The Separate Valuation Relevance of Earnings, Book Value and their Components in Profit and Loss Making Firms: UK Evidence

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Abstract

This study examines the separate value relevance of earnings, book value and their components in profit and loss-making firms. The investigation take place in a context that both profit and loss-making firms have different features that might affect conclusions concerning the value relevance of earnings and book value partitions. Thus, we are establishing relationships between disaggregated accounting data and the market value of firms in the profit and loss-making firms in cross-sectional valuation models. These results suggest that for loss-making firms, earnings and book value partitions are not generally valuation relevant. However, for profit-making firms, the earnings partition into working capital from operations and non-current accruals is valuation relevant in almost all cross-sections. Book value partitions have also some valuation relevance for profit-making firms, in the presence of earnings partitions.

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1.   Introduction

This study investigates the value relevance of earnings and book value partitions in profit and loss-making firms. The investigation take place in a context that both profit and loss-making firms have different features that might affect conclusions concerning the value relevance of earnings and book value partitions. Thus, there is a possibility that a partition may be value relevant for profit-making firms but may not necessarily be value relevant for loss-making firms. We investigate the value relevance of earnings and book value partitions by running cross-sectional in the profit and loss-making firms for the year 1993 to 1998.

Thus, we are establishing relationships between disaggregated accounting data and the market value of firms in the profit and loss-making firms in cross-sectional valuation models. The earnings partitions we investigate are those which partitions earnings into its separate components of (i) working capital from operations (less net interest and tax paid) and non-current accruals; and (ii) cash flows, current accruals and non-current accruals. Also, book value is partitioned into fixed assets, net current assets and non-current liabilities.

The valuation model used is based upon the linear information dynamics approach of Ohlson (1989). Assuming that accounting variables in the system evolve according to first-order system of linear information dynamics has the advantage that market value can be expressed as a linear function of the variables in the system. Within our linear valuation models, the definition of separate valuation relevance (partition usefulness) requires that the valuation coefficients for variables in any partition be different (taking due account of sign), if the partition is to be viewed as providing value relevant information (Stark, 1997). We investigate the usefulness of earnings and book value

partitions in different sectors by running cross-sectional regressions on the samples of companies from 1993-1998 extracted from Datastream.

The remainder of this paper is organised as follows. Section 2 briefly describes a brief review of the literature and some related issues. Section 3 presents the research methodology used in this paper. Section 4 discusses the process of data collection and measurement of variables. Section 5 presents results of the empirical estimations and finally section 6 presents a brief summary of the study.

2.   Background

Here we present some related research. Studies that analyse the information content of losses include Hayn (1995) and Collins, Pincus and Xie (1999) among others. Below we discuss these two studies for making a proper understanding of this issue.

Hayn (1995) examines the information contained in losses in a returns-earnings relationship framework on US data. Her sample contains 85,919 firm year observations over a 29 year period 1969-1990. The return data is extracted from the CRSP tapes. She finds that both earnings response coefficients and the returns-earnings correlation significantly increases when losses are excluded from the sample. She argues that '...*the main explanation for the low information content of losses appears to be that shareholders have the option to liquidate the firm when the current losses are projected to perpetuate if the firm continues to operate*'. She also finds a monotonic relationship between firm size and the possibility of loss. The main findings of the study can be summarised as suggesting that if losses increase it does not necessarily mean that prices will go down, as losses are temporary and, therefore, do not have significant information content.

Collins, Pincus and Xie (1999) examine the mis-specification of the earnings capitalisation model and investigate the role of equity book value in the equity valuation of loss firms. Their sample for the first comparison consist of 713 surviving firms for the years 1975 to 1983 and 613 non-surviving firms for the years 1975 to 1991, all extracted from the Compustat. First, they compare a sample of loss firms who survive with those firms that did not. For the second comparison, they chose those companies who reported losses in their most recent annual reports but had reported no losses in the previous four years. For this analysis, the sample period is for the year 1979 to 1992. The number of single loss firms is 1197, and that of multiple loss firms is 1649.

Their results suggest that the inclusion of book value in the price–earnings relation produces significantly positive coefficient on earnings for loss firms and remains either positive (often significantly so) or insignificantly different from zero. They conclude that the simple earnings capitalisation model is mis-specified due to the omission of book value. They further conclude that the book value of equity is an important value relevant characteristic for loss making firms and plays a role as a proxy for expected future normal earnings and abandonment value.

The findings in these two studies motivate current research and find ways to know that what would be the information content of losses and their components in the UK. Therefore, we investigate the separate valuation relevance of earnings and its components in both profit and loss-making firms. We employ cross-sectional valuation models for investigating this issue. Additionally, we investigate the value relevance of book value and its components in both profit and loss-making firms.

3. The Research Methodology

3.1. Valuation Models

Here we adopt the research methodology used in Akbar (2001), by employing six valuation models. The models are derived from systems of linear information dynamics and are compared for the investigation of issues under consideration. All six models are reported below:

$$MV_t = \beta_0 + \beta_{11}BV_{11t} + \beta_{12}BV_{12t} + \beta_{13}BV_{13t} + \beta_{411}E_{411t} + \beta_{412}E_{412t} + \beta_{42}E_{42t} + \beta_7RD_t + \beta_8D_t + \varepsilon_6 \tag{I}$$

$$MV_t = \beta_0 + \beta_{11}BV_{11t} + \beta_{12}BV_{12t} + \beta_{13}BV_{13t} + \beta_{41}E_{41t} + \beta_{42}E_{42t} + \beta_7RD_t + \beta_8D_t + \varepsilon_5 \tag{II}$$

$$MV_t = \beta_0 + \beta_{11}BV_{11t} + \beta_{12}BV_{12t} + \beta_{13}BV_{13t} + \beta_4E_{4t} + \beta_7RD_t + \beta_8D_t + \varepsilon_4 \tag{III}$$

$$MV_t = \beta_0 + \beta_1BV_t + \beta_{411}E_{411t} + \beta_{412}E_{412t} + \beta_{42}E_{42t} + \beta_7RD_t + \beta_8D_t + \varepsilon_3 \tag{IV}$$

$$MV_t = \beta_0 + \beta_1BV_t + \beta_{41}E_{41t} + \beta_{42}E_{42t} + \beta_7RD_t + \beta_8D_t + \varepsilon_2 \tag{V}$$

$$MV_t = \beta_0 + \beta_1BV_t + \beta_4E_{4t} + \beta_7RD_t + \beta_8D_t + \varepsilon_1 \tag{VI}$$

3.2. The Research Techniques

We investigate the value relevance of partitioning earnings into working capital from operations (less net interest and tax payments) and non-current accruals components in both profit and loss making firms in two ways. First, we investigate it in the absence of the book value partition by comparing Model II with Model I. Second, we investigate it in the presence of the book value partition by comparing Model V with

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Model IV. Also, we investigate the value relevance of partitioning working capital from operations (less net interest and tax payments) into cash flow from operations (less net interest and tax payments) and current accruals in two ways. First, we investigate it in the absence of the book value partition by comparing Model III and Model II and, second, we investigate it in the presence of the book value partition by comparing Model VI and Model V.

We also investigate the value relevance of the partition of book value for both profit and loss making firms in three ways. First, we investigate its value relevance in the absence of any partitioning of earnings. This involves comparing Model IV with Model I. Second, we investigate its value relevance with earnings partitioned into working capital from operations (less net interest and tax payments) and non-current accruals. This involves comparing Model V with Model II. Third, we compare Model VI with Model III to investigate the value relevance of the book value partition in the presence of the full partitioning of earnings.

In order to mitigate heteroscedasticity we use two different techniques. First, we use deflation. Deflation is generally regarded as the most effective tool in mitigating heteroscedasticity. We use closing period book value and opening market value[1] as deflators.[2] This is because, in recent academic literature, researchers prefer to use deflated variables rather than undeflated ones (for example, Kothari and Zimmerman (1995), Green, Stark and Thomas (1996), Rees (1997), Stark and Thomas (1998), and Dechow, Hutton and Sloan (1999), among others). It is believed that deflated variables cause less econometric problems in cross-sectional regression models than those which are undeflated.

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[1]   Suggested by Lo and Lys (2000).

[2]   In this study we call the analysis with closing book value as deflator as our first criterion and those with opening market value as our second criterion.

Second, we use White (1980) consistent standard error and covariance estimates for mitigating heteroscedasticity in calculating both F & t-statistics. We argue that the use of deflation and White (1980) consistent standard errors and covariance estimates should add to the reliability of the results of this study.

In order to investigate the null hypothesis of no valuation relevance of earnings or book value partition in the absence and presence of each other, we use F-statistics. In F-statistics we compare a restricted and unrestricted version of the same model. The F-statistic is calculated using White's (1980) consistent standard error and covariance estimates. The calculated F-value is then compared with an appropriately identified critical value in order to test the null hypothesis.

4.   Data and Variable Measurements

Data are collected for UK firms listed on the London Stock Exchange Official List for financial year ending in calendar years 1993 to 1998, excluding those in the financial sector for standard reasons. All variables are defined in the same way as in Akbar (2001). Variables are estimated using data from Datastream in the following way:

1. The market value of equity, MV_t, is measured as the share price on a specific date multiplied by the number of ordinary shares in issue. The share price is measured six months after the balance sheet date for year t. For example, for a firm with a financial year-end on 31 December 1996, market value is measured on 1 July of the following year, 1997. Six months after the balance sheet date is used as the date to measure market value to ensure that the information in the financial statements for a given financial year is reflected in the market price, bearing in mind that UK listed companies have six months in which to prepare and release their annual accounts.

2. Book Value (opening or closing), BV_t, is measured as the sum of shareholders equity capital and reserves.

3. The Fixed Assets component of book value, BV_{11t}, is measured as net fixed assets as reported in the financial statements.

4. The Net Current Assets component of book value, BV_{12t}, is measured as current assets less current liabilities, as reported in the financial statements.

5. The Non-Current Liabilities component of book value, BV_{13t}, is measured as the difference between book value and the sum of fixed assets and net current assets (and, hence, mainly captures long term debt (including the book value of preference shares, deferred taxation and minority interests).

6. Earnings, E_{4t}, are measured as profit for the financial year as reported in the financial statements.

7. The Cash Flow component of earnings, E_{411t}, is measured as cash flow from operations plus research and development expenditures minus net interest paid minus tax paid.

8. The Current Accruals component of earnings, E_{412t}, is measured as the change in stock (raw materials, work in process and finished goods) plus change in trade debtors minus change in trade creditors plus other changes in working capital.[3]

9. The Non-Current Accruals component of earnings, E_{42t}, is measured as the difference between profit for the financial year plus research and development expenditures and the sum of cash flow and accruals component of earnings (and, hence, mainly captures depreciation and the change in deferred taxation etc).

10. Research and Development Expenditures, RD_t, are measured as R and D expense recognised in the income statement. In fact, it is rare for capitalised RD

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[3] Those items which form part of working capital but are not identified as stocks, debtors or creditors.

expenditures to feature on balance sheets in the UK and, further, separate information on stock and creditors associated with these expenditures is not available. As a consequence, the RD expense recognised in the P&L account seems the best approximation.

11. Dividend, DV_t, is measured as the net amounts paid on ordinary shares (and also includes the variable amount paid on participating preference shares) less owners contributions during the year.[4]

Cross-sections are constructed for each of calendar years 1993 to 1998. The criteria for identifying outliers in this study is that the top and bottom 0.5% of values for market value, and the deflated values of book value, earnings, cash flows, current accruals, non-current accruals, fixed assets, net current assets and non-current liabilities are considered as extreme values and, therefore, deleted from the sample. This top and bottom 0.5% deletion criterion is a procedure which frequently being used in market based accounting research (for example, Easton and Harris (1991) and Strong and Walker (1993), among others).

5.   Results

Here we investigate the differences between the value relevance of earnings and book value partitions between profit and loss making firms and then compare the usefulness of earnings and book value partitions between the two sectors of the population. The data for all annual cross-sections as well as for the pooled sample is split into two sub-samples on the basis of whether a firm is making a profit or a loss. Tables 1 and 2 present the results of estimating Models I to VI for profit and loss-making firms for the value relevance of earnings and book value partitions. In case of loss-making firms, the coefficient of earnings and its components are not significant at conventional

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[4]   Datastream report the variable amount paid on participating preference shares as well.

levels, whereas the coefficients of fixed assets and net current assets are all significant at least at the 1% level for all cross-sections and the pooled sample. The coefficients of non-current liabilities are significant in four out of six annual cross-sections and the pooled sample.

For profit-making firms, the coefficients of working capital from operations, cash flows, current accruals and non-current accruals are all positive and highly significant. The coefficients of book value as well as its two components fixed assets and net-current assets are not significant at conventional levels in the majority of cases. Only the coefficients of non-current liabilities are statistically significant at the 1% level.

The coefficients of research and development expenditures for loss making firms are significant at least at the 1% level, whereas for profit making firms it is negative and non-significant for all models. This is a finding that suggests the need for further research given prior research indicating that research and development expenditures contribute, on average, to the values of firms. The coefficients on dividends are consistently negative and significant for both profit and loss-making firms.

Tables 3 and 4 provide various F-statistics for the null hypotheses of the value irrelevance of the various earnings and book value partitions for profit and loss making firms. Earnings partitions into working capital from operation and non-current accruals almost invariably improve the explanatory power of the model for profit making firms and so are valuation relevant. For loss-making firms, there are significant increases in the explanatory power of the model (at the 5% level at least) for three of the annual cross-sections and the pooled sample. Also, comparisons between Model III and II (i.e., evaluating the partitioning of working capital into its cash flow and current accruals components) provide F-statistics which are significant in three annual cross-sections for both profit and loss-making firms and for the pooled

sample for loss-making firms. Comparisons between Model VI and V (i.e., again evaluating the partitioning of working capital into its cash flow and current accruals components) provide F-statistics which are significant in one annual cross-section for profit-making firms, whereas for loss-making firms the F-statistic is significant only for the pooled sample. When opening market value is used as the deflator, some of the F-statistics become significant for profit-making firms but, overall, the results are almost same. Additionally, these results seem to suggest that neither losses nor their partitions are valuation relevant. Whereas positive earnings and their components are generally valuation-relevant, when working capital partitions are compared with cash flow partitions the results provide weak evidence on the valuation relevance of cash flow from operations (less net interest and tax payments) and current accruals over their sum, working capital (less interest and tax payments).

For the book value partitions, the F-statistics are not significant in all annual cross-sections and for the pooled sample for loss-making firms, which suggests no valuation relevance of book value partitions for loss-making firms. For profit making firms, however, the results are more mixed. The F-statistics are significant in more than half of the annual cross-sections and the pooled sample. This suggests the valuation relevance of book value disaggregations for profit-making firms. The results are stronger in the presence of earnings partitions (F-statistics are significant for four out of six annual cross-sections) as compared to those without earnings partitions (F-statistics are significant for two annual cross-sections and the pooled sample).

On the basis of the above analysis we can argue that partitioning earnings into working capital from operations (less net interest and tax payments) and non-current accruals is valuation relevant both in the absence and presence of book value partitions in case of profit making firms. Partitioning of working capital from operations (less interest and tax payments) into cash flow from operations and current accruals provides mixed

results. Book value partitions, however, possess some valuation relevance in the presence of earnings partitions in case of profit-making firms.

6.   Summary

In this paper the value relevance of negative earnings and its components is investigates and compared. Also, the value relevance of book value partitions is investigated in both profit and loss-making firms. The main purpose of the study is to investigate the partitioning of earnings and book value into their components in both the profit and loss-making firms. The definition of separate valuation relevance employed in this study is that a partition has valuation relevance if, and only if, the estimated coefficients on the individual components of the partition (with due regard to sign) in a cross-sectional valuation model developed within the framework of linear information dynamics are different.

The results suggest that there is generally a significant increase in the explanatory power of the models when earnings is partitioned into working capital from operations and non-current accruals. Nonetheless, this conclusion hides a number of potentially important differences between sectors, or groups of firms. For example, this partition is not valuation relevant for loss-making firms.

The evidence in favour of the partitioning of working capital from operations into cash flow from operations and current accruals is mixed. There is some evidence of valuation relevance in this context for loss-making firms, although it is confined to results derived from the use of closing book value as a deflator. In general these results are less strong when opening market value is used as a deflator. In the case of loss-making firms, there is absolutely no evidence in favour of the valuation relevance of book value partitions.

The results in this study provide some clarification of the value relevance of the earnings and book value partitions in profit and loss-making firms. They also suggest

that there could be dangers in pooling both the profit and loss making firms together when investigating questions of value relevance.

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Table 1

Estimates of various relationships between market value, earnings, R&D, closing book value, cash flows, current accruals, cash flows plus current accruals, non-current accruals, fixed assets, net current assets and long-term liabilities

Coefficients	Pooled Loss Making Firms No. of Observations 928						Pooled Profit Making Firms No. of Observations 5487					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
β_0 (p value)	2049.08 (0.00)	2059.33 (0.00)	1905.11 (0.00)	2152.35 (0.00)	2167.46 (0.00)	2011.27 (0.00)	628.86 (0.06)	524.48 (0.12)	554.92 (0.10)	685.68 (0.04)	517.57 (0.14)	539.66 (0.12)
β_1 (p value)	1.57 (0.00)	1.57 (0.00)	1.64 (0.00)	*	*	*	0.22 (0.01)	0.08 (0.36)	0.08 (0.34)	*	*	*
β_{11} (p value)	*	*	*	1.47 (0.00)	1.46 (0.00)	1.53 (0.00)	*	*	*	0.30 (0.00)	0.10 (0.32)	0.10 (0.34)
β_{12} (p value)	*	*	*	1.80 (0.00)	1.79 (0.00)	1.86 (0.00)	*	*	*	0.04 (0.72)	0.02 (0.84)	0.03 (0.76)
β_{13} (p value)	*	*	*	-1.46 (0.00)	-1.45 (0.00)	-1.50 (0.00)	*	*	*	-0.41 (0.00)	-0.43 (0.00)	-0.43 (0.00)
β_4 (p value)	-0.34 (0.06)	*	*	-0.38 (0.07)	*	*	14.22 (0.00)	*	*	14.28 (0.00)	*	*
β_{41} (p value)	*	-0.31 (0.41)	*	*	-0.33 (0.39)	*	*	13.71 (0.00)	*	*	13.79 (0.00)	*
β_{411} (p value)	*	*	-0.83 (0.08)	*	*	-0.85 (0.07)	*	*	13.74 (0.00)	*	*	13.82 (0.00)
β_{412} (p value)	*	*	0.50 (0.25)	*	*	0.49 (0.24)	*	*	13.46 (0.00)	*	*	13.57 (0.00)
β_{42} (p value)	*	-0.36 (0.06)	-0.43 (0.01)	*	-0.40 (0.08)	-0.45 (0.04)	*	11.22 (0.00)	11.24 (0.00)	*	10.90 (0.00)	10.90 (0.00)
β_7 (p value)	10.07 (0.00)	10.08 (0.00)	10.18 (0.00)	9.76 (0.00)	9.77 (0.00)	9.88 (0.00)	-0.30 (0.84)	-0.13 (0.93)	-0.15 (0.92)	-0.06 (0.96)	-0.00 (0.99)	-0.03 (0.98)
β_8 (p value)	-1.18 (0.00)	-1.18 (0.00)	-1.05 (0.00)	-1.15 (0.00)	-1.15 (0.00)	-0.79 (0.00)	-1.59 (0.00)	-1.59 (0.00)	-1.61 (0.00)	-1.58 (0.00)	-1.58 (0.00)	-1.60 (0.00)
R^2	0.179	0.179	0.186	0.182	0.182	0.188	0.457	0.465	0.465	0.459	0.468	0.468

Table 2

Estimates of various relationships between market value, earnings, R&D, closing book value, cash flows, current accruals, cash flows plus current accruals, non-current accruals, fixed assets, net current assets and long-term liabilities.

Coefficients	Pooled Loss making Firms No. of Observations 962						Pooled Profit Making Firms No. of Observations 5226					
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
β_0 (p value)	1023.23 (0.00)	1124.90 (0.00)	1168.55 (0.00)	1056.82 (0.00)	1162.09 (0.00)	1205.29 (0.00)	345.60 (0.01)	213.15 (0.13)	222.40 (0.11)	410.65 (0.00)	203.14 (0.16)	207.17 (0.15)
β_1 (p value)	0.62 (0.00)	0.59 (0.00)	0.56 (0.00)	*	*	*	0.35 (0.00)	0.24 (0.00)	0.23 (0.00)	*	*	*
β_{11} (p value)	*	*	*	0.59 (0.00)	0.56 (0.00)	0.53 (0.00)	*	*	*	0.37 (0.00)	0.24 (0.00)	0.23 (0.00)
β_{12} (p value)	*	*	*	0.69 (0.00)	0.66 (0.00)	0.64 (0.00)	*	*	*	0.28 (0.00)	0.24 (0.00)	0.24 (0.00)
β_{13} (p value)	*	*	*	-0.54 (0.00)	-0.52 (0.00)	-0.51 (0.00)	*	*	*	-0.37 (0.00)	-0.32 (0.00)	-0.32 (0.00)
β_4 (p value)	-0.56 (0.00)	*	*	-0.57 (0.00)	*	*	9.03 (0.00)	*	*	9.06 (0.00)	*	*
β_{41} (p value)	*	-0.20 (0.34)	*	*	-0.21 (0.31)	*	*	8.70 (0.00)	*	*	8.73 (0.00)	*
β_{411} (p value)	*	*	0.03 (0.87)	*	*	0.01 (0.94)	*	*	8.82 (0.00)	*	*	8.84 (0.00)
β_{412} (p value)	*	*	-0.49 (0.04)	*	*	-0.49 (0.04)	*	*	8.36 (0.00)	*	*	8.38 (0.00)
β_{42} (p value)	*	-0.70 (0.00)	-0.67 (0.00)	*	-0.71 (0.00)	-0.69 (0.00)	*	6.18 (0.00)	6.26 (0.00)	*	6.10 (0.00)	6.17 (0.00)
β_7 (p value)	7.65 (0.00)	7.38 (0.00)	7.22 (0.00)	7.47 (0.00)	7.19 (0.00)	7.04 (0.00)	-2.89 (0.00)	-3.45 (0.00)	-3.52 (0.00)	-2.78 (0.00)	-3.47 (0.00)	-3.56 (0.00)
β_8 (p value)	-1.11 (0.00)	-1.16 (0.00)	-1.20 (0.00)	-1.12 (0.00)	-1.16 (0.00)	-1.21 (0.00)	-1.21 (0.00)	-1.25 (0.00)	-1.29 (0.00)	-1.20 (0.00)	-1.26 (0.00)	-1.29 (0.00)
R^2	-0.103	-0.096	-0.091	-0.099	-0.093	-0.088	-0.387	-0.307	-0.302	-0.384	-0.303	-0.298

Table 3

F-Statistics for the Null Hypothesis of No Valuation Relevance of Earnings and Book Value disaggregations in the Absence and Presence of Each Other

(Loss and Profit Making Firms) Criterion 1

		Loss Making Firms								
Year	No. of Obs.	Model II vs I	Model III vs I	Model III vs II	Model IV vs I	Model V vs IV	Model VI vs IV	Model VI vs V	Model V vs II	Model VI vs III
1993	165	0.23**	0.12**	0.00**	0.23**	0.46**	0.34**	0.11**	0.34**	0.46**
1994	123	7.03	3.64*	0.30**	0.94**	6.86	3.64*	0.23**	0.91**	0.99**
1995	125	0.77**	3.19*	5.59	0.48**	0.38**	2.86**	2.66**	0.28**	0.20**
1996	168	1.24**	4.41*	7.53	1.77**	0.21**	3.10*	3.00**	1.24**	0.53**
1997	166	2.80**	1.57**	0.35**	0.34**	2.78**	1.56**	0.17**	0.35**	0.35**
1998	181	0.42**	1.94**	3.45*	1.83**	0.64**	1.96**	1.63**	1.92**	1.85**
All	928	0.00**	3.96*	7.92	1.69**	0.00**	3.40*	3.40*	1.69**	1.13**
		Profit Making Firms								
Year	No. of Obs.	Model II vs I	Model III vs I	Model III vs II	Model IV vs I	Model V vs IV	Model VI vs IV	Model VI vs V	Model V vs II	Model VI vs III
1993	807	56.30	28.11	0.00**	0.75**	70.26	35.09	0.00**	7.34	7.34
1994	901	25.37	12.67	0.00**	1.12**	34.97	17.47	0.00**	5.82	5.82
1995	950	0.00**	1.68**	3.37*	0.84**	0.00**	2.53**	2.53**	0.84**	1.69**
1996	974	15.84	7.91	0.00**	1.95**	17.89	8.94	0.00**	2.98**	2.98**
1997	994	13.22	7.56	1.89**	7.56	29.17	14.57	0.00**	15.54	14.57
1998	861	11.15	12.94	14.56	6.37	6.41	8.10	4.86	4.00*	1.62**
All	5487	81.96	40.97	0.00**	10.13	92.69	46.34	0.00**	15.45	15.45

Table 4

F-Statistics for the Null Hypothesis of No Valuation Relevance of Earnings and Book Value disaggregations in the Absence and Presence of Each Other

(Loss and Profit Making Firms) Criterion 2

Loss Making Firms										
Year	No. of Obs.	Model II vs I	Model III vs I	Model III vs II	Model IV vs I	Model V vs IV	Model VI vs IV	Model VI vs V	Model V vs II	Model VI vs III
1993	168	0.00**	1.15**	2.30**	0.64**	0.00**	0.93**	0.93**	0.64**	0.43**
1994	125	2.78**	2.93**	3.03**	0.98**	2.68**	3.14*	1.77**	0.93**	1.22**
1995	127	0.00**	0.17**	0.33**	1.63**	0.09**	0.17**	0.13**	1.64**	1.60**
1996	167	0.00**	0.87**	1.74**	0.38**	1.93**	1.06**	0.10**	1.34**	0.58**
1997	172	9.30	4.69*	0.14**	0.59**	8.39	4.17*	0.00**	0.20**	0.14**
1998	203	4.45*	2.93**	1.39**	2.86**	2.38**	1.68**	0.49**	1.81**	1.61**
All	962	6.11	5.25	4.38*	1.74**	5.24	4.82	2.19**	1.31**	1.31**
Profit Making Firms										
Year	No. of Obs.	Model II vs I	Model III vs I	Model III vs II	Model IV vs I	Model V vs IV	Model VI vs IV	Model VI vs V	Model V vs II	Model VI vs III
1993	780	95.51	57.78	17.96	3.43*	106.72	63.26	8.75	8.56	8.35
1994	817	47.86	24.47	1.08**	4.62*	55.28	27.90	0.27**	8.20	7.93
1995	916	36.28	18.12	0.00**	1.79**	40.22	20.09	0.00**	3.72*	3.72*
1996	919	35.44	19.18	2.84**	1.02**	37.66	20.67	1.78**	2.13**	2.49**
1997	956	44.03	22.94	1.81**	7.31	51.74	26.82	0.92**	11.08	11.10
1998	838	52.48	27.18	1.83**	13.73	39.39	19.91	0.23**	7.41	6.72
All	5226	319.51	170.36	20.04	5.66	324.37	172.83	10.05	8.01	8.04