999) argue

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[6] It's not the intention of this study to derive the price and returns model. The expressions in this study are only indicative otherwise see Olhson (1995), Ota (2001) for the detailed derivation of the price model and returns model.

[7] Gu (2001) maintains that $R^2$ is a descriptive measure specific to sample and criticises the use of $R^2$ as metric to assess the value relevance of accounting data across different samples. He suggests the use of residual variance as an alternative measure of value relevance.
[8] Brown et al. (1999) replicated the study of Collins et al. (1999) after controlling for scale effects; they find that the value relevance of accounting data has declined over time. They attribute this to an increase in the scale effect having more than offset a decline in the explanatory power of accounting data.
[9] Ye (2009) argue that heteroscedasticity    consistent methods such as the White (1980) standard error method do not improve the estimates themselves.

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that the number of shares outstanding can be a proxy for scale. However, Easton (1998)[10] argues against using the number of shares, since a firm arbitrarily determines the number of shares it issues. Meanwhile, Barth and Kallapar (1996) advocate for the use of unscaled estimation of the price models. Easton and Sommers (2003)[11] argue that the best measure of scale is the market capitalization (market value of equity). The use of other accounting data is fundamentally inferior.

In contrast some studies suggest that, in order to mitigate the problems posed by potential scale effects, all explanatory variables in price models should be deflated by lagged share price for the period as proposed by Christie (1987), Easton (1998) and Brown et al. (1999) which approach has been recently applied in the study of Callao and Jarne (2010)[12]. However, this approach converts the price model into returns model. Therefore the researcher losses the very essence of the use of price model in equity valuation.

Because of the possible weaknesses in the price model and returns models, Kothari and Zimmerman (1995) and Ota (2001) advice that, the most appropriate action is to use both the price and the return models on the same sample. However, Ota (2001) warns of the risk of obtaining inconsistent and confusing empirical results.

Finally, Beisland (2009) argues that the research question is decisive in the choice of the use of price models or the returns models. Beisland (2009) argues that if the intention of the study is to evaluate the pricing of equity and other balance sheet items, the price models becomes the choice. However, if the study has change oriented approach, in which value creation is the main focus, or how value relevance is affected by new accounting standards, regulatory frameworks such corporate governance, a return regression is appropriate.

## 3. CONCLUSION

There is evidence in accounting literature of the relation between security market values or changes in values and accounting numbers or information such as earnings. Primarily two approaches are used in the valuation of accounting numbers such as earnings. These are the returns model and the price models. However, there is still debate on which models provides a better measure and

validity of the earnings return coefficient. While some prior studies have indicated that the price model reports earnings response coefficients which are less biased compared to returns models. Others show that the Price models are associated with poor econometric properties and endogeneity problems. Price models are always subject to rejection of tests of heteroscedasticity and model misspecification than return models. In addition the returns model is a basis of most value relevance studies and the success of the returns model in examining the incremental information of accounting, the timeliness of earnings and market efficiency, is vital and meets the expectations of the market (Beaver, 1998).

## REFERENCES

[1]   Anthony, J. and Ramesh, K. (1992), "Association between accounting performance measures and stock prices: A test of the life cycle hypothesis", Journal of Accounting and Economics, Vol.15, pp 203-227.

[2]   Ball, R. and Brown, P. (1968), "An empirical evaluation of accounting income numbers", Journal of Accounting Research, Vol. 6, No. 2, pp 159-178.

[3]   Balsam, S., Bartov, E., and Marquardt, C. (2002), "Accruals management, investor sophistication, and equity valuation: Evidence from 10-Q filings", Journal of Accounting Research, Vol. 40 No. 4.

[4]   Barth, M., Beaver, W., and Landsman, W. (1992), "The market valuation implications net periodic pension cost components", Journal of Accounting and Economics, Vol.15, pp 27-62.

[5]   Barth, M.E.and Clinch, G. (1998), "Revalued financial, tangible, and intangible assets: Associations with share prices and non market-based estimates", Journal of Accounting Research, Vol. 36, pp 199-233.

[6]   Barth, ME. and Kallapur, S. (1996), "The Effects of Cross–Sectional Scale Differences on Regression Results in Empirical Accounting Research", Contemporary Accounting Research, Vol.13., pp 527–567.

[7]   Barth, M., Landsman, W.R., and Lang, M. (2008), "International accounting standards quality", Journal of Accounting Research, Vol. 46, pp 467-498.

[8]   Bartov, E., S.R., Goldberg, and Kim.M.S. (2005), "Comparative value relevance among German, US and International accounting standards: German stock market perspective", Journal of Accounting, Auditing and Finance, Vol. 20, No.2, pp 95-119.

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[10] Easton (1998) argues that the statistical associations between stock price and book value per share and any other explanatory variables measured at levels may simply be a spurious effect of scale. To prove his point using U.S sample data, he deflated both sides of the price model to remove the scale effect on book value per share, and earnings per share, and found statistically significant coefficient estimates

[11]   See Easton and Sommers(2003) for detailed examination of market capitalisation

[12] Callao and Jarne (2010) used this approach in their study examining country factors and value relevance of discretionary accruals in the European Union.

[9] Beasley. (1996), "An empirical analysis of the relation between the board of director composition and the financial statement fraud", The Accounting Review, Vol.71.No.4, pp 443-465.

[10] Beattie, V., Good acre, A., and Thompson, S. (2006), "International lease-accounting reform and economic consequences: The views of U.K. users and preparers", The International Journal of Accounting, No. 41, pp 75-103.

[11] Beatty, A. and Harris, D.G. (1998), "The effect of taxes, agency costs and information asymmetry on earnings management. A comparison of public and private firms". A Review of Accounting Studies, Vol. 3, pp 299-326.

[12] Beaver, W., Clarke, R., and Wright, F. (1979), "The association between unsystematic security returns and the magnitude of earnings forecast errors", Journal of Accounting Research, Vol.17, pp 316-340.

[13] Beaver, W.H., and McNichols, M.F. (1998), "The characteristics and valuation of loss reserves of property casualty insurers", Review of Accounting Studies, Vol 3 No. 1and 2, pp 73-95.

[14] Beaver, W., Lambert, R., and Morse, D. (1980), "The information content of security prices", Journal of Accounting and Economics, pp 3-28.

[15] Beaver, W., McAnally, M., and Stinson, C. (1997), "The information content of earnings and prices: A simultaneous approach", Journal of Accounting and Economics, Vol.23, pp 53-81.

[16] Beisland.L.A. (2009), "A review of the value relevance literature", The Open Business Journal, Vol.2, pp 7-27.

[17] Cai.L, Rahman, A., and Courtenay. (2008), "The effects of IFRS and its enforcement on earnings management: An International Comparison",SSRN working paper.

[18] Callao, S. and Jarne, J.I. (2010), "Country factors and value relevance of discretionary accruals in European Union", SSRN working paper.

[19] Chang, J. (1998), The decline in value relevance of earnings and book values. Working paper

[20] Christie, A.,(1987). On cross –sectional analysis in accounting research, Journal of Accounting and Economics, Vol. 9,pp 231-258.

[21] Collins, D., Kothari, S., and Rayburn, J. (1987), "Firm size and the information content of prices with respect to earnings, Journal of Accounting and Economics", Vol. 9, pp 111-138.

[22] Collins, D., Pincus, M., and Xie, H. (1999), "Equity valuation and negative earnings: the role of book value of equity", The Accounting Review, Vol. 74, pp 29-61.

[23] DeAngelo, H., DeAngelo L., and. Skinner, D.J. (1994), "Accounting Choice in Troubled Companies", Journal of Accounting and Economics, Vol. 17, No.1&2,113.

[24] Dechow, P. (1994), "Accounting earnings and cash flows as measures of firm performance: the role of accounting accruals", Journal of Accounting and Economics, Vol. 18, pp 3-42.

[25] Dechow, P., Hutton, A., and Sloan, R. (1999), "An empirical assessment of the residual income valuation model", Journal of Accounting and Economics, Vol. 26, pp 1-34.

[26] Dhaliwal, D., Subramanyam, K., and Trezevant, R. (1999), "Is comprehensive income superior to net income as a measure of performance"? Journal of Accounting and Economics, Vol. 26, pp 43-67.

[27] Donnelly, R. and Walker, M. (1995), "Share price anticipation of earnings and the effect of earnings persistence and firm size", Journal of Accounting and Economics, Vol. 22, pp 5-18.

[28] Dumontier, P., and Raffournier, B. (2002), "Accounting and capital markets: A survey of the European evidence", The European Review, Vol. 11, pp 199-151.

[29] Easton, P.D. (1998), "Discussion of Revalued Financial, Tangible, and Intangible Assets: Association with Share Prices and Non-Market-Based Value Estimates", Journal of Accounting Research, Vol.36, pp. 235-247.

[30] Easton, P.D., and Harris, T. (1991), "Earnings as an explanatory variable for returns", Journal of Accounting Research, Vol. 29, pp 19-36.

[31] Easton, P.D., Harris, T., and Ohlson, J. (1992), "Aggregate accounting earnings can explain most security returns: The case of long event windows", Journal of Accounting and Economics, Vol. 15, pp 119-141.

[32] Easton, P.D., Shroff, P. and Taylor, G. (2000), "Permanent and transitory earnings, accounting recording lag, and the earnings coefficient", Review of Accounting Studies, Vol. 5, pp 281-300.

[33] Easton, P.D., and Sommers, G.A. (2003), "Scale and scale effect in market based accounting research", Journal of Business Finance and Accounting, Vol. 30, No. 1&2.

[34] Easton, P., and Zmisjewski, M. (1989), "Crossectional variation in the stock market response to accounting earnings announcements", Journal of Accounting and Economics, Vol. 2, pp 117-1.

[35] Feltham, G. and Ohlson, J. (1995), "Valuation and clean surplus accounting for operating and financial activities", Contemporary Accounting Research, Vol.11 (2), pp 689-731.

[36] Fields, T., Rangan, S., and Thiagarajan, R. (1998), "An empirical evaluation of usefulness of non GAAP accounting measures in the real estate investment trust industry", Review of Accounting Studies, Vol. 3, pp 103-130.

[37] Finger, C. (1994), "The ability of earnings to predict future earnings and cash flow", Journal of Accounting Research", Vol. 32, pp 210-223.

[38] Francis,J.,LaFond,R.,Olsson,P.,and Schipper,K.(2005), "The market pricing of accruals quality", Journal of Accounting and Economics, Vol. 39, pp 295-327.

[39] Francis, J., Schipper, K., and Vincent.L. (2005), "Earnings and dividend in formativeness when cash flow rights are separated from voting rights", Journal of Accounting and Economics, Vol. 39, pp 329-360.

[40] Gu, Z. (2001), "Scale factor and R2: Further analysis", working paper, Carnegie Mellon University.

[41] Gu, Z. (2001). "It's time to stop comparing R2s across samples: Additional evidence on value relevance changes over time", working paper, Carnegie Mellon University.

[42] Harris, T.S., Lang.M., and Moller,H.P.(1994). "The value relevance of German Accounting Measures: An empirical analysis", Journal of Accounting research, Vol. 32, 187-209.

[43] Hayn, C. (1995), "The information content of losses", Journal of Accounting and Economics, Vol.20, pp 125-153.

[44] Jindrichovska, I. (2001), "The relationship between accounting numbers and returns: Some empirical evidence from the emerging market of the Czech Republic", SSRN working paper.

[45] Kallunki, J.P. and Martikainen, T. (1997), "The lead-lag structure of stock returns and accounting earnings: implications to the returns-earnings relation in Finland", International Review of Financial Analysis, Vol. 6, No. 1, pp 37-47.

[46] Kormendi, R., and Lipe, R. (1987), "Earnings innovations, earnings persistence and stock Returns", The Journal of Business, Vol. 60, No.3, pp 323-345.

[47] Kothari, S. (1992), "Price earnings regressions in the presence of prices leading earnings level versus change specifications and alternative deflators", Journal of Accounting and Economics, Vol. 15, pp173-302.

[48] Kothari, S. (2001), "Capital markets research in accounting", Journal of Accounting and Economics, Vol. 31, No. 1-3,pp 105-232.

[49] Kothari, S.,and Shanken, J., (2004), "Asset Allocation with Inflation-Protected Bonds", Financial Analysts Journal ,Vol.60, pp 54-70.

[50] Kothari, S., and Sloan, R. (1992), "Information in prices about future earnings implications for earnings response coefficient", Journal of Accounting and Economics, Vol. 15, pp 143-172.

[51] Kothari, S., and Zimmerman, J. (1995), "Price returns models", Journal of Accounting and Economics, Vol. 20, pp155-192.

[52] Lev, B. (1989), "On the usefulness of earnings and earnings research: Lessons and directions from two decades of empirical research", Journal of Accounting Research, Vol.27, pp 153-201.

[53] Lev, B., and Zarowin, P. (1999), "The boundaries of financial reporting and how to extend them", Journal of Accounting Research, vol. 37, pp 353-385.

[54] Lipe, R. (1986), "The information contained in the components of earnings", Journal of Accounting Research, Vol.24, 37-64.

[55] Lubberink, M. J. P. (2000), "Financial Statement Information: The impact of investors and managers", University of Groningen.

[56] Martikanen, M. (1993), "Stock returns and classification pattern of firm-specific financial

variables", Empirical evidence with Finnish data", Journal of Business Finance and Accounting, Vol. 20, pp 537-557.

[57] Martikainen, T., Kallunki, J. and Perttunen, J. (1997), "Finnish earnings response coefficients: The information content of losses", The European Accounting Review, Vol. 6, No.1, pp 69-81.

[58] Ohlson,J.(1991), "The theory of value and earnings and an introduction to the ball brown analysis, "Contemporary Accounting Research", Vol. 11,pp 661-687.

[59] Ohlson, J. (1995), "Earnings, book values, and dividends in equity valuation", Contemporary Accounting Research, Vol. 11, pp 661-687.

[60] Ohlson, J., and Penman, S. (1992), "Disaggregated accounting data as an explanatory variable for returns", Journal of Accounting, Auditing and Finance, Vol. 7, pp 553-573.

[61] Ohlson, J., and Shroff, P. (1992), "Changes versus levels in earnings as explanatory variables for returns. Some theoretical considerations", Journal of Accounting Research, Vol.30, pp 210-226.

[62] Ota, K. (2001), "The impact of valuation models on the value relevance studies in Accounting: A review of theory and evidence", Australian National University. SSRN working paper series.

[63] Ramakrissnan, R., and Thomas, R. (1998), "Valuation of permanent transitory and price irrelevant components of reported earnings", Journal of Accounting, Auditing and Finance, V ol. 13.

[64] Rayburn, J. (1986), "The association of operating cash flow and accruals with security returns", Journal of Accounting Research,Vol. 24 (Supplement), pp 112-133.

[65] Sloan, R.G. (1996), "Do stock prices fully reflect information in accruals and cash flows about future earnings"? The Accounting Review, Vol. 7. No 3, pp 289-315.

[66] Subramanyam, K. (1996), "The pricing of discretionary accruals", Journal of Accounting and Economics, pp 249-281.

[67] Subramanyam, K. and Wild, J. (1996), "Going concern status, earnings persistence and the in formativeness of earnings", Contemporary Accounting Research, Vol.13, No.1, pp 251-274.

[68] Vincent, L. (1999), "The information content of funds from operations (FFO) for real estate investment trusts (REITs)", Journal of Accounting and Economics, Vol. 26, pp 69-104.

[69] Watts, R. (1992), "Accounting choice theory and market based research in accounting", British Accounting Review, Vol. 53, pp 273-305.

[70] Watts, R., and Zimmerman, J. (1986), "Positive accounting theory", Englewood cliffs, Prentice Hall Inc.

[71] White, H (1980), "Econometrica", Vol.48, Issue 4, pp 817-838.

[72] Ye, J. F. (2009), "Management motivation, accounting policy choice, earnings management— The empirical research on financial asset classification of the listed company what based on the new accounting rule", Accounting Research, VOL.3, pp 25-33.

[73] Brown, S. K., Lo, and Lys.T. (1999), "Use of R2 in accounting research: measuring changes in value relevance over the last four decades", Journal of Accounting and Economics,Vol. 28,pp 83-115.