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The Systematic Risk Effect of Hybrid Security Classification

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We investigate the systematic risk effect of introducing an accounting standard that required the classification of hybrid securities according to their economic substance rather than their legal form. Using a sample of Australian firms we find that firms' systematic risk is significantly lower in the post-regulatory period than in the pre-regulatory period. However, only after firms adopted the changed classification was there a significant difference in the reduction in systematic risk for firms required to adopt the new classification and control firms. This suggests that the new accounting classification rules provided more transparent information to investors and reduced information asymmetry, but that investors waited to see the impact on financial statements before they reassessed systematic risk vis a vis other firms. Cross-sectional tests explaining the variation in firms' systematic risk demonstrate that the variation in systematic risk is negatively (positively) associated with firm size (firm performance and leverage). These findings are important to understanding the potential impact of the current joint FASB/IASB project to improve and simplify financial reporting requirements for financial instruments with equity and debt characteristics.

1. Introduction

Finance studies have examined various aspects of hybrid securities, including 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 leveraged firm managers have incentives 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

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securities are limited to preference shares it appears that 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 impact of issuing hybrid securities may, however, reflect two confounding effects. These include the choice of the method to raise funds (pecking order effect), and the agency cost 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 effects, making it difficult to attribute the change in the systematic risk to only the issue of the convertible debt.

Our study focuses on the systematic risk effects of financial reporting classification of hybrids. We examine this effect in the context of the 1996 introduction of an accounting standard, AASB 1033 *Presentation and Disclosure of Financial Instruments* (AASB 1033) [2] that prescribes a classification for hybrid securities based on their economic substance rather than their legal form. With the introduction of International Financial Reporting Standards in Australia, this standard has now been superseded by AASB 132 *Financial Instruments: Presentation,* which was most recently issued in 2009. For the purposes of this study, we retain the AASB 1033 designation that applied when firms were first required to adopt the accounting classification requirements that we examine in this chapter.

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. This would occur because of revised assessments of variables used in valuation models (for example, 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 of disclosing that information. For example, an accounting standard regulating the classification of financial instruments as debt or equity in the balance sheet ultimately affects firms' capital structure which, in turn, affects their cost of equity and firm valuation.

We investigate whether the perceived risk structure of firms with hybrids changes when regulations concerning the balance sheet classification of hybrids as debt or equity, are foreshadowed, legislated, and then implemented. In an unregulated environment, hybrid instrument classification as debt, equity or mezzanine finance has been shown to be influenced by the legal substance of the instrument and firms' reporting incentives, and firms incur costs to manage the classification (Engel, Erickson & Maydew, 1999). AASB1033, which became effective in 1998, required firms to use balance sheet classifications consistent with the economic substance of each security and specified the appropriate classification for hybrid securities with certain characteristics. Kimmel and Warfield (1996) demonstrate that specific

[2] 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 at that time, IAS 32 *Financial Instruments: Disclosure and Presentation*.

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 the instruments' characteristics.

By investigating systematic risk effects associated with regulation of hybrids classification and not with new hybrids issues, our study mitigates the potential dual effects occurring upon hybrid security issuance. It thus contributes to future analysis of the risk effects of hybrid issues by separating out the classification effect and demonstrating the importance of controlling for it. It also extends prior research by examining whether systematic risk differences emerge when regulations purporting to faithfully represent financial instruments' economic substance are proposed or applied, 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 & McAnally, 2006) and that users' assessments of the credibility of firms' classifications are lower in a discretionary reporting environment (Hodge, Hopkins & 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. This is important to understanding the potential impact of the current joint Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) project to improve and simplify the financial reporting requirements for financial instruments with characteristics of equity (*http://www.fasb.org*), last updated March 2010).

We find that the classification of hybrids according to AASB1033 requirements is associated with a reduction in firms' systematic risk. However, this is only different from systematic risk reduction in a control group when it is associated with the standard's implementation. Accounting standard-setters would argue that this is due to more transparent information being provided to investors, thereby reducing information asymmetry, when firms adopted the standard. We also find that differences in the change in systematic risk vary according to firm size, performance and leverage.

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. Section 5 summarises and concludes the study.

2. Hybrid Securities Classification

Hybrid securities are 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

[3] In this chapter 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

instruments with varying risk-return attributes and this has implications for financial reporting (Swieringa & Morse, 1985; Frischmann et al., 1999). The classification of financial instruments with characteristics of both debt and equity is problematic since most accounting systems use a dichotomous capital classification of instruments as debt or equity.[4] While internationally harmonised standards such as AASB 1033 and its successor, AASB 132 *Financial Instruments: Presentation*, have been promulgated, the liability/equity distinction remains an active project of the IASB and FASB and is a vexed issue within the global accounting community (Wahlen et al., 1999; Ryan et al., 2001).

The economic context for hybrids classification can affect the appropriateness of either debt or equity classification. In March 2006, the United States (US) Securities Valuation Office, a unit of the National Association of Insurance Commissioners, (NAIC, an organisation of state insurance regulators) reclassified Lehman Brothers hybrid securities as common stock. Given that equity classification of a security held by an insurer ratchets up its risk weighting, making it more expensive to hold the instrument, and given Lehman Brothers' filing for bankruptcy in 2008, this was an insightful assessment at the time.

Consistent with this theme, from the issuer's perspective, classification of hybrids as debt or equity can change firms' proximity to the costly violation of debt contract covenants (Schroeder, Sevin & Schauer, 2006). Other incentives for avoiding debt classification include improved debt ratings (Engel et al., 1999; Gramlich et al., 2006), reduced market perceptions of firm risk (Bowman, 1980; Eli, 1995; Schroeder et al., 2006), impact on share valuation by financial analysts (Hopkins, 1996), and credit analysts' claims assessments (Frischmann et al., 1995).

Given managers' hybrid classification incentives, it may not be feasible for investors to assess the underpinning economic substance of a firm's capital structure when firms' classification decisions are voluntary. As such, classification guidance such as the guidance provided in AASB 1033 to classify hybrids according to their economic substance should reduce information asymmetry. In turn, this should provide investors with information that enables more confident and more accurate systematic risk assessments, consistent with Cheung's (1982) findings that changed lease classification as a result of an accounting standard reduced lessee's systematic risk because the disclosure reduced the uncertainty related to risk-assessment.

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" (para.4.1.3). For example, AASB 1033 specified that a liability classification is appropriate for a

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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).

[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).

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.

AASB 1033 also recognised that the traditional dichotomous classification of convertible financial instruments (for example, convertible notes and preference shares convertible at the issuer's discretion) as either debt or equity may not reflect their economic substance. The standard required 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 significantly altered the key financial statement amounts compared to then-current accounting treatment. Barth, Landsman and Rendleman (1998) find that component value estimates 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. Because standardisation of classification according to the economic substance of the hybrids should reduce information asymmetry, it should also facilitate more accurate and confident assessments of systematic risk by investors. The hypothesis to be tested is:

H_0: Regulating that the accounting classification of hybrid securities must reflect the securities' economic substance reduces the systematic risk of firms with hybrid instruments.

3. Research Method

To assess any structural shifts in 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:

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, followed by the accounting standard, AASB 1033, issued in December 1996 for implementation from 31 December 1997. We estimate beta for the following periods: (1) 200 days before (after) the first (last) day of June 1995 when ED 65 was introduced; (2) 200 days before (after) the first (last) day of December 1996 when AASB 1033 was released; and (3) 200 days before (after) the first (last) day of December 1997 when AASB 1033 was implemented.

Although a firm's systematic risk may be determined by regressing stock returns on market returns (historical beta), the historical beta is influenced by fundamental factors such as 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 employ the following cross-sectional model to explain variation in the change in firms' systematic risk:

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

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 (earnings before interest and tax divided by total 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 beta variations for the three sub-periods are reported in Tables 1 - 3. To determine if any detected changes are due to the regulation or general market conditions, we use a control group with no hybrids on issue and matched on industry and total assets. Table 1 reports the systematic risk association with the ED 65 release. If investors expected the new classification to result in more transparent and less asymmetric information in the financial statements, then the high probability of ED 65 promulgation as an accounting standard should lead to reduced systematic risk for firms with hybrids.

Table 1 reports descriptive statistics for 48,000 test and control sample firm-days (240 firms) on each side of the ED 65 release month. Panel A systematic risk statistics for the pre- period test sample indicate an average systematic risk of 0.6535 (median = 0.6210) which is significant at the 1 percent level. The statistics for the systematic risk after the release of the exposure draft (column 2) indicate a 17.67 percent decline in the mean beta from 0.6535 to 0.4768. Similarly, the control group descriptive statistics indicate reduced systematic risk around the same period. For both samples, risk declines are significant at either the 5 percent or 1 percent levels (1-tailed) using t- or Chi-Square tests.

Table 1 also reports systematic risk descriptive statistics for 79,600 test and control firm-days (398 firms) on each side of the month in which the accounting standard for hybrid securities' classification (AASB 1033) was released. Relative to ED 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. There is no significant decline in the systematic risk for the control sample, either.

As such, until firms implemented AASB 1033, there were no significant differences in the systematic risk changes for the test and control samples. Table 1 descriptive statistics for systematic risk for 80,400 test and control sample firm-days (402 firms) on each side of the month in which AASB 1033 was implemented indicate that mean systematic risk decreased by approximately 26 percent from 0.6254 to 0.4604 in the period of AASB 1033 adoption (Panel A). The median systematic risk also shows a decline of approximately 34 percent from 0.5747 in the period prior to implementation to 0.3807 following implementation.

Table 1 Descriptive Statistics for Systematic Risk Effects of the Release of ED 65, the Release of AASB 1033 and the Implementation of AASB 1033

PANEL A				
Before and after release of ED 65. *Systematic risk is estimated using 48,000 firm-days (240 firms)*				
	Test Sample		Control Sample	
	Risk Pre-Exposure Draft	Risk Post-Exposure Draft	Risk Pre-Exposure Draft	Risk Post-Exposure Draft
Mean	0.6535	0.4768	0.7677	0.4103
Median	0.6210	0.4305	0.8004	0.4043
Std Dev	0.8534	0.4006	0.7678	0.4011
Minimum	-1.595	-0.3610	-1.9555	-0.4472
Maximum	1.985	1.7060	1.9332	1.4417
t-Statistic (*p*-value)	8.4241 (0.0001)	13.1478 (0.0001)	8.4229 (0.0000)	8.6198 (0.0000)
Signed Rank (*p*-value)	2669.5 (0.0001)	5334.5 (0.0001)	6.2601 (0.0000)	5.7785 (0.0000)
Before and after release of AASB 1033. *Systematic risk is estimated using 79,600 firm-days (398 firms)*				
	Risk Pre-Accounting Standard	Risk Post-Accounting Standard	Risk Pre-Accounting Standard	Risk Post-Accounting Standard
Mean	0.5539	0.5152	0.5508	0.5256
Median	0.4621	0.4767	0.4577	0.5402
Std Dev	0.7523	0.3541	0.7173	0.3898
Minimum	-1.9122	-0.5320	-1.8096	-0.4988
Maximum	1.9941	1.5714	1.8321	1.4742
t-Statistic (*p*-value)	10.3874 (0.0001)	20.5749 (0.0001)	8.3753 (0.0000)	14.7122 (0.0000)
Signed Rank (*p*-value)	7424 (0.0001)	9902 (0.0001)	6.7836 0.0000	9.5337 (0.0000)
Before and after implementation of AASB 1033. *Systematic risk is estimated using 80,400 firm-days (402 firms)*				
Mean	0.6254	0.4604	0.5855	0.4281
Median	0.5747	0.3807	0.6644	0.3708
Std Dev	0.6699	0.3964	1.1318	0.4073
Minimum	-1.7187	-0.3923	-9.9227	-0.8149
Maximum	1.8983	1.7617	1.9026	1.4797
t-Statistic (*p*-value)	13.2371 (0.0001)	16.5049 (0.0001)	5.9877 (0.0000)	12.1667 (0.0000)
Signed Rank (*p*-value)	8400 (0.0001)	9741 (0.0001)	8.7909 (0.0000)	9.2303 (0.0000)

PANEL B		
	Test Sample	Control Sample
Cross-sectional comparisons - Before and after release of ED 65. Systematic risk is estimated using 48,000 firm-days (240 firms)		
Two-sample *t*-test	2.0700	3.4752
(*p*-value: two-tailed)	(0.039)	(0.0007)
Chi-Square	3.5482	3.4085
(*p*-value: two-tailed)	(0.059)	(0.0649)
Cross-sectional comparisons - Before and after release of AASB 1033. Systematic risk is estimated using 79,600 firm-days (398 firms)		
Two-sample *t*-test	0.6600	0.3357
(*p*-value: two-tailed)	(0.5103)	(0.7374)
Chi-Square	0.0046	0.4202
(*p*-value: two-tailed)	(0.9457)	(0.5169)
Cross-sectional comparisons - Before and after implementation of AASB 1033. Systematic risk is estimated using 80,400 Firm-days (402 firms)		
Two-sample *t*-test	3.0100	1.1514
(*p*-value: two-tailed)	(0.002)	(0.1312)
Chi-Square	9.6159	15.2836
(*p*-value: two-tailed)	(0.001)	(0.0001)
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 1 Panel B comparisons of beta before and after AASB 1033 adoption yield a *t*-statistic of 3.0100 and a Chi-square of 9.6159, both significant at the 1% level. It appears that most of the uncertainty about the accounting standard was resolved at the time that companies began applying the new standard to their hybrid securities. The results indicate that implementation of the new standard significantly reduced information asymmetry between investors and managers. The reduced systematic risk was not matched by the control group (*t*= 1.1514, *p* > 0.10), although the Chi-Square results indicate a significant decline for the control group, also. Overall, these results indicate that there was a significant decline in systematic risk for all firms during the period of ED 65 release, but it was only when firms adopted AASB 1033 that any statistics indicate a significant difference in the reduction in systematic risk for test and control samples.

Descriptive statistics for the systematic risk attributes of firm-specific time-series regressions appear in Table 2.

Table 2 Descriptive Statistics from Firm-specific Time-series Regressions of the Standard Market Model Around the Release of ED 65, the Release of AASB 1033 and the Implementation of AASB 1033

	Parameter Estimate	*t*-value	*p*-value	Adjusted R^2
PANEL A Pre regulatory periods				
Time-series attributes pre-ED 65. 72,000 firm-days (240 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
Maximum	0.0100	52.347	0.9010	0.8130
Time-series attributes pre-AASB 1033. 119,400 firm-days (398 Firms)				
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
Maximum	0.0347	57.193	0.9803	0.7640
Time-series attributes pre-AASB 1033 implementation. 120,600 firm-days (402 firms)				
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
Maximum	0.0174	54.889	0.9671	0.6980
PANEL B Post regulatory periods				
Time-series attributes post-ED 65. 72,000 firm-days (240 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
Maximum	0.0070	18.531	0.9530	0.4730
Time-series attributes post-AASB 1033. 119,400 firm-days (398 firms)				
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
Maximum	0.0060	28.812	0.9761	0.3465
Time-series attributes post-AASB 1033 implementation. 120,600 firm-days (402 firms)				
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
Maximum	0.0123	19.558	0.9482	0.2561

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.

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 explanatory power is 0.2293, ranging from -0.0070 to 0.8130. All statistics seem to have decreased in the period following the exposure draft release (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.

Panels A and B also 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).

Before and after AASB 1033 implementation statistics reported in 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).

4.2 Results from Cross-sectional Regression Equation

Table 3 descriptive statistics for variables used in the cross-sectional regression model show that the mean (median) size of the sample firms' total assets is $81m ($78m), ranging from $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.

In Table 4 we examine variables that we suspect can 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 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 forced smaller firms to provide more relevant and reliable information concerning the economic substance of their financing securities.

Table 3 Descriptive Statistics for Cross-sectional Regression of the Change in Systematic Risk Around the Implementation AASB 1033

	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
Median	18.1662	0.4688	1.0221	0.5840	-0.1308
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 (EBIT/TA); and IND = industry membership with k =9 representing the number of industries in the sample.

Table 4 Cross-sectional Regression of the Impact of the Change in Systematic Risk Around the Implementation of AASB 1033 on Hybrid Securities' Classification

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

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 (EBIT/TA); 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			

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 (2-tailed)). 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 for valuation of more profitable firms (*t*-statistic = 2.00, 2-tailed *p*-value = 0.048). The industry effect is controlled by the introduction of dummy 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 decreased significantly (*t*-statistic = 2.610, *p*-value = 0.010) relative to other industries.

5. Summary

Hybrid securities pose a financial reporting challenge. 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 systematic risk reduced around ED 65 issuance and AASB 1033 implementation. However, only implementation of AASB 1033 altered market perceptions of hybrid securities, given that systematic risk for firms not required to change accounting in response to AASB 1033 reduced when ED 65 was issued, also. The change in the systematic risk supports arguments that regulating the classification of hybrid securities provided investors with more relevant and reliable information, but that – at least in this case – investors wait until firms implement the changed classification to revise their assessments of systematic risk.

The systematic risk effects vary across firms. The change in firms' systematic risk is negatively (positively) associated with size (firm performance and financial 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 classification 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 their 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 can 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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