The Value Relevance of Information about Convertible Financial Instruments

WORKING PAPER SERIES
Working Paper No.24
2005

Helen Bishop[1*], Mike Bradbury[2], and Tony van Zijl[3]

[1]School of Accountancy, Massey University, Private Bag 102-904, Auckland, New Zealand

[2]Unitec New Zealand, Private Bag 92025, Carrington Rd, Mt Albert, Auckland, New Zealand

[3]School of Accounting and Commercial Law, Victoria University of Wellington, PO Box 600, Wellington, New Zealand

*Correspondence to: Helen Bishop, School of Accountancy, Massey University, Private Bag 102-904, Auckland, New Zealand

Email: h.e.bishop@massey.ac.nz
Tel: ++(64)(9) 414 0800 ext 9294
Fax: ++(64)(9) 441 8133

Centre for Accounting, Governance and Taxation Research
School of Accounting and Commercial Law
Victoria University of Wellington
PO Box 600
Wellington
NEW ZEALAND

Tel. + 64 4 463 6957
Fax. + 64 4 463 5076
http://www.accounting-research.org.nz

The Value Relevance of Information about Convertible Financial Instruments

Helen Bishop
School of Accountancy, Massey University

Michael Bradbury
Unitec New Zealand

Tony Van Zijl
School of Accounting and Commercial Law,
Victoria University of Wellington,

The Value Relevance of Information about Convertible Financial Instruments

Abstract

We investigate the value relevance of the financial statement information about convertible financial instruments. Our findings indicate that the classification of convertibles provides incremental information over and above the book value of equity and net income. This finding is not as strong for convertibles that are classified as a form of mezzanine financing between debt and equity as for those classified as debt or equity. We also find that investors make use of information contained in the notes but only with respect to mandatory convertibles and convertibles where the right to make the decision about conversion or redemption rests with the issuer.

Key words: Convertible financial instruments; Financial Reporting; Value relevance

JEL Classification: M41

1 Introduction

The accounting classification of financial instruments with elements of debt and equity has received considerable attention from accounting regulators over recent years. The Financial Accounting Standards Board (FASB) released a Discussion Memorandum "*Distinguishing between liability and equity instruments and accounting for instruments with characteristics of both*" (DM, 1990). This was followed in May 2003 by Statement of Accounting Standards 150 *Accounting for Certain Financial Instruments with Characteristics of both Liabilities and Equities*. This statement, which concludes the first phase of the outcome of FASB's DM (1990), does not apply to conversion features or to conditional redemption features embedded in financial instruments such as convertible bonds. In 1995 the IASC issued IAS 32 *Financial Instruments: Disclosure and Presentation* and in 1996 Australian Accounting Standards Board issued AASB 1033 *Presentation and Disclosure of Financial Instruments*. IAS 32 was substantially revised in 2003.

In spite of the interest by regulators there has been little attempt to determine whether the accounting classification of convertible financial instruments influences users of financial statements. In New Zealand the classifications used have been debt, equity, or something in between the two such as "other capital funds". In this paper we attempt to assess the value relevance of these classifications to an important set of users, namely investors. We also test for an association between market value and the conversion rights set out in the contractual terms of the convertible instrument.

Following the European Union, Australia and New Zealand have also elected to adopt international financial reporting standards (IFRS). For Australia this will take effect for accounting periods commencing in 2005. New Zealand will allow early adoption on a voluntary basis from 2005 with mandatory adoption for accounting periods commencing in 2007. However, for much of the period covered by our sample, there was no accounting standard in place in New Zealand, Australia, or internationally there was nothing to guide users in their assessment of the underlying nature of convertibles.

The next section discusses the background to the research. Section three discusses value relevance research and section four discusses the hypotheses and research method. In section five we discuss the sample. In section six we discuss the results and section seven provides a summary of the research.

2 Background

Research into the accounting classification of convertible debt includes studies such as Kimmel and Warfield (1995), which suggests that the classification of convertibles as all debt or all equity is not consistent with market perceptions of instruments with elements of debt and equity. Munro (1995) determines that investors value the equity component of convertibles differently to the debt component. More recent studies have looked at the relevance and reliability of using option pricing to determine the debt and equity components for reporting purposes (Barth and Clinch, 1998) and compared the market perception of convertible and straight debt issued by the same firms (Schneider, McCarthy and Wertheim, 1999).

As noted above New Zealand has not had an accounting standard that specified how convertible instruments would be reported or classified. In the absence of a standard, preparers are required to follow generally accepted accounting practices (GAAP). New Zealand GAAP requires that, in the absence of a local accounting standard, reporting entities should look to authoritative sources including Australian and International standards. They may also look to "practice widely accepted as appropriate and prevalent for the industry or sector concerned". This enables issuers to justify the choice of classification based on GAAP prior to the introduction of IAS 32 and AASB 1033. The result is an environment where convertible financial instruments may be classified as debt, equity, or in between the two typically described as "other capital funds".

Value relevance research has compared the relevance of recognition *vis-à-vis* disclosure. By using the environment described above we are able to study the value relevance of the accounting classifications of convertible debt to users. By doing this we are able to determine whether the form of recognition is also value-relevant.

Bishop, Bradbury and van Zijl (2004) consider the likely financial statement impact of IAS 32 on New Zealand issuers of convertible debt. They find, *ceteris paribus*, the effect will be to increase leverage significantly. This is mainly due to the reclassification of convertibles that had been shown as "other capital funds" between debt and equity. Bishop (2005) finds the most influential determinant of the classification of convertible debt is the terms of conversion.

We capitalize on New Zealand's voluntary reporting environment by evaluating the value relevance of the issuer's choice of accounting classification for convertibles. We also examine the value relevance of note disclosure about convertibles.

The notes to the financial statements indicate the contractual terms determining the conversion rights of the parties to the instrument. We test the value relevance of these as follows: When the instrument allows conversion or redemption to be determined by the holders of the instrument this is categorized as being more like debt. If conversion is mandatory this is categorized as being most like equity. If the contractual terms allow the issuer to determine whether the instrument is converted or redeemed the instrument is categorized to be between debt and equity.

3 Literature review

The value relevance literature has been the subject of numerous reviews, either as a topic in itself, or as part of a review of capital markets research. Kothari (2001) traces the development, looks at current research and suggests future trends for capital markets research including value relevance research. Additional reviews are provided by Brown and Howieson (1998), Barth (2000), Holthausen and Watts (2001), Barth, et al. (2001) and Beaver (2002).

In their discussion of capital markets research Brown and Howieson (1998) call for capital markets researchers to contribute to standard setting. They briefly review capital markets research in corporate regulation, harmonization of accounting standards, research

and development, goodwill, and equity accounting. For each of these topics they suggest further research that may assist accounting standard setters.

Barth (2000) continues this theme in a review of valuation-based accounting research. She discusses the basis of models linking accounting measurement with market value goes on to suggest that the Ohlsen (1995) model can be used to determine whether an accounting amount is value-relevant (i.e. whether the amount improves the power of a regression to explain firm value. The issues reviewed by Barth (2000) are fair value accounting, cash flows vs accruals, recognition vs disclosure and international harmonization of accounting standards. She documents considerable work that has been carried out in each of these areas but notes that there is still more to be done.

Holthausen and Watts (2001) express a number of reservations about the use of value relevance research for standard setting. In particular, they suggest that users are a much broader group than just market participants. They also discuss the assertion that an amount is value-relevant if it meets the objectives of standard setters with respect to relevance and reliability. These objectives, they suggest, are not sufficiently well specified to justify the claim.

Beaver (2002) notes that value relevance research differs from other capital markets based accounting research in that it requires in depth knowledge of the accounting context and that timeliness of the accounting information is not an issue. While Beaver (2002) suggests that providing research that is potentially useful to standard setters is a

relevant objective for accounting research, he also considers that there are other ways in which value relevance research can relate to accounting practice. In particular, economic consequences literature identifies the influence of contracts entered into by firms on the accounting choices made by managers. It is relevant to ask - how do users of accounting information interpret these choices?

Value relevance models have been used extensively in research using data from the United States, United Kingdom and Australia. The models have produced a well-documented association between accounting information and market prices, with results that have been reasonably consistent across studies.[1] In New Zealand valuation research has been used to investigate the usefulness of specific items of accounting data (Cahan et al., 2000; Hart, 2002).

Some studies have used a pure balance sheet model with no measure of income (Landsman, 1986; Barth et al., 1991; Barth, 1994; Barth et al., 1996; Hart, 2002). Olsen's (1995) theoretical model uses book value of equity and the present value of abnormal earnings. Models based on this have included measures of income that ranged from operating income (Aboody et al., 1999), to net income (Giner and Reverte, 2001), and comprehensive income (Cahan et al., 2000)[2]. The model we use is based on;

[1] See the reviews cited above.
[2] Brief and Zarowin (1999) compare the value relevance of *NI* with the value-relevance of dividends. The finding is that dividends have explanatory power equal to earnings in most cases. When the analysis is restricted to firms with a low level of transitory earnings the explanatory power of dividends is much lower. Overall they find that the regression of earnings on BVE and NI produce R^2 ranging from .53 to .81. This level of explanatory power suggests that the model using NI will be suitable for our purpose.

$$MVE = a_0 + \alpha_1 NI + \alpha_2 BVE + e \quad (1)$$

Where:

MVE = Closing price per share x number of shares,

NI = Net income after tax, and

BVE = assets – liabilities.

Following Easton and Sommers (2003) we use *MVE* as the deflator to combat issuers of scale and heteroscadisticity. This is done by using weighted least squares resulting in:

$$1 = b_0 \frac{1}{MVE} + b_1 \frac{NI}{MVE} + b_2 \frac{BVE}{MVE} + u \quad (2)$$

4 Hypothesis development and research method

In equation 1 convertibles are included with equity if the convertibles are classified as equity or other capital funds and with liabilities if they are classified as debt. If investors are influenced by the classification of convertibles this should be evident when the convertibles are entered into the equation separately as liabilities, other capital funds, and equity.

Thus the null hypothesis is:

H1: The accounting classification of convertible instruments is not value relevant.

This will be investigated using the following model.

$$1 = c_0 \frac{1}{MVE} + c_1 \frac{NI}{MVE} + c_2 \frac{NETBV}{MVE} + c_3 \frac{CLASSD}{MVE} + c_4 \frac{CLASSO}{MVE} + c_5 \frac{CLASSE}{MVE} \quad (3)$$

Where:

NETBV = book value of equity ***net of convertible instruments,***

CLASSD = convertible instruments classified as liabilities,

CLASSO = convertible instruments classified as other capital funds,

CLASSE = convertible instruments classified as equity, and

An alternative specification used when investigating value relevance is to include the item(s) of interest in BVE and, in addition, enter them separately in the equation. If the coefficients are significant the conclusion is that the items are not only relevant but the information is incremental to that which is available from BVE. Therefore we also test:

$$1 = d_0 \frac{1}{MVE} + d_1 \frac{NI}{MVE} + d_2 \frac{BVE}{MVE} + d_3 \frac{CLASSD}{MVE} + d_4 \frac{CLASSO}{MVE} + d_5 \frac{CLASSE}{MVE} \quad (4)$$

Where:

BVE = Book value of equity including convertibles.

Bishop (2005) tests the relation between the classification of convertible debt and an alternative classification based on the contractual terms. She tests the correlation of two three level ordinal variables, one based on the accounting classification, the other on the conversion terms specified in the contract. Although the correlation is significant at the 1% level, the actual correlation value of .308 indicates that the contractual terms explain only part of the variation in the classification. Thus the question arises as to whether investors simply have regard to the way the entity has classified convertible instruments or whether they look beyond this to the contractual terms contained in the note

disclosure. We test the value relevance of note disclosure by reclassifying the convertible instruments according to the rights of the parties regarding conversion of the convertibles. If the holder has the right to make the decision to convert or redeem the instrument, this is categorized as if it is debt. If the issuer has the right to choose whether the instrument is converted or redeemed, this is categorized as being between debt and equity and, if conversion is mandatory, this is categorized as if it is equity.

If investors do incorporate information from the notes and our interpretation of the conversion rights accords with investors the contractual terms of the convertibles will be value relevant. The sign of the coefficients is difficult to assess. If a convertible is seen as being likely to be redeemed no equity dilution will take place. Unless replacement financing is obtained there is, however, a cash outflow that potentially reduces working capital and increases risk. For value relevance to be detected individual investor preferences must be reasonably homogenous. If homogeneity does not exist value relevance may be present without being reflected through an association between market value and the item of interest as individual preferences cancel each other out.

This leads to the following null hypothesis:

H2: Separate recognition of convertibles categorized according to the contractual terms determining conversion is not value-relevant.

This hypothesis will be investigated using following model;

$$1 = e_0 \frac{1}{MVE} + e_1 \frac{NI}{MVE} + e_2 \frac{NETBV}{MVE} + e_3 \frac{TERMSD}{MVE} + e_4 \frac{TERMSO}{MVE} + e_5 \frac{TERMSE}{MVE} \quad (5)$$

Where:

TERMSD = convertible debt that may converted or redeemed at the option of the holder,

TERMSO = convertible debt that may converted or redeemed at the option of the issuer and,

TERMSE = mandatory debt.

Again we investigate whether the variables provide incremental information by using the following specification of the value relevance equation.

$$1 = f_0 \frac{1}{MVE} + f_1 \frac{NI}{MVE} + f_2 \frac{BVE}{MVE} + f_3 \frac{TERMSD}{MVE} + f_4 \frac{TERMSO}{MVE} + f_5 \frac{TERMSE}{MVE} \quad (6)$$

Given the change to IFRS it is relevant to ask whether the components approach is more relevant. Munro (1995) addressed this question and determined that investors view the equity component of convertibles as a form of equity. Barth et al 1998 used a hypothetical case and found that the amounts allocated to the components comprise a significant portion of the total bond value. To investigate whether users view part of a convertible instrument as debt and part as equity we assess whether restating the convertibles in accordance with IAS 32 is value relevant.

The null hypothesis is:

H2: Separate recognition of convertibles categorized according to IAS 32 is not value-relevant.

We test the hypothesis using the following equation.

$$1 = g_0 \frac{1}{MVE} + g_1 \frac{NI}{MVE} + g_2 \frac{NETBV}{MVE} + g_3 \frac{IASD}{MVE} + g_4 \frac{IASE}{MVE} \quad (7)$$

Where:

IASD = The debt component of the convertibles in the sample when classified in accordance with IAS 32, and

IASE = the equity component of convertibles in the sample when classified in accordance with IAS 32.

Once again we test for incremental value relevance.

$$1 = h_0 \frac{1}{MVE} + h_1 \frac{NI}{MVE} + h_2 \frac{BVE}{MVE} + h_3 \frac{IASD}{MVE} + h_4 \frac{IASE}{MVE} \quad (8)$$

5 Sample

The sample is drawn from entities listed on the New Zealand Stock Exchange from 1988 to 2002. Since the announcement of the impending move to NZ IFRS was made in late 2002 both issuers and users will be more aware of the classification issue. This awareness may introduce bias in that users may be less inclined to accept the classification shown and more inclined to check the notes. Therefore data for 2003/2004 has been excluded from the sample.

The requirement for an entity to be included in the sample in any year is that there is at least one convertible on issue and that the entity's market value is available at the time the financial statements are issued.

Forty-six companies and four listed property trusts met the sample requirements with some entities making up to four separate issues of convertibles during the period from 1988 to 2002. This does not include five entities where the convertible was converted simultaneously with listing on the New Zealand Stock Exchange, or where there was insufficient trading to determine a market price. As shown in Table 1 this provides a sample of 58 issues with a total of 160 firm years. This sample is used to test the first two hypotheses. For the third hypothesis three issues did not provide sufficient information to classify the convertible in accordance with IAS 32. This reduced the number of firm years to 141.

Insert Table 1 about here

The classification and contractual terms of the convertibles are shown in Table 2. Although with the introduction of IAS 32 in 1995 and AASB 1033 in 1996 a components approach to classifying convertibles became part of NZ GAAP only three entities have followed this approach or stated that they are complying with IAS 32. Of these three one classified the convertible as debt while the other two split the convertible between debt and equity.

Insert Table 2 about here

When examining the convertibles in the three different classifications by firm year there are 36 firm years with convertibles classified as debt (*CLASSD*), 104 as other capital funds (*CLASSO*) and 37 as equity (*CLASSE*). This contrasts with 71 convertibles categorized as *TERMSD*, 43 as *TERMSO* and 47 as *TERMSE*[3]

Table three shows that the mean market value is $1037.8 million while the median is $178.8 million indicating that the sample is significantly skewed. A similar pattern is observable with all other variables. The market value of issuers ranges from $.5 million to $14215.2 million. Table 3 shows that the value of convertibles classified in debt is on average smaller than those in other capital funds or equity. The value of mandatory convertibles (*TERMSE*) is also smaller on average than the value of convertibles where the holder (*TERMSD*) or issuer (*TERMSO*) has the option of converting.

Insert Table 3 about here

6 Results

Table 4 reveals that many of the variables are highly correlated. The maximum correlations between independent variables that appear in the same regression are the correlations of.585 (.606) between *NETBVE (BVE)* and *NI,* .514 (.459) between *NETBVE (BVE)* and *CLASSD,* and the correlation of .694 (.610) (711) between *NI* (*NETBVE)*

[3] These do not sum to 160 due to number of years in which there were two convertibles with different terms and/or classified differently issued by the same firm.

(BVE) and *IASD*. *CLASSD, CLASSE* and *IASD* are correlated with *MVE* at better than 1% while for *CLASSO* the level of significance is 10%. *TERMSD* and *TERMSO* are also correlated with *MVE* at 1%. *TERMSE* is not significantly correlated with *MVE*.

Some degree of correlation between the *CLASS* variables and the *TERM*S variables was expected given the correlation found in Bishop (2005). The correlation between *CLASSD* and *TERMSD* is positive and significant as is the correlation between *TERMSE* and *CLASSE*. The strong correlation between *CLASSO* and *TERMSD* and between *CLASSE* and *TERMSO* was, however, not expected. *CLASSO* was correlated with *TERMSO* but at the lower level of 5%. *IASD* is correlated, at the 1% level of significance with all variables except *TERMSE* and *IASE*.

Insert Table 4 about here.

The first regression is shown in Table 5. This regression excludes convertibles from the calculation of *NETBV*. The coefficient of convertible debt classified as debt is significant at better than .01% and negative. This is consistent with the residual concept of equity. The coefficient on *CLASSO* is negative and significant at 5% suggesting that users perceive convertibles classified as other capital funds as a form of debt. *CLASSE* shows a strong positive association with *MVE,* significant at .000. This suggests users perceive convertibles classified as equity as being a form of equity. The adjusted R^2 is .807 indicating that the model explains much of the variation in market value.

Insert Table 5 about here

The regression in Table 6 includes convertibles in the calculation of *BVE*. The value of the convertibles in each classification is then included as a separate variable. The adjusted R^2 is .816. *CLASSO* is now significant at only 10% while *CLASSD* and *CLASSE* are significant at 5% and 1% respectively. Given that BVE is strongly significant the incremental value relevance of CLASSO is small suggesting that users place less reliance on the classification of convertibles in other capital funds than on classification in debt or equity. This may be due to uncertainty as to the reliability of the information provided by the mezzanine classification or to the problem of interpreting whether the convertibles in this classification are debt or equity. . With respect to CLASSD and CLASSE it can be concluded, however, that the accounting classification of convertibles does provide information that is incrementally value-relevant.

Insert Table 6 about here.

In Table 7 *MVE* is regressed on *NI, NETBV, TERMSD, TERMSO* and *TERMSE*. The adjusted R2 of .756 shows that the regression explains much of the variation in market value. We cannot reject the null hypothesis with respect to *TERMSD*. The null hypothesis of no relation with market value can be rejected with respect to *TERMSO* and *TERMSE*. Consistent with the significant positive correlation with *MVE* the coefficient of *TERMSO* is significant and positive suggesting that this variable is value relevant and is perceived as a form of equity. This differs from CLASSO and suggests that, when market participants know that the control rests with the issuer, this is interpreted as

adding value. Since *TERMSE* represents mandatory convertible debt and is not correlated with *MVE* it is surprising that the coefficient is negative and strongly significant. This result suggests, however, that market participants see the equity dilution associated with mandatory convertibles as reducing the market value of the issuer.

Insert Table 7 about here

The regression in Table 8 includes convertibles in the book value of equity (*BVE*) as well as including *TERMSD*, *TERMSO* and *TERMSE*. As before *TERMSD* is not significant suggesting that note disclosure about convertibles that are redeemable or convertible at the option of the holder is not value relevant. *TERMSO* and *TERMSE* are both significant at 1% suggesting that the note disclosure provides incremental information about these instruments. The conclusion that note disclosure about the contractual terms of convertible instruments is incorporated into market value, only when conversion is mandatory or at the option of the issuer is unchanged.

Insert Table 8 about here.

Next we test for value-relevance of convertibles separated into their debt and equity components in accordance with IAS32. We regress *MVE* on *NI, NETBV, IASD* and *IASE*. The results in Table 9 show that the explanatory power is high at .836 and *IASD* is significant at .001%. IASE, however, not significant which makes interpretation of the results difficult. It would seem to suggest that users recognize the debt element separately from the equity component but find only one of the components value-

relevant. A further examination of the underlying figures revealed that 90% of the total value of the convertibles in the sample is classified as debt under IAS 32. This may explain the results.

Insert Table 9 here

As before this is followed by a regression where *NETBV* is replaced by *BVE*. The results, shown in table 10, are similar although IASE is now marginally significant at the 10% level.

Insert Table 10 here

Finally in view of the degree of correlations between the variables we test for collinearity by repeating the regressions twice; once with *NI* removed and once without *NETBV* or *BVE*. The results for the remaining variables in the regressions were not substantially different for the tests of hypotheses 1 and 2. The third set of regression did change suggesting that the results are not reliable.

7 Summary

We investigate the value relevance of information about convertible debt. In New Zealand three accounting classifications are used. These are: with liabilities, with equity, or in between the two as "other capital funds". Our first hypothesis suggests that the accounting classification will be associated with the market value of the issuer. The evidence shows a significant association between market value and all three classifications. Further investigation reveals that, for convertibles classified as debt or as

equity, the information is incremental to the information provided when convertibles are included with the book value of equity. This suggests that investors may be influenced by the manner in which information presented to them in the financial statements.

We then categorize the convertibles on the basis of their contractual terms regarding conversion. We use the potential impact on cash flows, risk, and equity dilution to determine which category the convertibles are placed in. Instruments that provide for the holder to determine whether the instrument will be converted or redeemed are categorized as debt. Mandatory instruments are categorized as equity while convertibles that are designed to provide the issuer with the right to redeem or convert fall between debt and equity.

The second hypothesis suggests that market value will be associated with the categories we have devised. The evidence on this is mixed. While market value is positively associated with convertible instruments that can be redeemed or converted at the option of the issuer and negatively with mandatory convertibles, convertibles that can be converted or redeemed at the option of the holder are only weakly associated with market value. The second regression revealed that the information provided in the notes is incremental to the information contained in the book value of equity including convertibles. This did not, however, apply to convertibles that may be redeemed or converted at the option of the holder. Thus it is clear that the market selectively incorporates note disclosure about convertibles and that market participants see more

value in convertibles that provide the issuer with control over converting or redeeming the convertibles.

The third hypothesis suggests that reclassifying the instruments in accordance with IAS 32 will provide information that is value-relevant. The amount reclassified into debt is significant. The amount classified as equity is not unless other variables such as net income or book value are removed from the regression. This is consistent with collinearity although the correlations observed were between the debt component and the other variables rather than between the equity component and net income and book value. The other problem that may be influencing the results is that under IAS 32 90% of the total amount is classified as debt.

We cannot conclude that separating convertibles into their debt and equity components will not provide value-relevant information. The fact that we are able to reject the null hypothesis that the classification of convertible debt is not value-relevant suggests that, when the components approach is used by companies under IFRS this will influence the perceptions of users.

References

Aboody, D., Barth, M.E., and R. Kasznik, 1999, Revaluations of fixed assets and future firm performance: evidence from the UK, *Journal of Accounting and Economics,* 26(1-3), 149-178.

Accounting Standards Boards 2004, Financial *Reporting Standard* 25, *Financial*

Instruments: Disclosure and Presentation, (London).

Australian Accounting Standards Board 1996, AASB 1033, *Presentation and Disclosure of Financial Instruments,* (AASB, Melbourne)

Barth, M.E. 1994, Fair value accounting: evidence from investment securities and the market valuation of banks, *The Accounting Review,* 69(1), 1-25.

Barth, M.E. 2000, Valuation-based accounting research: implications for financial reporting and opportunities for further research, *Accounting and Finance,* 40(1), 7-32.

Barth, M.E., W.H. Beaver, and W.R. Landsman, 1996, Value relevance of banks' fair value disclosures under SFAS No. 107, *The Accounting Review* 71(4), 513-537.

Barth, M.E., W.H. Beaver, and W.R. Landsman, 2001, The relevance of the value relevance literature for financial accounting standard setting: another view, *Journal of Accounting and Economics* 31 (September), 77-104.

Barth, M.E., W.H. Beaver, and C.H. Stinson, 1991, Supplemental data and the structure of thrift share prices, *The Accounting Review* 66(1), 56-66.

Barth, M.E., and G. Clinch, 1998, Revalued financial, tangible, and intangible assets: associations with share prices and non-market-based value estimates, *Journal of Accounting Research* 36, 199-233.

Barth, M.E., W.R. Landsman, and R.J. Rendleman, 1998, Option pricing-based bond value estimates and a fundamental components approach to accounting for corporate debt, *The Accounting Review* 73(1), 73-102.

Bishop H.E., M.E. Bradbury, and A.J. van Zijl, 2004, NZ IAS 32: An evaluation of the potential impact on the financial statements of issuers of convertible financial instruments, Paper presented at the Auckland Region Accounting Conference, University of Auckland.*

* The proceedings erroneously fail to include Bradbury and van Zijl as co-authors.

Bishop, H.E. 2005, The determinants of the accounting classification of convertible debt when managers have freedom of choice. Unpublished paper, Massey University.

Brief, R. P. and P. Zarowin, 1999, The Value Relevance of Dividends, Book Value and Earnings, Working paper No. 99-3 New York University Dept. of Accounting, New York.

Brown, P. and B. Howieson, 1998, Capital markets research and accounting standard setting, *Accounting and Finance* 38 (1), 5-28.

Cahan, S.F., S.M. Courtney, P.L. Gronewaller, and D. Upton, 2000, Value relevance of mandated comprehensive income disclosures, *Journal of Business Finance and Accounting* 27 (9/10), 1273-1302.

Easton, P.D., G.A. Sommers, Scale and the scale effect in market-based accounting research, *Journal of Business Finance and Accounting* 30 (1), 25-55.

Financial Accounting Standards Board, 1990, *Discussion Memorandum: Distinguishing Between Liability and Equity Instruments and Accounting for Instruments With Characteristics of Both,* Stamford CT: FASB.

Financial Accounting Standards Board, 2003, *Statement of Accounting Standards 150 Accounting for Certain Financial Instruments with Characteristics of both Equities and Liabilities,* Stamford CT: FASB.

Giner, B. and C. Reverte, 2001, Valuation implications of capital structure: a contextual approach, *The European Accounting Review* 10 (2), 291-394.

Hart, C. 2002, Aspects of intangible asset capitalisation by New Zealand companies, Paper presented at the ARA Conference, 6 December 2002, Massey University, Albany, Auckland.

Holthausen, R.W., and R.L.Watts, 2001, The relevance of the value relevance literature for financial accounting standard setting, *Journal of Accounting and Economics* 31 (September), 3-75.

International Accounting Standards Committee, 1995, *IAS 32 Financial Instruments: Disclosure and Presentation.*

Kimmel, P., and T. D. Warfield, 1993, Variation in Attributes of Redeemable Preferred Stock: Implications for Accounting Standards, *Accounting Horizons* 7 (2), 30-40.

Landsman, W.R. 1986, An empirical investigation of pension fund property rights. *The Accounting Review* 61(4), 662-691.

Munro, J.W. 1995, Accounting Classification of Convertible Debt, Working Paper Number 95/002. (The Management School, Lancaster University).

Ohlson, J.A. 1995, Earnings, book values, and dividends in equity valuation, *Contemporary Accounting Research* 11(2), 661-687.

Schneider, D.K., and M.G. McCarthy, 1997, Earnings Impact of Applying International Accounting Standard 32 to Convertible Debt: Some Evidence for US Firms, *Journal of International Accounting Auditing and Taxation* 6 (1), 24-41.

Table 1

Year	Convertibles issued	Less Entities with two on issue concurrently	Convertibles retired	Number of firm-years
1988	1	0	0	1
1989	4	0	0	5
1990	3	1	0	7
1991	3	0	1	9
1992	3	1	1	10
1993	7	1	3	13
1994	1	0	2	12
1995	5	1	3	13
1996	4	1	4	12
1997	5	0	3	14
1998	6	1	6	13
1999	3	0	2	14
2000	5	0	6	13
2001	1	0	4	10
2002	7	2	1	14
Total	58	8	36	160

Table 2 Classification and terms of the convertible debt

Not including three entities that classified compound instruments in accordance with IAS 32.

Ability to avoid cash outflows ▸ / Classification ▾	Convert or redeem at the option of the holder[a]	Convert or redeem at the option of the issuer[b]	Mandatory conversion[c]	Total
Liability	9	4	0	13
Other capital funds	10	11	9	30
Equity	2	6	4	12
Total	21	21	13	55

[a] Where the holder has the right to decide whether to convert or redeem the issuing entity has no ability to avoid the outflow of cash.

[b] Where the issuing entity makes the decision to convert or redeem or has the right to override the holder's decision the majority of the cash outflows associated with the instrument can be avoided. If the holder also has right to accrue interest and convert this to shares as well all the cash outflows associated with the instrument can be avoided.

[c] Where conversion is mandatory the only cash flows are the interest payments. Again some convertible debt allows for this to be accrued and converted.

Table 3 Descriptive data

	MV	NI	NETBV	BVE	CLASSD	CLASSO	CLASSE	TERMSD	TERMSO	TERMSE
Mean	1037820	189394	715112	745624	19112	74197	617455	59430	71406	20823
Median	178857	35621	161473	221334	0	4075	0	0	0	0
Std. Dev.	22292580	465749	1248776	1215020	69077	149062	185541	148508	190791	60832
Min	493	-187000	-1267	-130635	0	0	0	0	0	0
Max	14215224	4085073	5064000	5063000	465165	872698	950000	872698	950000	279720
N	160	160	160	160	160	160	160	160	160	160

Table 4 Corrrelations

N = 160	*NI*	*NETBV*	*BVE*	*CLASSD*	*CLASSO*	*CLASSE*	*TERMSD*	*TERMSO*	*TERMSE*
MV	.559	.646	.728	.255	.141	.610	.209	.642	-.105
(Significance)	(.000)	(.000)	(.000)	(.001)	(.075)	(.000)	(.008)	(.160)	(.186)
NI		.585	.606	.206	.336	.322	.352	.370	-.075
(Significance)		(.000)	(.000)	(.009)	(.000)	(.000)	(.000)	(.000)	(.348)
NETBV			.978	.514	.406	.120	.528	.183	-.070
(Significance)			(.000)	(.000)	(.000)	(.131)	(.000)	(.020)	(.380)
BVE				.459	.366	.262	.393	.352	-.015
(Significance)				(.000)	(.000)	(.001)	(.000)	(.000)	(.588)
CLASSD					-.008	.018	.482	.000	-.095
(Significance)					(.923	(.817)	(.000)	(.996)	(.231)
CLASSO						-.155	.567	.185	-.115
(Significance)						(.050)	(.000)	(.019)	(.148)
CLASSE							-.042	.789	.335
(Significance)							(.602)	(.000)	(.000)
TERMSD								-.151	-.138
(Significance)								(.057)	(.082)
TERMSO									-.003
(Significance)									(.965)

Table 5 Regression of market value on net income, net book value of equity exclusive of convertibles, and convertible debt as classified by the issuers.

N = 160	$\frac{1}{MVE}$	$\frac{NI}{MVE}$	$\frac{NETBV}{MVE}$	$\frac{CLASSD}{MVE}$	$\frac{CLASSO}{MVE}$	$\frac{CLASSE}{MVE}$	Adj. R^2
	325682	.871	1.010	-4.203	-1.716	9.239	.807
t-stat	.830	3.193	8.353	-2.779	-2.184	18.306	
(Significance)	(.408)	(.002)	(.000)	(.006)	(.030)	(.000)	
VIF		1.369	1.538	1.185	1.292	1.926	

Table 6 Regression of market value on net income, book value of equity inclusive of convertible debt and and convertible debt as classified by the issuers.

N = 160	$\frac{1}{MVE}$	$\frac{NI}{MVE}$	$\frac{BVE}{MVE}$	$\frac{CLASSD}{MVE}$	$\frac{CLASSO}{MVE}$	$\frac{CLASSE}{MVE}$	Adj. R^2
	262436	.845	1.031	-3.014	-1.361	8.307	.816
t-stat	.691	3.179	8.987	-2.087	-1.782	18.212	
(Significance)	(.490)	(.002)	(.000)	(.039)	(.077)	(.000)	
VIF		1.365	1.185	1.133	1.281	1.650	

Table 7 Regression of market value on net income, net book value of equity exclusive of convertibles, and the contractual conversion terms of the convertible.

N = 160	$\frac{1}{MVE}$	$\frac{NI}{MVE}$	$\frac{NETBV}{MVE}$	$\frac{TERMSD}{MVE}$	$\frac{TERMSO}{MVE}$	$\frac{TERMSE}{MVE}$	Adj. R^2
	945137	.846	.581	-.454	8.877	-12.602	.756
t-stat	2.066	2.764	4.573	-.535	15.661	-2.653	
(Significance)	.040	.006	.000	.594	.000	.009	
VIF		1.361	1.340	1.293	1.862	1.071	

Table 8 Regression of market value on net income, book value of equity inclusive of convertibles, and the contractual conversion terms of the convertible.

N = 160	$\frac{1}{MVE}$	$\frac{NI}{MVE}$	$\frac{BVE}{MVE}$	$\frac{TERMSD}{MVE}$	$\frac{TERMSO}{MVE}$	$\frac{TERMSE}{MVE}$	Adj R^2
	854501	.827	.618	.137	8.328	-12.672	.759
t-stat	1.870	2.720	4.825	.161	15.934	-2.691	
(Significance)	.063	.007	.000	.872	.000	.008	
VIF		1.361	1.128	1.310	1.305	1.067	