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An Experiment in Fair Value Accounting: UK Investment Vehicles

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Abstract

We use the British real estate and investment fund industries as experimental settings where historic cost (HC) and fair value accounting (FVA) can be compared. Both industries have the majority of their assets marked to market and hence the difference between the two accounting systems is profound. However, as the valuation of real estate is arguably more subjective than that of investment funds, we are able to contrast fair value accounting in a near ideal setting with one where it remains important, but where valuation difficulties may permit bias. As this distinction is incorporated in the recently issued SFAS 157, which also formed the basis of the IASB's relevant discussion document, the results of our study may be particularly timely. As expected, we find that fair value income is considerably more value relevant than historic cost income. However, in the presence of changes in FVA balance sheet values, income measures become largely irrelevant. This implies that there is no obvious

advantage from adopting FVA income accounting if FVA balance sheet values are available to the user. Furthermore, FVA for our real estate sample is considerably less value relevant than for the investment companies and the evidence for this sample, if not conclusive, is consistent with earnings management. We interpret these results as confirming that fair values are highly relevant and largely unbiased where the values are unambiguous. Where valuation is ambiguous, which will normally be the case, value relevance will be lower and biased accounting may be revealed.

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Notes

SFAS 157 identifies a three-level fair value hierarchy, with level 1 referring to fair values based on input such as quoted prices in active markets for identical assets available at the measurement date. Level 2 inputs refer to other inputs that are observable, either directly or indirectly, while level 3 inputs are unobservable (FASB, 2006). Earlier drafts of SFAS 157 included five levels and we would expect the greater fineness implied to be useful in distinguishing the appropriate position of real estate assets held for investment. Under the current statement, real estate assets would probably be designated level 2 if the valuation was based on market-corroborated inputs (such as prices per square foot of similar buildings), or level 3 if the information was generated within the firm. For our purposes the distinction is not crucial. It is obvious that real estate investment assets are dominated by financial assets valued by reference to a quoted market.

In New Zealand, companies are allowed to recognise unrealised gains and losses either in the income statement or in the balance sheet revaluation reserve. Owusu-Ansah and Yeoh (2006) find no difference in value relevance of the two forms of recognition.

This paper also includes results for financial as well as tangible assets.

Since the adoption of International Accounting Standards by UK listed companies in 2005 (after the sample period included in our study), the accounting for investment properties is now governed by IAS 40 (IASB, 2003). IAS permits companies to choose between reporting property values at cost or fair value. Gains or losses (in fair values or upon disposal if a cost model is adopted) are to be recognised as income or expense in the income statement.

Before the 1995 SORP, most companies did not incorporate a columnar statement of total returns including capital returns, although the same information was typically included in the notes to the accounts.

While real estate companies normally report a reconciliation of GAAP income to historic cost profits and losses, investment companies do not. In reality, the estimation of HC earnings is generally more complex than the example above suggests. For example, it is usual for investment companies to simply split the management fees and interest between income and capital by some rule of thumb, often 50:50. To get from GAAP earnings to historic cost, any investment management fee or interest payable charged to capital needs to be deducted, while any tax that has been allocated to the capital rather than revenue element of the account needs to be added back.

In this model, α_1 must encapsulate the unit value of opening capital plus the growth and discount rate needed to calculate the present value of the capital charge portion of residual income. α_2 will capture the growth and discount rate of the income element of residual income, including the growth of this year's income to next.

While there are arguments for disaggregating Δni_{it} into ni_{it} and ni_{it-1}, we know of no theoretical rational or empirical evidence that would suggest that allowing the coefficients on opening and closing book value of equity to vary would provide useful information. It could also introduce considerable co-linearity into the explanatory variables rendering interpretation of the results more difficult.

Running regressions with ni_{it} and ni_{it-1} is equivalent to incorporating ni_{it} and Δni_{it}. This transformation has no impact on the explanatory power of the model.

We conducted an audit for a sample of firm-years. This included a random sample plus an investigation of cases where alternative approaches to estimating the variables produced large differences. We found no cases where the estimated values of the reserves were misleading, but minor differences persist in our estimates of historic cost and fair value earnings. These occur where transactions are debited or credited to the relevant reserve accounts that are not relevant to the revaluation assets or the recognition of realised earnings. This is not uncommon, but usually trivial. However, where share repurchases were conducted by investment trusts, they could write off the premium on cancelled shares to the realised capital account. These amounts could be large. We have therefore excluded all investment trust cases from our sample where we have evidence of share repurchase activity (where ‘share capital issued’, Extel Ref = cfi.s, is negative).

The method for estimating the robust (rank) regression coefficients is an extension of the Mann–Whitney–Wilcoxon procedure. The procedure offers a robust, asymptotically distribution-free alternative to the usual least-squares analysis. The regression coefficients are found by minimising a measure of the dispersion of the residuals.

Although values of R^2 are unreliable in the presence of heteroscedasticity, and strictly speaking reference should be made to the Wald tests of explanatory power, we often refer to the more familiar R^2 results to aid clarity. However, the models are based on the same data, which implies similar levels of heteroscedasticity, and the R^2 results are consistent with the Wald tests.

In the FV model, while the change in HC equity is highly significant under OLS and robust estimation, the coefficient loses significance under Fama–MacBeth estimation. This is due to a large negative coefficient for 1993 when we have only 15 observations. Excluding this year, Δeq becomes significant also under Fama–MacBeth estimation.

Δrv is significant under OLS and robust estimation, but not under Fama–MacBeth estimation in the FV model.

For the investment companies, the coefficient on Δni is (as indicated by italics in Table 7) generally sensitive to the method of estimation. While the coefficient is significantly negative in the GAAP plus HC equity change model under OLS and robust estimation, Δni becomes insignificantly positive under Fama–MacBeth estimation.

The γ_3 coefficients in the GAAP and HC models (as well as the γ_1 coefficient in the GAAP model) are significant under both OLS and robust regression techniques, although not under Fama–MacBeth estimation. The number of observations in some of the annual regressions for real estate firms is fairly small, resulting in somewhat erratic regression results.

For the real estate companies, the γ_3 coefficient is significantly negative in the FV model under robust estimation. This may be indicative of aggressive FV accounting. However, while still negative, the γ_3 coefficient is not significant under either OLS or Fama–MacBeth estimation.

There are 425 investment company cases (46.4% of the sample) with negative returns compared to 341 cases (37.3%) with negative niFV. There are thus almost 19.8% fewer negative niFV cases than we would expect from the changes in stock prices. For the real estate companies, the comparable figures are 164 cases (36.8%) of negative returns, but only 47 cases (10.5%) of negative niFV – a difference of 71.3%.

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