

A Review on Capital Market Research

Yeo-Hwan Kim*

ABSTRACT

The purpose of this study reviews research on the relation between capital market and accounting information. This is a broad area of research that originated with the seminal work of Ball and Brown (1968). Capital market research relevant to the thesis is reviewed in empirical evidence from the US, based on the issues addressed in three main periods: (i) an initial phase (1968-1980) concentrating on the usefulness of financial statement disclosures to the stock market; (ii) a second phase when the focus was on the 'post earnings announcement drift' (1981-1987); (iii) a third phase (1990 – present date).

Key words : Capital Market; Accounting Information

* Assistant Professor of Accounting, Dankook University

I. Introduction

This thesis is to review research on the reaction of share prices to the release of accounting information. This is a broad area of research that originated with the seminal work of Ball and Brown (1968). The published literature on the topic of Capital Market Research (CMR) and related areas such as market reaction studies is extensive and rapidly expanding. There are good, comprehensive and contemporary reviews of much that is relevant here elsewhere (e.g. see Kothari, 2001). Consequently, this review is selective, summative and focuses on the issues mentioned in the introduction. In particular the review concentrates almost exclusively on empirical evidence from the US.

The next section discusses the findings of prior studies on capital market research in a historical setting, based on the main issues addressed in each of three time periods. The early capital market research of the late 1960s is described in section III. Section IV presents capital market research of the 1980s and a third phase is discussed in section V. A short conclusion is contained in Section VI.

II. Historical development of Capital Market Research

Capital market research relevant to the thesis is reviewed in this section, based on the issues addressed in three main periods: (i) an initial phase (1968-1980) concentrating on the usefulness of financial statement disclosures to the stock market; (ii) a second phase when the focus was on the 'post earnings announcement drift' (1981-1987); (iii) a third phase (1990 – present date) characterized by investigations into the determinants of the behaviour of the ERC and attempts to improve model validity and reliability. Table 1.1 provides a brief summary of these studies.

<Table 1>

Historical account of issues in Capital Market Research

Period	Main Issues	Related Studies
Initial Phase	Usefulness of Accounting Information <ul style="list-style-type: none">• homogeneous across firms	Ball & Brown(1968) Beaver, Clarke & Wright (1979)
Second Phase	Post-Earnings-Announcement Drift Firm Characteristics(cross-sectional) <ul style="list-style-type: none">• Firm Size• Earnings Predictability• Information Environment	Atiase(1985) Pincus(1983) McNicholes & Manegold (1983)
Late 1980s - Present	ERC Determinants <ul style="list-style-type: none">• Default Risk• Beta• Growth• Earnings Persistence• Risk-free Interest Rate Improvement of Explanatory power (R²) <ul style="list-style-type: none">• Nonlinear Functional Form• Non-Earnings Measures (e.g. Cash Flow)• Alternative Proxies for UE	Dhaliwal, Lee & Fargher(1991) Dhaliwal & Reynolds (1994) Core and Schrand (1999) Collins & Kothari (1989) Kormendi & Lipe (1987) Ohlson (1989,1995) Ahmed (1994) Hodgson & Clark (1999) Bartov & Lynn Ronen (1999)

III. Initial Phase (Early Capital Market Research)

Following the seminal work of Ball and Brown (1968), numerous studies addressed the question of whether accounting earnings possesses information content by examining the contemporaneous relation between publicly reported accounting information and the consequences of the use of this information by equity investors.

This research became known as “capital market research” , obtaining its impetus from major developments in the theory of finance. These were portfolio selection theory, the capital asset pricing model (CAPM) and the efficient market hypothesis (EMH) (Lev and Ohlson,1982).

Ball and Brown (1968) provided some of the first systematic evidence regarding the extent of the association between unexpected earnings and residual returns. Beaver (1972), extended the Ball-Brown methodology to incorporate the size (as opposed to the sign) of unexpected earnings, finding that the most extreme portfolios, containing stocks of firms with the largest positive and largest negative unexpected earnings, had higher absolute residual returns than portfolios formed of firms whose unexpected earnings were moderate in size.

Similar findings were reported by Patell (1976) using managements’ earnings forecasts. Thus, both the magnitude and sign of unexpected earnings were found to contribute to the statistical association between earnings and returns. In a similar vein, Beaver, Clarke and Wright (1979) reported that the ranking of 25 NYSE portfolios on the basis of percentage change in unexpected EPS, was highly correlated with the ranking of portfolios on the basis of residual stock returns.

The Ball-Brown methodology has been used in numerous related contexts, such as quarterly earnings reports (e.g., Brown and Kennelly (1972); Forster (1977a)), and non-NYSE stocks (e.g., Forster (1975) on over-the-counter(OTC) insurance companies; Brown (1970) on the Australian stock market; Firth (1976) on British stocks; and Deakin, Norwood and Smith (1974) on the Tokyo exchange). All confirmed the existence of a statistically significant association between unexpected earnings and abnormal stock returns.

The majority of studies in this period were based upon the pooled data of many firms and regardless of the perspective used and assumed that the returns-earnings relation was homogeneous across firms (Collins and Kothari,1989).

IV. Second Phase

In the 1980s, empirical research on the contemporaneous earnings-returns relation provided two major findings. One line of research introduced firm characteristics to explain cross-sectional differences in the earnings-returns relation with firm size (Atiase, 1985, and Freeman, 1987) and earnings-release timing (Kross and Schroeder (1988). Firm size studies in this context go back to Grant (1980), and Atiase (1985) who examined differential return volatility between large and small firms. They attributed the differences to the differential information environment existing in large and small firms. Similar findings were noted by Freeman (1987), and Collins *et al* (1987). They found evidence of a price reaction to earnings for small firms, but not for large firms.

Another line of research found that the information in current earnings appears not to be fully impounded as earnings are announced but that price responds to earnings announcements with a lag. This phenomenon was referred to as the 'post-earnings-announcement drift' by Foster *et al* (1984).

Foster *et al* attempted to discriminate between two alternative explanations for post-earnings-announcement drift: a failure to adjust abnormal returns fully for risk and a delay in the response to earnings reports. They concluded that much of the evidence could not plausibly be reconciled with arguments built on risk mis-measurement but was consistent with a delayed price response.

A more specific question (also raised by Freeman and Tse, 1989) was why the market would appear to react with surprise to earnings information that is predictable, based on earnings for the prior quarter. A similar matter was investigated by Ou and Penman (1989) who concluded that market prices fail to reflect detailed financial statement information that is useful in predicting future earnings reversals.

Although the studies in this phase of CMR contributed to our understanding of the differences in the earnings-returns relation across firms, they were not in

general based on a theoretical formulation of the earnings-returns relation (Cho and Jung,1991).

V. Third Phase

Interest in the ERC as a topic of research is most clearly traced to the market reaction literature. The term 'ERC' has been use in some research to describe the coefficient on the earnings variable in regressions of returns on earnings (e.g. Penman, 1992) but, as mentioned in the introductory chapter, is now more commonly used to describe the coefficient from the regression of abnormal stock return on unexpected earnings (e.g. see Collins and Kothari, 1989; Easton and Zmijeski, 1989). The sensitivity of a security's return to new information in earnings is thus normally represented by the coefficient on an unexpected earnings variable.

Miller and Rock (1985) found that under conditions of asymmetric information price changes following disclosure of a firm's earnings were proportional to the "surprise" in earnings, the proportionality factor being greater, the greater the persistence parameter. They analysed the effect of earnings persistence and systematic risk using a two-period model and found that the magnitude of the return reaction to an earnings innovation appeared be a function of the "persistence" of earnings.

Kormendi and Lipe (1987) and Easton and Zmijewski (1989) examined whether the magnitude of this persistence relation was positively correlated with revisions in expected future earnings derived from a univariate time-series model. They investigated the relationship using a discounted cash flow valuation model and by assuming a specific time series earnings process, namely, an autoregressive earnings process. Their finding was that persistence appeared to have a positive effect on ERCs.

In 1989 Collins and Kothari used an equity valuation model based upon assumptions from the Sharpe-Lintner CAPM, i.e. expected future rates of return are known and capital markets are assumed to be perfect and complete. By

combining this valuation model with different earnings process assumptions, they produced further important insights into additional factors explaining the variation in ERCs.

These studies provided evidence that persistence has a positive effect on ERCs. Collins and Kothari (1989) additionally identified four factors contributing to cross-sectional and temporal differences in the ERC, including growth. Using a sample of firms from the COMPUSTAT and CRA tapes with a December 31 fiscal year-end and a minimum of three years of earnings data for each year from 1968 to 1982, they analyzed the factors explaining cross-sectional differences in the ERCs. Employing a 'reverse regression model' (i.e a regression in which the dependent and independent variable are reversed), they concluded that the ERC is positively related to earnings persistence and economic growth opportunities and negatively related to the securities' future expected discount rates, the risk-free interest rate and the firms' CAPM Beta risk.

Brown, Lambert and Ryan (1987) used also used a reverse regression model to assess the information content of security prices with respect to accounting earnings suggesting that this approach was potentially more efficient than the grouping procedure used in Beaver, Lambert and Morse (1980).

In order to examine the role of information other than accounting earnings, Lipe (1990) showed that the stock return reaction to earnings is a function of (1) the time-series properties of earnings, (2) the interest rate used to discount expected future earnings, and (3) the relative ability of earnings versus alternative information to predict future earnings under the assumption that the market observes current-period information other than earnings. Comparative statistics showed that the ERC is an increasing function of the ability of past earnings to predict future earnings and an increasing function of persistence. In addition, the variance of stock price changes conditional on earnings being announced was reported as being a decreasing function of the predictability of the earnings series and an increasing function of earnings persistence.

Kothari and Sloan (1992) examined the implications of returns anticipating future earnings changes for price-earnings relations. Since the time series properties of annual earnings suggested that firms' earnings changes are largely permanent, the earnings response coefficient was predicted to be approximately $(1+1/r_i)$, where r_i was the expected rate of return on firm i 's equity (Kormendi and Lipe,1987; Collins and Kothari 1989)*. Earnings response coefficients reported in the literature, however, were considerably smaller than implied by these time series properties of earnings. For example, Penman (1991, Table 2) estimated the ERC to be 0.894, whereas Komendi and Lipe (1987, Table 1) reported a median coefficient of 2.5. Ali and Zarowin (1992), who controlled for the effect of serial correlation in earnings, reported a median earnings response coefficient of 1.59. Use of analysts' earnings forecasts which supposedly give better proxies for the market's expectation also yielded coefficients of similar magnitudes (for example, see Easton and Zmijewski (1989) and Brown, Griffin, Hagerman, and Zmijeski (1987)†).

In Kothari and Sloan's paper, it was claimed to have resolved the apparent inconsistency between the time series behavior of annual earnings and the market's valuation of earnings, as reflected in an earnings response coefficient estimate, by using information in stock prices about future earnings. They argued, on the basis of their results, that returns measured over three years leading accounting information disclosure contains information about an annual earnings change. This study had at least two implications that were investigated more or less contemporaneously in related research. First, the findings suggested ways of explaining cross-sectional variation in ERCs. Industry membership and a firm's life cycle phase (e.g., a newly-public, growth firm versus a mature firm) could , for example, serve as instruments in investigating cross-firm differences (Anthony and Ramesh,1992; Lang,1991). Second, the findings indicate ways of identifying the reasons for the observed low contemporaneous price-earnings association documented in research using quarterly or annual earnings data (e.g., Lev, 1989; Easton and Harris,1991).

* Annual earnings changes exhibited a small degree of negative serial correlation (for example, Ball and Watts, 1972, tables 3.4 ; Brooks and Buckmaster ,1976; Ali and Zarowin,1992).

† These studies used Value Line's quarterly earnings forecasts.

Kothari (1992) evaluated alternative price-earnings specifications in the presence of a price reaction to earnings. This study found that, because prices lead earnings, the specification using the earnings-level-deflated-by-price variable in a price-earnings regression was 'better', in terms of bias in the estimated ERC and in terms of explanatory power, than specifications using earnings-change-deflated-by-price and earnings-deflated-by-lagged-earnings variables. An accurate proxy for unexpected earnings, however, outperformed the earnings-level- and earnings-change-deflated-by-price specifications.

Warfield and Wild (1992) examined the effects of accounting recognition criteria on the relevance of earnings as an explanatory variable for returns. Unlike the market, which recognizes economic events when they occur, earnings recognition involves two sometimes conflicting qualities of relevance and reliability. Application of these accounting recognition criteria can trade the relevance of earnings against their reliability, and as a result, certain economic events are recognized in earnings only after a lag. More specifically, the conclusions of this investigation were: First, it suggested that accounting recognition criteria appeared to be a determinant of earnings' explanatory power and that this explanatory power was less for shorter reporting periods; Second, the evidence was indicative of a substantial recognition lag in earnings that extended to several future periods; Third, it implied that the earnings recognition lag was a function of cross-sectional differences in the application of accounting recognition criteria, as reflected in fundamental economic determinants of earnings measurement. The findings therefore showed that earnings' explanatory power is substantially greater for companies whose earnings measurements are predictably less sensitive to accounting recognition criteria.

Martikainen (1997) investigated how accounting losses affect the ERCs in different leverage and growth categories. This study extended the work of Collins and Kothari (1989) and Hayn (1995) who reported that the existence of accounting losses reduced observed ERCs. The results seemed to show that the impact of losses on ERCs varies across firms that have different levels of growth opportunity and financial leverage. The impact is highest in the subgroup of high growth opportunity firms and in the subgroup of firms with low financial

leverage. In the subgroup of high financial leverage or low growth opportunity firms, in contrast, the exclusion of losses has hardly any impact on ERCs. Moreover, the results of the study indicated that the different impact of losses on ERCs in different growth opportunity and financial leverage subgroups are to at least some extent incrementally important, and are not sensitive with respect to firm size. In general, the results were claimed as demonstrating that the impact of growth opportunities and financial leverage on ERCs is clearly observable especially when losses and profits are analyzed separately.

Basu (1997) investigated the effects of the conservatism principle on reported financial statements. This study interpreted conservatism in accounting as being associated with the more timely recognition in earnings of bad news regarding future cash flows rather than good news. The results showed that negative earnings changes were less persistent than positive earnings changes and that ERCs were higher for positive earnings changes than for negative earnings changes in a conventional regression of abnormal returns on earnings changes.

Using a sample of 152 Korean firms listed in the Korean Stock Exchange during 1986-1992 period, Jang and Lee (1999) examined whether a firm's monopoly power has a systematic impact on the ERC. The empirical results were generally consistent with the theoretical prediction that the ERC is a positive function of the firm's monopoly power in its product markets. Specifically, the ERC is larger for the 'designated firms' than for the 'non-designated firms'. This result is robust with respect to the use of different samples that include only those firms which are designated (or non-designated) continuously over the seven year period (1986-1992), and the firms which are matched by industry and size. However, the difference in ERCs between the 'designated firms' and the 'non-designated firms' proved to be statistically insignificant after controlling for other factors affecting the ERCs (the equity beta and the growth rate).

Huson, Scott and Wier (1999) found that executive stock options and convertible securities can increase the number of common shares outstanding without adding to a firm's underlying asset base. Extending the model of Collins and Kothari (1989), they presented a model of the effect of expected dilution on the earnings-

return relation. Their results appeared to indicate that the ERC is a decreasing function of expected dilution. This relation held controlling for size, growth opportunities (market-to-book), and risk (return variance). They found that, consistent with the Collins and Kothari (1989) results, the ERCs in the regressions presented for all models were increasing in growth and decreasing in risk.

Recent studies have documented empirical evidence which indicates that ERCs vary systematically with firm-specific and economy-wide factors such as growth opportunity, cost structure and degree of competition (Ahmed, 1994), dividend payout ratio (Kallapur, 1994), audit opinion (Choi and Jeter, 1992). Furthermore, the ERC construct has been applied in studies into the economic effects of regulation and accounting policy, such as the regulation of electric utilities (Teets, 1992; Teets and Wasley, 1996; Blacconiere and Johnson, 1999), foreign currency accounting changes (Collins and Salatka, 1993), and accounting choices in the oil and gas industry (Bandyopadhyay, 1994).

By combining a firm valuation model with the option pricing model (OPM), Dhaliwal, Lee and Fargher (1991) examined whether a firm's default risk as measured by financial leverage affected the relationship between unexpected earnings and abnormal returns. They tested this hypothesis by partitioning firms according to (1) the existence of debt in the capital structure (all-equity versus levered firms), and (2) the level of leverage (low-leverage versus high-leverage firms). From analytical results, they developed the hypothesis that the ERC is a negative function of the firm's default risk. Dhaliwal and Reynolds (1994) later provided further empirical evidence supporting this theory, finding that the ERC is negatively related to the default risk of debt as measured by bond ratings, after controlling for the effects of equity beta and earnings persistence. They consequently claimed that equity beta is unlikely to capture fully the appropriate discount rate and that the default of debt may provide an additional proxy for the discount rate.

Fisher and Verrecchia (1997) argued that given the pervasiveness of limited liability in real equity markets, the insights offered by linear models may be insufficient to explain the behavior of actual markets. For example, recent empirical work on the relation between equity prices and earnings by Freeman

and Tse (1992), Das and Lev (1994), and Hayn (1995) calls into question the linear behavior assumed in much CMR. The issue revolves around an OPM interpretation of the value of equity under which equity holders have a call option on the firm when liability is limited (e.g., Smith 1979; Brealey and Myers, 1984). Equity holders could thus, in effect, buy the terminal cash flows of the firm by paying an exercise price equal to the amounts due to lenders.

Fisher and Verrecchia (1997) argued that the relationship between the variables determining the default risk of debt and ERC are consistent with the findings of Dhaliwal and Reynolds' (1994) use of bond ratings and Subramanyan and Wild's (1996) estimated bankruptcy probabilities. Their interpretation was that the relationship exists because default risk affects how expectations of future cash flows respond to earnings.

Core and Schrand (1999) also examined the effect of accounting-based debt covenants on equity valuation using an OPM in the context of thrift institutions. They used the Black and Scholes (1973) model to include the possibility of costly violation of accounting-based debt covenants and showed that stock price behavior depends on the closeness of a firm to covenant violation. Results based on a model that constrains the ERC to be equal across all institutions provided a positive and significant association between abnormal returns and unexpected earnings. The magnitude of the earnings response coefficient was consistent with the generally low ERCs found in prior empirical studies of the market reaction to quarterly earnings announcements (Brown et al., 1987) and the lower ERCs for financial services firms (Biddle and Seow, 1991). The results of regressions based upon restricting the ERC to be a linear function of capital (the inverse of leverage) were also reported. The model included an interaction term between unexpected earnings and the thrift's expected capital ranking. Equity value was identified as being a decreasing function of economic leverage.

This was consistent with a study by Toft and Prucyk (1997) who showed that the skewness of the implied volatility of equity option prices is significantly more negative for firms with higher short-term debt (their proxy for closeness to net worth covenants). They argued that the positive and significant coefficient on the interaction term was consistent with the results of prior studies that

hypothesized that the relation between ERCs and economic leverage is strictly decreasing (e.g., Dhaliwal et al., 1991; Dhaliwal and Reynolds, 1994).

VI. Conclusion

This study reviews research on the relation between capital market and accounting information. This is a broad area of research that originated with the seminal work of Ball and Brown (1968). Capital market research relevant to the thesis is reviewed in empirical evidence from the US, based on the issues addressed in three main periods: (i) an initial phase (1968-1980) concentrating on the usefulness of financial statement disclosures to the stock market; (ii) a second phase when the focus was on the 'post earnings announcement drift' (1981-1987); (iii) a third phase (1990 – present date).

REFERENCES

- Ahmed, A., "Accounting Earnings and Future Economic Rents," *Journal of Accounting and Economics* (1994), pp.377-400.
- Ali, A and Zarowin, P., "The role of earnings levels in annual earnings-returns studies", *Journal of Accounting Research* (1992): pp.286-296.
- Anthony,J and Ramesh, K.,"Association between accounting performance meares and stock prices: Atest of the life cycle hypothesis", *Journal of Accounting and Economics* (1992): pp. 203-227.
- Atiase, R., "Predisclosure Information, Firm Capitalization and Security Price Behavior around Earnings Announcements," *Journal of Accounting Research* (1985), Vol.23, pp.21-36.
- Ball, R., and P.Brown, " An Empirical Evaluation of Accounting Income Numbers," *Journal of Accounting Research* (Autumn 1968) :pp.159-178.
- Bartov, E., S.Lynn and J. Ronen, "*Returns-Earnings Regressions: An Integrated Approach*," Working Paper, 1999,SSRN.
- Basu,S.,"The conservatism principle and the asymmetric timeliness of earnings", *Journal of Accounting and Economics* (1997): pp. 3-37.
- Beaver, W.H., "The Behavior of Security Prices and Its Implications for Accounting Research (Methods)," *Supplement to The Accounting Review* (1972): pp.407-437.
- _____, R. Clarke, and W. Wright, "The Association between Unsystematic Security Returns and the Magnitude of the Earnings Forecast Error," *Journal of Accounting Research* (Autumn 1979): pp.316-340.
- _____, Lambert and Morse, "The information content of Security prices", *Journal of Accounting and Economics* (1980): pp. 3-28.
- Biddle, G. and G. Seow,"The Estimation and Determinants of Association between Returns and Earnings: Evidence from Cross-Industry Comparisons," *Journal of Accounting, Auditing and Finance* (Spring 1991), pp.183-232.
- Blacconiere.W. G., M.F Johnson and Johnson. M.S., "*Market Valuation and Deregulation of Electric Utilities*," Working Paper, 1999, SSRN.
- Black, F., and M. Scholes, "The pricing of Options and Corporate liabilities," *Journal of Political Economy* (1973), Vol. 81, pp.637-654.

Brown, P., "The Impact of the Annual Net Profit on the Stock Market," *The Australian Accountant* (July 1970): pp.277-282.

_____, J.W. Kennelly, "The Information Content of Quarterly Earnings: An Extension and Some Further Evidence," *Journal of Business* (July 1972): pp.403-415.

_____, Lambert,R.A, and S.G. Ryan, "The information content of security prices: A second look". *Journal of Accounting and Economics* (July 1987): pp. 139-157.

_____, Griffin.P, R. Hagerman, and M. Zmijeski, "Security analyst superiority relative to univariate time-series models in forecasting quarterly earnings", *Journal of Accounting and Economics* (1987): pp. 61-87.

Cho, Y. and K. Jung, 1991,"Earnings Response Coefficients: A Synthesis of Theory and Empirical Evidence," *Journal of Accounting Literature* (1991), pp.85-116.

Choi, S., and D. Jeter, "The Effects of Qualified Audit Opinions on Earnings Response Coefficients," *Journal of Accounting and Economics* (1992), Vol.15, pp.229-247.

Collins, D.W.,and S.P.Kothari, "An Analysis of International and Cross-Sectional Determinants of Earnings Response Coefficients," *Journal of Accounting and Economics* (July 1989) : pp.143-181.

_____, _____, and J.D. Rayburn, "Firm Size and Information Content of Price with Respect to Earnings," *Journal of Accounting and Economics* (July 1987), pp.111-138.

_____, W. Salatka, "Noisy accounting earnings signal and earnings response coefficients: The case of foreign currency accounting", *Contemporary Accounting Research*(1993):pp119-159.

Core, J. and C. Schrand, "The Effect of Accounting-based Debt Covenants on Equity Valuation," *Journal of Accounting and Economics* (1999), pp. 1-34.

Das, S. and B. Lev, "Nonlinearity in the return-earnings relation: tests of alternative specifications and explanations", *Contemporary Accounting Research*(1994):pp.353-379.

Dhaliwal, D and S. Reynolds, "The effect of the firm's capital structure on the relationship between changes and stock returns," Working Paper, University of Arizona (1989).

_____, _____, "The Effect of the Default Risk of Debt on the Earnings Response Coefficient," *The Accounting Review* (April 1994), pp.412-419.

_____, K.Lee and N.Fargher, "The Association Between Unexpected Earnings and Abnormal Security Returns in the Presence of Financial Leverage," *Contemporary Accounting Research* (Fall 1991), pp. 20-41.

Easton, P. and T.S, Harris, "Earnings as an Explanatory Variable for Returns," *Journal of Accounting Research* (Spring 1991), pp.19-36.

_____, M. Zmijewski, "Cross-sectional Variation in the Stock Market Response to Accounting Earnings Announcements," *Journal of Accounting and Economics* (July 1989), pp. 117-141.

Firth, M., "The Impact of Earnings Announcement on the Share Price Behavior of Similar Type Firms," *Economic Journal* (June 1976):pp.296-306.

Fischer, P.E., and R.E. Verrecchia, "The Effect of limited liability on the market response to disclosure," *Contemporary Accounting Research* (1997), vol.14, pp.515-541.

Foster, G. "Accounting Earnings and Stock Prices of Insurance Companies," *The Accounting Review* (October 1975): pp.686-689.

_____, "Quarterly Accounting Data: Time-Series Properties and Predictive-Ability Results," *The Accounting Review* (January 1977a): pp.1-21.

_____, Olson, C and Shevlin, T., "Earnings releases, anomalies and the behavior of security returns", *The Accounting Review* (1984): pp574-603.

Freeman, R., "The Association between Accounting Earnings and Security returns for Large and Small Firms," *Journal of Accounting and Economics* (1987), Vol. 9, pp.195-228.

Freeman, R and S. Tse, "A nonlinear model of security price response to unexpected earnings" *Journal of Accounting Research* (1992): pp. 185-209.

Freeman, R and S. Tse, "The multiperiod information content of accounting earnings: confirmations and contradictions of previous earnings reports", *Journal of Accounting Research* (1989): pp. 49-84.

Grant, E.B., "Market Implications of Differential Amounts of Interim Information," *Journal of Accounting Research* (Spring 1980), pp.255-269.

Hayn, C., "The Information Content of Losses," *Journal of Accounting and Economics* (1995), Vol. 20(2), pp. 125-153.

Hodgson, A, and P. Stevenson-Clarke, "*Nonlinear Earnings and Cashflows:The Impact of Size*". (1999), Working Paper, Griffith University.

Huson, Mark R., Thomas W. Scott, and Wier, Heather A, " *Earnings Dilution and the Explanatory power of Earnings for Returns*". Working Paper, University of Alberta (1999).

Jang, J and Lee, K., "*The effect of monopoly power on the relationship between accounting earnings and stock returns:evidence from Korean stock market*", Working Paper (1999), QUT.

Kallapur, S.,"Dividend Payout Ratios as Determinants of Earnings Response Coefficients", *Journal of Accounting and Economics*(1994), pp.359-375.

Kormendi, R. and R. Lipe, "Earnings Innovations, Earnings Persistence, and Stock Returns," *Journal of Business* (July 1987), pp. 323-345.

Kothari, S.P. " Price-Earnings Regressions in the Presence of Prices Leading Earnings". *Journal of Accounting and Economics*, (1992) Vol.15, pp.173-202.

————— , "*Capital Market Research in Accounting*" Working Paper(2001), SSRN.

————— , Sloan, R., "Information in Prices about future earnings:Implications for Earnings response Coefficients", *Journal of Accounting and Economics* (1992): pp. 143-171.

Kross, W., and D. Schroeder, "The Differential Market Response to Interim Vs. Annual Earnings reports: An Empirical Investigation," *Journal of Business Finance and accounting* (1988), Vol.16, pp.55-74.

Lang, M., "Time-varying stock price response to earnings induced by uncertainty about the time-series process of earnings", *Journal of Accounting Research* (1991): pp. 229-257.

Lev, B. "On the usefulness of Earnings and Earnings Research: Lessons and Directions from Two Decades of Empirical Research," *Journal of Accounting Research* (Supplement 1989), pp.153-192.

Lipe,R.C. "The Relation between Stock Returns and Accounting Earnings given Alternative Information". *The Accounting Review*, (January 1990) Vol.65,No.1, pp. 49-71.

Martikainen, M, "Accounting Losses and Earnings Response Coefficients: The Impact of Leverage and Growth Opportunities," *Journal of Business Finance and Accounting* (March 1997), Vol 24(2), pp.277-291.

McNichols, M. and J. Manegold, "The Effect of the the Information Environment on the Relationship between Financial Disclosure and Security Price Variability," *Journal of Accounting and Economics* (April 1983), pp.49-77.

Miller, M. and K. Rock, "Dividend Policy Under Asymmetric information," *Journal of Finance* (September 1985), pp. 1031-1052.

Ohlson, J.A, "*Accounting Earnings, Book Value, and Dividends: The Theory of the Clean Surplus Equation(Part I)*,"Working paper, Columbia University, March 1989a.

—————, "Earnings, Book Values, and Dividends in Equity Valuation," *Contemporary Accounting Research* (1995), vol 11,No 1, pp661-687.

Ou, J. and Penman, S.H."Accounting Measurement, Price Earnings Ratios, and the Information Content of Security Prices," *Journal of Accounting Research* (Supplement 1989), pp111-144.

Patell, J.M. "Corporate Forecasts of Earnings Per Share and Stock Price Behavior: Empirical Tests," *Journal of Accounting Research* (Autumn 1976): pp.246-276.

Penman, S.H., "An Evaluation of Accounting Rate-of-Return," *Journal of Accounting, Auditing and Finance*(Spring 1991), pp.233-255.

—————,"Return to Fundamentals," *Journal of Accounting, Auditing, and Finance* (Fall 1992), pp.465-483.

Pincus, M., 1983,"Information Characteristics of Earnings Announcements and Stock Market Behavior," *Journal of Accounting Research* (Spring 1983), pp.155-183.

Smith,C.W., and Warner,J.B., "On financial Contracting: An analysis of Bond Covenants," *Journal of Financial Economics* 7(1979), pp.117-161.

Subramanyan, K.R. and J.J. Wild, "Going Concern Status, Persistence, and Informativeness of Earnings," *Contemporary Accounting Research* (1996), Vol.13 No.1, pp. 251-273.

Teets, W., "The Association between Stock Market Response to Earnings Announcements and Regulation of Electric Utilities," *Journal of Accounting Research* (Autumn 1992), pp.274-285.

_____, C. Wasley, "Estimating Earnings Response Coefficients: Pooled Versus Firm-Specific Models." *Journal of Accounting and Economics* (1996), Vol.21, pp. 279-295.

Toft, K.B and B. Prucyk, "Options on leveraged equity: Theory and empirical tests," *Journal of Finance* 52 (1997), pp.1151-1180.

Warfield,T., and Wild,J., "Accounting recognition and the relevance of earnings as an explanatory variable for returns", *The Accounting Review* (1992):821-842.

<국문요약>

자본시장연구에 대한 고찰

김요환*

자본시장에서 회계정보의 유용성에 대한 연구는 Ball and Brown(1968)연구 이후 여러 가지 주제를 가지고 많은 연구가 진행되고 있다. 본 연구는 지금까지 연구를 시대 및 주제별로 3 단계로 나누어, 즉 (1) 초기단계(1968-1980); (2) 둘째단계(1981-1987); (3) 셋째 단계(1990-현재), 고찰하고, 이를 통해서 앞으로 자본시장연구에 참고되고자 한다.

핵심주제어 : 자본시장, 회계정보

* 단국대학교 경상대학 회계학전공 조교수