The Systematic Risk Effect of Hybrid Securities' Classifications

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May 2007

JEL Classification:
Key Words: Hybrid securities, Systematic risk, Accounting regulation

We gratefully acknowledge the financial support of AFAANZ and the Melbourne Centre for Financial Studies in providing research grant monies. We also thank participants at the Banking and Finance conference, Melbourne, Australia for their helpful comments.

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Abstract

We investigate the risk effect of an accounting standard regulating the classification of hybrid securities according to their economic rather than legal substance. The results from prior studies examining the issue effect of hybrid securities may be biased given that the issue effect is likely to contain two confounding effects. The first effect results from the choice of the security type to raise funds (i.e., pecking order effect). The second effect results from the choice of balance sheet classification (e.g., agency cost of violating debt covenants effect). By investigating the regulatory classification (rather than issue) effect we mitigate the confounding effect problem and provide more specific results on the risk effect of hybrid securities' classification.

Using a sample of Australian firms we find firms' systematic risk is significantly lower in the post-regulatory period relative to the pre-regulatory period. This suggests that the new accounting classification rules provides more transparent information to investors and reduces information asymmetry. Further, cross sectional tests explaining the variation in firms' systematic risk find that the variation in systematic risk is negatively (positively) associated with firm size (firm performance and leverage).

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1. Introduction

Finance studies have examined hybrid securities in the context of their effect at the time of issue. For example, studies investigating convertible debt issues have examined the incentives for issuing convertible debt, the characteristics of firms issuing convertible debt, and the price effect compared to straight equity issues (Davidson, Glascock, & Schwarz, 1995, Jen, Choi & Lee, 1997, Abhyankar & Dunning, 1999). Two alternative, but not mutually exclusive, theories on the underlying determinants of a convertible debt issue are the risk shifting hypothesis and the backdoor equity hypothesis. The former contends that a leveraged firm has an incentive to substitute riskier projects for less risky projects given that shareholders' limited liability transforms leveraged equity into an option on the assets of the firm (Jensen & Meckling 1976, Green 1984, Mayers 1998). This agency solution is mitigated in a market environment where individual shareholders as well as firms have access to a contingent claims market (Frierman & Viswanath 1994). The backdoor equity hypothesis contends that convertible debt is a backdoor equity listing that mitigates the negative information signaling associated with equity raisings (Stein, 1992). Lewis, Rogalski and Seward (1999) find support for both hypotheses when examining firms' motivations for issuing convertible debt. Further, when hybrid securities are limited to preference shares it appears that a firms' propensity to issue hybrid preference shares is influenced by the effectiveness to transfer tax loss capacity and taxable income (Ely, Houston, & Houston 2002).

Examining the issue date of hybrid securities may however reflect two confounding effects including the effect of the choice of the method to raise funds (pecking order effect), and the agency cost effect of the classification of the securities in the balance sheet. For example, the results reported by Rai (2005) on the change in systematic risk in periods before and after the issue of convertible bonds may be influenced by a combination of these two

effects, making it difficult to attribute the change in the systematic risk to only the issue of the convertible debt.

The focus of our study is on the systematic risk effects of financial reporting classification of hybrids. We examine this effect in the context of the introduction of an accounting standard, AASB 1033 *Presentation and Disclosure of Financial Instruments,*[1] (AASB 1033) that prescribes a classification for hybrid securities based on their economic substance rather than their legal form[2]. Given that investors are key users of accounting information, the effectiveness of accounting standards can ultimately be measured by investors' reactions to the information reported under those standards. A new accounting standard that yields more relevant and reliable information than the information provided in accordance with a previous standard should give rise to stock price revisions. The revision would occur because of revised assessments of variables used in valuation models (e.g., cost of equity *via* a change in systematic risk). Similar to any investment project, the effectiveness of a new accounting standard can be evaluated in terms of the benefits the standard provides to the targeted user groups and the cost that will be incurred in disclosing that information. For example, an accounting standard regulating the classification of financial instruments as debt and/or equity in the balance sheet will ultimately affect the capital structure of a firm which, in turn, affects the cost of equity and firm valuation.

[1] As part of its international harmonisation program, the Australian Accounting Standards Board (AASB) pronouncement on an accounting standard dealing with the classification for hybrid instruments (AASB1033) was consistent with the equivalent IASB standard, IAS 32.

[2] The influence of the Australian taxation and regulatory environment is indicated by the following examples. Australian banks preference for hybrid raisings increased in 1999 pursuant to the Australian Prudential Regulation Authority widening the hybrid issues that can be included as part of the bank's capital. The 1997 court decision in Radilo Enterprises Pty Ltd v FC of T96ATC4196 reinstated the tax advantage associated with convertible preference share issues when the Full Federal Court ruled that the preference shares were considered closer to a share issue than a loan and therefore the fixed yield was not taxable. Reforms of the thin capitalization rules and debt/equity definitions effective 1 July 2001 redefine tax deductible interest and dividends that are permissible tax deductions.

We investigate whether the perceived risk structure of firms with hybrids changes when their classification of hybrids as debt, equity, or mezzanine finance, is regulated. In an unregulated environment, classifying hybrid instruments as debt, equity or mezzanine finance is primarily influenced by the legal substance of the instrument and firms' reporting incentives and firms incur costs to manage the classification (Engel, Erickson and Maydew, 1999). AASB1033, which became effective in 1998, requires firms to use balance sheet classifications consistent with the economic substance of each security and specifies the appropriate classification for hybrid securities with certain characteristics. Consideration of specific characteristics such as who is exposed to changes in the fair value of the instruments and any conditions under which the instrument is redeemed is important given that the market's perception of hybrid instruments as debt or equity depends on their characteristics (Kimmel and Warfield, 1996).

By investigating systematic risk effects associated with only regulation of hybrids classification and not with new hybrids issues, our study mitigates the potential dual effects of the hybrid securities. It thus provides a powerful contribution to future analysis of the results of the risk effects of hybrid issues by separating out the classification effect on risk and demonstrating the importance of controlling for it. It also extends the Kimmel and Warfield (1996) study by examining whether differences in systematic risk emerge when regulations purporting to faithfully represent the economic substance are proposed or exist, and by investigating the change in systematic risk for firms with a variety of hybrid instruments.

Research indicates that balance sheet classifications influence equity values (Hopkins 1996; Gramlich, Mayew and McAnally, 2006) and that users' assessment of the credibility of firms' classifications is lower in a discretionary reporting environment (Hodge, Hopkins and Pratt, 2006). Given the ongoing deliberations on the liability-equity distinction, our study is

important for accounting standard setters and capital market participants as it contributes to understanding the importance of accounting regulation in providing relevant and reliable information.

Consistent with our expectation, we find that the classification of hybrids according to AASB1033 requirements is associated with a reduction in firms' systematic risk. Accounting standard-setters would argue that this is due to more transparent information being provided to investors, thereby reducing information asymmetry. Further, we also find that cross sectional differences in the change in systematic risk vary according to firm size, performance and leverage.

The remainder of the paper is organized as follows. Section 2 discusses the balance sheet classification of hybrid securities and the economic significance of the issue. The research method is discussed in Section 3 and Section 4 presents and analyses the results. A summary is provided in Section 5.

2. Classification of hybrid securities

Hybrid securities are defined as those financial instruments that have characteristics of both debt and equity, such as debt convertible to equity and preference shares with rights of redemption and conversion.[3] Financial engineering has resulted in an array of hybrid instruments with varying risk-return attributes and this has implications for financial reporting (Swieringa and Morse, 1985; Frischmann et al., 1999). The classification of financial instruments with characteristics of both debt and equity is problematic since most

[3] In this paper the term 'hybrid financial instrument' includes preference shares with redemption, conversion or reset features, in addition to compound instruments such as convertible bonds. Hybrid financial instruments have previously been distinguished from compound financial instruments on the basis that the former are non-divisible securities with debt and equity features and the latter a combination of two separately identifiable types of securities (Kimmel and Warfield 1995).

accounting systems use a dichotomous capital classification of instruments as debt or equity.[4] While internationally harmonised standards such as AASB 1033[5] have been promulgated, the liability/equity distinction remains on the work agenda of the International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) and is a vexed issue within the global accounting community (Wahlen et al., 1999; Ryan et al., 2001).[6]

The significance of hybrid instruments and their balance sheet classification becomes evident when the global popularity and the size of these securities are considered. Up to 2002, Australian firms raised capital in excess of AUD3 billion in the form of hybrid securities and in the first quarter of 2006, the transacted value of hybrid securities worldwide was estimated at $16 billion (The Wall Street Journal, April 3, Page C.10). The increasing trend towards hybrids may have been influenced by the tax advantages to the issuer and the fact that in many instances they are a cheaper way for firms to raise funds while possibly bolstering a firm's credit rating. Insurance firms are usually large holders of hybrid securities (e.g., Washington Mutual Inc. and MetLife Inc.).

In the absence of clear guidelines for classifying hybrid securities it is unclear whether the classification as debt or equity by firms is a reliable form of reporting the instruments. For example, in March 2006, the Securities Valuation Office, a unit of the National Association of Insurance Commissioners, NAIC (an organization of state insurance

[4] The theoretical accounting alternatives are: (1) the traditional approach (debt or equity); (2) bifurcation, with components of the instruments split between debt and equity; (3) creation of a new capital classification to accommodate such instruments; and (4) no difference (all financial instruments to be given identical treatment on the Balance Sheet).

[5] Following a revision of the AASB accounting standards numbering system, AASB 1033 was renumbered as AASB 132. For the purposes of this study, however, we retain the AASB 1033 designation that applied when firms implemented the accounting classifications requirements that we examine in this paper.

[6] *Liabilities and Equity* is a project being conducted under a modified joint approach by the FASB and the IASB. The project's objective is to improve the accounting for financial instruments by developing a comprehensive standard of accounting and reporting for financial instruments with characteristics of equity, liabilities, or both, and assets. A project summary can be viewed at http://www.fasb.org/project/liabeq.shtml

regulators) decided to reclassify the hybrid securities issued by Lehman Brothers as common stock, making the instrument riskier to hold.

In an economic context hybrid-issuing firms would be more inclined to report their hybrid instruments under a classification that reflects less risk to the firm. For example, in the case of Lehman Brothers the NAIC unit evaluated the security at the request of the New York State Insurance Department, an insurance regulator with authority to direct the review of investments held by insurance companies to the Securities Valuation Office, and concluded that the filing of the $300 million hybrid instrument as debt was not warranted. It appears that an equity classification of security held by an insurer ratchets up its risk weighting, making it more expensive to hold the instrument.

Furthermore, a classification as debt or equity has implications due to increasing or decreasing firms' proximity to the costly violation of debt contract covenants. Classifications will ultimately affect the risk portfolio of a firm but a pre-requisite for revising the stock prices should be a clear understanding of the nature of the instrument. Given that it may not be feasible to assess the true nature of an instrument in the absence of a regulatory requirement for firms to classify the instruments according to their economic substance, any improved classification guidance provided by an accounting standard should reduce information asymmetry regarding the economic substance of hybrid instruments and provide users with information that enables more confident and more accurate assessments of systematic risk.

AASB 1033 specified "the critical feature in differentiating a financial liability from an equity instrument is the existence of a contractual obligation on one party to the financial instrument (the issuer) either to deliver cash or another financial asset to the other party (the holder) or to exchange another financial instrument with the holder under conditions that are potentially unfavorable to the issuer" (par 4.1.3). Further the standard identifies the

accounting classification of preference shares with particular redemption, conversion or dividend rights.[7] AASB 1033 also recognises that the traditional dichotomous classification of convertible financial instruments (e.g., convertible notes and preference shares convertible at the issuer's discretion) as either debt or equity may not reflect the economic substance of the transaction. The standard requires the substance of the contractual arrangements to be contemplated and the debt and equity components of the instruments to be valued at issue date with the debt (equity) component classified as a liability (equity). Fundamental component valuation will significantly alter the key financial statement amounts compared to the current accounting treatment. Barth, Landsman and Rendleman (1998) find that component value estimates are a large part of a bond's par value and change key figures in financial statements. We investigate whether the accounting regulation prescribing the classification of hybrid securities affects systematic risk for firms with hybrid securities. The null hypothesis to be tested is:

H_0: Regulating the accounting classification of hybrid securities has no significant effect on the systematic risk of firms with hybrid instruments.

3. Research method

To assess any structural shifts systematic risk in various time periods before and after the regulatory events, we employ the following standard market model to estimate beta:

$$R_{it} = \alpha_0 + \beta_1 R_{mt} + \varepsilon_i \quad (1)$$

Where:

[7] For example, AASB 1033 specified that a liability classification is appropriate for a preference share that is redeemable on a specific date or at the option of the holder. A preference share providing a redemption right to the holder but with no specified redemption date would not satisfy the definition of a liability as no present obligation exists for the issuer. A preference share that is non-redeemable but specifies a contractual obligation on the issuer to pay cumulative dividends of a fixed amount on determinable dates is a financial liability.

R_{it} is the stock return for firm *i* for time *t*,
α_0 is the intercept
β_1 is systematic risk
R_{mt} is the market return, using the All Ordinaries Market Index, for time t.

The time period *t* includes three sub-periods. An exposure draft (ED 65) on accounting for hybrid securities was issued in June 1995 and this was followed by the issuance of an accounting standard, AASB 1033, in December 1996. The AASB 1033 implementation date was set as 31 December 1997. We estimate beta for the following periods: (1) 200 days prior to (post) the first (last) day of June 1995 when ED 65 was introduced; (2) 200 days prior to (post) the first (last) day of December 1996 when AASB 1033 was released; and (3) 200 days prior to (post) the first (last) day of December 1997 when AASB 1033 was implemented.

Although a firm's systematic risk may be determined from a regression of stock returns on market returns (historical beta), the historical beta is essentially influenced by fundamental factors such as decisions on the type(s) of business the firm is involved with (sensitivity of the industry to market movements), the extent of operating leverage in the business (the level of fixed cost to total cost as a measure of earnings volatility of the business), and the extent to which the firm relies on financial leverage. Since the level of these fundamental factors differs across firms, some firms are expected to experience more (less) changes in their systematic risk given the introduction of AASB 1033. We therefore employ the following cross-sectional model to explain the variation in the change in firms' systematic risk:

$$\Delta BETA = \alpha_0 + \alpha_1 SIZE + \alpha_2 OL + \alpha_2 FL + \alpha_3 ROA + \alpha_4 \sum_{k=1}^{n} \gamma_k IND_k + \varepsilon \qquad (2)$$

Where:

$\Delta BETA$ is the change in beta from before to after the regulatory event
SIZE is firm size measured by natural logarithm of total assets
OL is operating leverage measured by the standard error of earnings for firm i, where higher standard error indicates higher ratio of fixed costs to total costs
FL is financial leverage measured as the ratio of debt to equity for firm i
ROA is Return on assets as a measure of firm performance
IND is industry membership with k =9 representing the number of industries in the sample.

4. Results

4.1 Descriptive Statistics on Systematic Risk

Descriptive statistics on the variations in beta for the three sub-periods are reported in Tables 1, 2 and 3. Table 1 reports the systematic risk association with the release of ED 65. If the new classification would result in more transparent and less asymmetric information in the financial statements, then the high probability of ED 65 promulgation as an accounting standard might lead to a decline in systematic risk for firms with hybrids.

The results in Table 1 are reported for 24000 firm-days (120 firms) on each side of the month in which ED 65, containing recommended classifications for hybrid instruments, was released. Panel A reports systematic risk statistics for before and after the release of the exposure draft. The results for the pre- period (column 1) indicate an average systematic risk of 0.6535 (median = 0.6210) which is significant at the 1% level, with a quartile range minimum of -1.595 and maximum of +1.985. The statistics for the systematic risk after the release of the exposure draft (column 2) indicate a 17.67% decline in the mean beta from 0.6535 to 0.4768. The range of quartiles has also declined by 123.4% for the lowest observation (-0.3610) and 27.9% for the highest observation (1.7060).

INSERT TABLE 1 ABOUT HERE

Table 1 Panel B reports information on comparisons of the betas in the before and after ED 65 release periods. The two-sample *t*-test statistic (2.0700, $p<0.05$) and the Chi-

square statistic (3.5482, $p<0.10$) indicate that the decline in the systematic risk is significant at the 5% and 10% levels, respectively.

Descriptive statistics for the systematic risk attributes of the firm-specific time-series regressions are appear in Table 2. Panel A reports a mean *t*-value of 10.147 in the period prior to the release of the exposure draft, and a relevant mean *p*-value of 0.0942. The mean adjusted R^2 is 0.2293, ranging from -0.0070 to 0.8130. All statistics seem to have decreased in the period following release of the exposure draft (Panel B). The average *t*-value is 3.3010 with a related mean *p*-value of 0.2283. The mean adjusted R^2 has a range of -0.003 to 0.4730 and has declined to 0.0473.

INSERT TABLE 2 HERE

Table 3 reports descriptive statistics for systematic risk for 39800 firm-days (199 firms) on each side of the month in which the accounting standard for hybrid securities' classification (AASB 1033) was released. Relative to drafted 65, AASB 1033 contained no new information and simply mandated what was previously foreshadowed in the exposure draft. The results indicate an insignificant decline in the mean beta from 0.5539 to 0.5152. Given no change in the contents of the standard, these results are expected.

INSERT TABLE 3 ABOUT HERE

Statistics on firm-specific time-series regressions before and after release of AASB 1033 are reported in Table 4. Panels A and B report a systematic decline in the systematic risk attributes from the period before AASB 1033 release to the period after. The average *t*-value decreases from 7.327 to 5.476 and the average adjusted R^2 declines from 0.1204 to

0.0287. The range of the adjusted R^2 also declines from a minimum (maximum) of -0.0131 (0.7640) to -0.0006 (0.3465).

INSERT TABLE 4 ABOUT HERE

Table 5 reports descriptive statistics for systematic risk for 40200 firm-days (201 firms) on each side of the month in which the accounting standard for hybrid securities was required to be implemented. Panel A results indicate that mean systematic risk has decreased by approximately 26% from 0.6254 in the period prior to 0.4604 in the post implementation month period. The median systematic risk also shows a decline of approximately 34% from 0.5747 in the period prior to implementation to 0.3807 following implementation.

INSERT TABLE 5 ABOUT HERE

Table 5 Panel B reports comparisons of beta before and after AASB 1033 promulgation. The *t*-statistic of 3.0100 and Chi-square of 9.6159 are both significant at the 1% level. It appears that most of the uncertainty about the accounting standard has been resolved at the time that companies begin applying the new standard to their hybrid securities. The results indicate that the implementation of the new standard has significantly reduced the information asymmetry between investors and firms.

Firm-specific time-series regression statistics relating to periods before and after the accounting standard implementation month are reported in Table 6. Panels A and B report a systematic decline in the attributes. The average *t*-value decreases from 8.268 to 3.489 and the average adjusted R^2 declines from 0.1175 to 0.0179. The range of the adjusted R^2 also declines from a minimum (maximum) of -0.0407 (0.6980) to -0.0009 (0.2561).

INSERT TABLE 6 ABOUT HERE

4.3 Results from Cross-sectional Regression Equation

Table 7 reports descriptive statistics for variables used in the cross-sectional regression model. The mean (median) size of the sample firms' total assets is $81m ($78m) with a range of $910,000 to $149bn. Operating leverage, measured as the standard error of earnings (OL) has a mean (median) of 0.7030 (0.4688) with a standard deviation of 1.1014, and the mean (median) for the financial risk debt/equity ratio (FL) is 2.0045 (1.0021) with a standard deviation of 3.8473. Profitability (ROA) ranges from 0.0000 to 4.2642 with a mean (median) of 0.7965 (0.5840). The mean (median) change in beta is -0.2144 (-0.1308) with a range of -1.9529 to 1.9676.

INSERT TABLE 7 ABOUT HERE

In Table 8 we examine variables that we suspect are likely to explain the variation in the change in systematic risk. The results indicate that smaller firms experienced a significantly larger decline in their systematic risk than did larger firms (*t*-statistic = -2.120, *p*-value = 0.028), which is consistent with prior evidence that smaller firm are riskier than large firms and there is more information asymmetry between these firms' managers and investors. It appears that investors perceived that implementing AASB 1033 classification requirements forced smaller firms to provide more relevant and reliable information to the market concerning the economic substance of their financing securities.

INSERT TABLE 8 ABOUT HERE

Although there is theoretical support for the relation between equity beta and fundamental factors influencing risk of a firm, our results do not lend support to the expectation that AASB 1033 provides investors with more relevant information about the

capital structure components of highly volatile firms. On the other hand, we find a positive association between financial risk and the change in systematic risk (*t*-statistic = 1.870, which is significant at the 0.064 level. This result indicates that investors perceived that the new reporting classifications would be more effective for highly leveraged firms and that a more reliable classification of debt and equity would provide investors with an opportunity to undertake a more accurate valuation of these firms.

Our results also indicate that investors find this regulation more beneficial when dealing with valuation of more profitable firms (*t*-statistic = 2.00, *p*-value = 0.048). The industry effect is controlled by introduction of nine categorical variables in the model for each industry represented in the sample. It appears that firms in the pharmaceutical industry (Dummy 6) experienced a significant change in the systematic risk due to the new regulation. Their systematic risk profile has decreased significantly (*t*-statistic = 2.610, *p*-value = 0.010) relative to other industries.

5. Summary

Hybrid securities pose a challenge to financial reporting. Given that balance sheet classifications alter investor perceptions of firms' risks, moving from an unregulated to regulated environment for hybrid securities' classification is expected to alter investors' risk perceptions. Our findings of a significant reduction in systematic risk after accounting pronouncements prescribed that firms should classify hybrid securities according to their economic substance indicate that issuance of ED 65 and adoption of AASB 1033 have altered market perceptions of hybrid securities. The change in the systematic risk supports arguments that regulating the classification of hybrid securities will provide investors with more relevant and reliable information.

The systematic risk effects are expected to vary across firms. Using cross sectional tests we find that the change in firms' systematic risk is negatively (positively) associated with firm size (firm performance and leverage). This suggests that the regulation is particularly useful for investors in alleviating information asymmetry regarding the risk-return attributes of smaller firms' hybrid securities.

Our study provides evidence that accounting regulation matters in terms of influencing capital market perceptions, and hence equity valuation. It suggests that the distinction between liabilities and equity is important given the differential effect on systematic risk. A standard regulating classification can improve financial reporting by providing a more complete and representational depiction of the hybrid securities in the balance sheet and provide users with decision-useful information about a firm's risk profile. Systematic risk is an important input into models estimating the cost of equity capital. In turn, the cost of equity capital is used to assess firms' profitability and is therefore a significant factor in firm valuation.

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Table 1

Descriptive Statistics for Systematic Risk Effects of the Release of the Exposure Draft on Hybrid Securities' Classification

Panel A: Descriptive statistics on systematic risk pre and post release of exposure draft on hybrid securities' classification[#]	Risk Pre-Exposure Draft	Risk Post-Exposure Draft
Mean	0.6535	0.4768
Median	0.6210	0.4305
Std Dev	0.8534	0.4006
Minimum	-1.595	-0.3610
Q1	0.099	0.1640
Q3	1.480	0.7720
Maximum	1.985	1.7060
t-Statistic	8.4241	13.1478
(*p*-value)	(0.0001)	(0.0001)
Signed Rank	2669.5	5334.5
(*p*-value)	(0.0001)	(0.0001)

Panel B: Descriptive statistics on cross-sectional comparisons	
Two-sample *t*-test	2.0700
(*p*-value: two-tailed)	(0.039)
Chi-Square	3.5482
(*p*-value: two-tailed)	(0.059)

[#] Systematic Risk is estimated using 48000 firm-days (240 Firms) surrounding the month when the exposure draft on hybrid securities' classification was issued. Systematic risk is estimated using the following standard market model:

$$R_{it} = \alpha_0 + \beta_1 R_{mt} + \varepsilon_i$$

where R_{it} is the stock return for firm *i* in time *t*, R_{mt} is the market return, using ALLORD Market Index, in time t, α_0 is the intercept and β_1 is the systematic risk.

Table 2
Descriptive Statistics from Firm-specific Time-series Regressions of the Standard Market Model around the Release of the Exposure Draft on Hybrid Securities' Classification

	Parameter Estimate	*t*-value	*p*-value	Adjusted R^2
Panel A: Descriptive statistics on time-series attributes pre-exposure draft date (120 firms)[#]				
Mean	0.0008	10.147	0.0942	0.2293
Median	0.0010	5.643	0.0000	0.1060
Std Dev	0.0018	16.058	0.2099	0.2521
Minimum	-0.0040	-36.793	0.0000	-0.0070
Q1	0.0000	0.9550	0.0000	0.0090
Q3	0.0010	19.591	0.0210	0.4120
Maximum	0.0100	52.347	0.9010	0.8130
Panel B: Descriptive statistics on time-series attributes post-exposure draft date (120 firms)[#]				
Mean	0.0010	3.301	0.2283	0.0473
Median	0.0010	2.104	0.0360	0.0090
Std Dev	0.0016	3.669	0.3023	0.0858
Minimum	-0.0030	-0.869	0.0000	-0.0030
Q1	0.0000	0.789	0.0000	-0.0010
Q3	0.0020	4.278	0.4130	0.0430
Maximum	0.0070	18.531	0.9530	0.4730

[#] Attributes are estimated for 72000 firm-days (240 Firms) surrounding the month of the release of the Exposure Draft on Hybrid Securities' Classification. The attributes are estimated using the following standard market model:

$$R_{it} = \alpha_0 + \beta_1 R_{mt} + \varepsilon_i$$

where R_{it} is the stock return for firm *i* in time *t*, R_{mt} is the market return, using ALLORD Market Index, in time t, α_0 is the intercept and β_1 is the systematic risk.

Table 3
Descriptive Statistics for Systematic Risk Effects of the Release of the Accounting Standard for Hybrid Securities' Classification

Panel A: Descriptive statistics on systematic risk pre and post release of the accounting standard for hybrid securities' classification[#]

	Risk Pre-Accounting Standard	Risk Post-Accounting Standard
Mean	0.5539	0.5152
Median	0.4621	0.4767
Std Dev	0.7523	0.3541
Minimum	-1.9122	-0.5320
Q1	0.0999	0.2399
Q3	1.1484	0.7332
Maximum	1.9941	1.5714
t-Statistic	10.3874	20.5749
(*p*-value)	(0.0001)	(0.0001)
Signed Rank	7424	9902
(*p*-value)	(0.0001)	(0.0001)

Panel B: Descriptive statistics on cross-sectional comparisons

Two-sample *t*-test	0.6600
(*p*-value: two-tailed)	(0.5103)
Chi-Square	0.0046
(*p*-value: two-tailed)	(0.9457)

[#] Systematic risk is estimated using 79600 firm-days (398 firms) surrounding the month when the accounting standard on hybrid securities' classification was released. Systematic risk is estimated using the following standard market model:

$$R_{it} = \alpha_0 + \beta_1 R_{mt} + \varepsilon_i$$

where R_{it} is the stock return for firm *i* in time *t*, R_{mt} is the market return, using ALLORD Market Index, in time t, α_0 is the intercept and β_1 is the systematic risk.

Table 4
Descriptive Statistics from Firm-specific Time-series Regressions of the Standard Market around the Release of the Accounting Standard for Hybrid Securities' Classification

	Parameter Estimate	*t*-value	*p*-value	Adjusted R^2
Panel A: Descriptive statistics on time-series attributes pre-release date of the standard[#]				
Mean	0.0019	7.327	0.1988	0.1204
Median	0.0008	1.882	0.0143	0.0117
Std Dev	0.0040	14.135	0.2864	0.7958
Minimum	-0.0033	-38.125	0.0000	-0.0131
Q1	0.0002	0.464	0.0000	0.0000
Q3	0.0025	10.773	0.3167	0.2056
Maximum	0.0347	57.193	0.9803	0.7640
Panel B: Descriptive statistics on time-series attributes post-release date of the standard[#]				
Mean	0.0006	5.476	0.0892	0.0287
Median	0.0004	4.490	0.0000	0.0121
Std Dev	0.0012	4.640	0.2018	0.0451
Minimum	-0.0060	-1.595	0.0000	-0.0006
Q1	-0.0000	2.045	0.0000	0.0020
Q3	0.0011	7.870	0.0413	0.0375
Maximum	0.0060	28.812	0.9761	0.3465

[#] Model attributes are estimated for 119400 Firm-days (398 Firms) surrounding the month of the release of the accounting standard for hybrid securities' classification. The attributes are estimated using the following standard market model:

$$R_{it} = \alpha_0 + \beta_1 R_{mt} + \varepsilon_i$$

where R_{it} is the stock return for firm *i* in time *t*, R_{mt} is the market return, using ALLORD Market Index, in time t, α_0 is the intercept and β_1 is the systematic risk.

Table 5
Descriptive Statistics for Systematic Risk Effects of the Implementation of the Accounting Standard for Hybrid Securities' Classification

Panel A: descriptive statistics on systematic risk pre and post implementation of accounting standard for hybrid securities' classification

	Risk Pre-Accounting Standard	Risk Post-Accounting Standard
Mean	0.6254	0.4604
Median	0.5747	0.3807
Std Dev	0.6699	0.3964
Minimum	-1.7187	-0.3923
Q1	0.1645	0.1599
Q3	1.1963	0.7212
Maximum	1.8983	1.7617
t-Statistic	13.2371	16.5049
(*p*-value)	(0.0001)	(0.0001)
Signed Rank	8400	9741
(*p*-value)	(0.0001)	(0.0001)

Panel B: Descriptive statistics on cross-sectional comparisons

Two-sample *t*-test	3.0100
(*p*-value: two-tailed)	(0.002)
Chi-Square	9.6159
(*p*-value: two-tailed)	(0.001)

[#] Systematic risk is estimated using 80400 Firm-days (402 Firms) surrounding the month of the implementation of the accounting standard on Hybrid Securities' classification. Systematic risk is estimated using the following standard market model:

$$R_{it} = \alpha_0 + \beta_1 R_{mt} + \varepsilon_i$$

where R_{it} is the stock return for firm *i* in time *t*, R_{mt} is the market return, using ALLORD Market Index, in time t, α_0 is the intercept and β_1 is the systematic risk.

Table 6
Descriptive Statistics from Firm-specific Time-series Regressions of the Standard Market Model Around the Implementation of the Accounting Standard on Hybrid Securities' Classification

	Parameter Estimate	*t*-value	*p*-value	Adjusted R^2
Panel A: Descriptive statistics on time-series attributes pre-implementation date[#]				
Mean	0.0010	8.268	0.1317	0.1175
Median	0.0005	3.977	0.0000	0.0346
Std Dev	0.0027	13.470	0.2559	0.1732
Minimum	-0.0052	-34.665	0.0000	-0.0407
Q1	0.0000	1.052	0.0000	0.0029
Q3	0.0016	11.562	0.0748	0.1848
Maximum	0.0174	54.889	0.9671	0.6980
Panel B: Descriptive statistics on time-series attributes post-implementation date[#]				
Mean	0.0009	3.489	0.1521	0.0179
Median	0.0006	2.725	0.0065	0.0058
Std Dev	0.0017	3.237	0.2544	0.0318
Minimum	-0.0086	-1.508	0.0000	-0.0009
Q1	0.0001	1.196	0.0000	0.0005
Q3	0.0015	5.018	0.2198	0.0214
Maximum	0.0123	19.558	0.9482	0.2561

[#] Attributes are estimated for 120600 firm-days (402 Firms) surrounding the month of the implementation of the accounting standard on hybrid securities' classification. The attributes are estimated using the following standard market model:

$$R_{it} = \alpha_0 + \beta_1 R_{mt} + \varepsilon_i$$

where R_{it} is the stock return for firm *i* in time *t*, R_{mt} is the market return, using ALLORD Market Index, in time t, α_0 is the intercept and β_1 is the systematic risk

Table 7
Descriptive Statistics for the Cross-sectional Regression of the Change in Systematic Risk around the Implementation Month of the Accounting Standard on Hybrid Securities' Classification on Firm Size, Operating Leverage, Financial Leverage, Profitability and the Industry Dichotomous Variables

	Size	OL	FL	ROA	$\Delta BETA$
Mean	18.1987	0.7030	2.0045	0.7965	-0.2144
Std Deviation	2.2245	1.1014	3.8473	0.7950	0.7751
Minimum	13.7213	0.0529	0.0291	0.0000	-1.9529
Q1	16.5250	0.2997	0.3849	0.1880	-0.7309
Median	18.1662	0.4688	1.0221	0.5840	-0.1308
Q3	19.6758	0.6410	1.6788	1.1163	0.2924
Maximum	25.7320	10.0972	21.8685	4.2642	1.9676
N	188	138	188	162	203

Where, $\Delta BETA$ = Change in beta from pre to post implementation date; *SIZE* = Firm size measured by natural logarithm of total assets; *OL* = operating leverage measured by the standard error of earnings for firm *i*, where higher standard error indicates higher ratio of fixed costs to total costs, FL = financial leverage measured as the ratio of debt to equity for firm *i*, *ROA* = Return on assets as a measure of firm performance; and IND = industry membership with k =9 representing the number of industries in the sample.

Table 8
Cross-sectional Regression of the Change in Systematic Risk around the Implementation Month of the Accounting Standard on Hybrid Securities' Classification on Firm Size, Operating Leverage, Financial Leverage, Profitability and the Industry Dichotomous Variables

The following cross-sectional model is used:

$$\Delta BETA = \alpha_0 + \alpha_1 SIZE + \alpha_2 OL + \alpha_2 FL + \alpha_3 ROA + \alpha_4 \sum_{k=1}^{n} \gamma_k IND_k + \varepsilon$$

Where, $\Delta BETA$ = Change in beta from pre to post implementation date; *SIZE* = Firm size measured by natural logarithm of total assets; *OL* = operating leverage measured by the standard error of earnings for firm *i*, where higher standard error indicates higher ratio of fixed costs to total costs, FL = financial leverage measured as the ratio of debt to equity for firm *i*, *ROA* = Return on assets as a measure of firm performance; and IND = industry membership with k =9 representing the number of industries in the sample.

	Parameter estimate	Standard error	*t*-value	*p*-value (two-tailed)
Intercepts	0.7804	0.5729	1.360	0.175
Size	-0.0710	0.0307	-2.210	0.028
OL	-0.0232	0.0665	-0.350	0.727
FL	0.0846	0.0435	1.870	0.064
ROA	0.1765	0.0883	2.000	0.048
Dummy1	-0.0813	0.2118	-0.3800	0.701
Dummy2	-0.0798	0.2835	-0.2800	0.778
Dummy3	0.1782	0.2933	0.6100	0.545
Dummy4	0.3012	0.2112	1.4300	0.156
Dummy5	0.3398	0.2360	1.4400	0.152
Dummy6	0.7626	0.2924	2.6100	0.010
Dummy7	0.2788	0.2620	1.0600	0.289
Dummy8	0.3761	0.3677	1.0200	0.308
Dummy9	1.2194	0.7720	1.5800	0.116
N	134			
F statistic (*p*-value)	1.8900 (0.042)			
Adjusted R^2	0.074			