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International Accounting Implications of Bond-cum-Warrant Issues

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Abstract: *This paper examines the implications of differences in accounting practices for bond-cum-warrant (warrant bond) issues. The accounting practices for bond-cum-warrant issues in a number of countries are surveyed. In addition, for a sample of Singaporean firms, empirical evidence is provided on the impact of changing to the International Accounting Standards Committee split accounting standard. Significant changes in key financial ratios are observed. On balance, it is demonstrated that methods of accounting for warrant bond issues can substantively complicate the process of making inter-country comparisons of accounting information.*

In recent years, issues of debt with detachable warrants have increased substantially, both in the Eurobond markets and in various domestic capital markets.[1] In conjunction, the accounting procedures associated with bond-cum-warrant issues have also received much recent attention.[2] The differing methods used to account for these instruments have significant implications for traditional financial statement presentations. For example, if the coupon on the debt is low enough, the debt plus warrant issue can be issued at the par value of the debt, or even at a premium to the par value. In some countries, such as Singapore, it is permissible to account for the balance sheet implications of a debt plus warrant issue by increasing only the amount of debt outstanding. Because many other countries, such as the United States, follow the accounting practice of apportioning the market value of the warrants to equity, this significantly complicates inter-country comparisons of accounting information.

This paper analyzes the impact of debt plus warrant financing on the accounting statements of Singaporean issuers. It compares financial ratios calculated using the current accounting practice of recording the entire proceeds of the issue as a loan stock amount, with ratios calculated using the internationally recommended practice of recording the proceeds received for the two components of the issue separately. The paper is organized as follows: the first section examines the institutional

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background surrounding the use of bond-cum-warrant financing. The second section describes the recommended accounting standards for these issues in various countries. The third section gives details of the sample of Singaporean firms used in the study.

The fourth section provides empirical evidence on the accounting implications associated with using different standards. The final section provides a summary of results contained in the paper and offers some concluding comments.

Institutional Background

While debt plus warrant issues have gained popularity in many countries, e.g. the United States (Phelps et.al., 1991) and Germany (Gebhardt, 1989), this type of instrument has achieved the greatest popularity in the Asia–Pacific region, most importantly Japan. The bulk of the Japanese equity warrants trading in the London over-the-counter (OTC) market have been detached from Eurobond issues of Japanese corporations (Kuwahara and Marsh, 1992). From 1986 to 1989 Japanese corporations issued some US$145 billion worth of, usually US dollar denominated, warrant bonds at coupons ranging from 1 to 3 percent. Because of the low coupon on the US dollar debt issues, borrowers interested in obtaining yen financing were often able to currency swap the US dollar obligation to obtain a negative yen interest rate (Stulz, 1993). In 1989 alone, approximately $60 billion in Japanese stock warrants were issued and 158 percent more shares were issued due to warrant exercise than through public placements. The $95 billion in outstanding Japanese warrants at the end of 1990 contrasted with $2 billion in New York Stock Exchange (NYSE)-listed warrants and $700 million in UK warrants.

Singapore is another Asia-Pacific country in which debt plus warrant financing has been popular. As illustrated in Table 1, trading in warrants accounted for as much as 25.53 percent of quarterly volume and 14 percent of the value of Stock Exchange of Singapore (SES) turnover during 1989. As with Japanese issuers, Singaporean companies have used warrants to raise funds generally at below market coupons. In the July 1988 to June 1990 period, Singapore companies raised over $2.7 billion in bond-cum-warrant issues. Unlike Japanese issuers, the bulk of the

Table 1. Volume and value of debt with warrants traded on the Singapore Stock Exchange, 88Q4–90Q4

	Quarterly Volume		Quarterly value	
	Debt and Warrant	% of total market	Debt and Warrant	% of total market
4Q 88	145 272	12.58	71 208	3.24
1Q 89	845 354	17.13	508 594	9.49
2Q 89	1 586 161	25.53	1 3477 765	12.66
3Q 89	1 447 106	22.22	1 639 411	13.87
4Q 89	825 225	16.27	923 408	9.21
1Q 90	928 718	8.14	1 117 377	8.91
2Q 90	505 441	14.07	638 179	7.22
3Q 90	534 643	12.96	425 581	5.11
4Q 90	240 552	10.61	181 197	4.37

Source: Stock Exchange of Singapore, *Journal.*

Singaporean debt plus warrant issues were sourced in the Singapore capital market where, due partially to restrictions on non-resident investment, the bulk of funds were raised from domestic investors. The most important investment groups for either the discount security or the warrants are shareholders of record, other corporations and financial institutions. A number of different variations on bond-cum-warrant financing are observed, e.g. the warrants being distributed in a rights offering to shareholders while the loan is privately placed with financial institutions.

While there are a number of variations on debt plus warrant financing, these types of issues are analytically similar to convertible debt. In the absence of tax and other accounting considerations, Jones and Mason (1986), Finnerty (1986) and Billingsley, et. al., (1990) argue that convertible debt and bond-cum-warrant issues can be structured to be equivalent if the terms of the issues are comparable. However, in practice, there are significant practical differences between the two methods of financing. From an accounting perspective, the differences can be illustrated in the contrary treatment of these financing methods in APB 10 (1966), which recommends standardized treatment, and APB 14 (1969), which provides for distinct methods of handling these securities. More precisely, due to implementation difficulties which APB 10 raised, APB 14 concluded that "in the case of *convertible debt*, the inseparability of the debt and equity features is such that no portion of the proceeds from issuance should be accounted for as attributable to the conversion feature."[3] In the case of debt with detachable stock warrants, it is possible to ascertain a market value for the debt and equity portions of the issue, permitting the warrants to be accounted for as paid-in capital.

These accounting differences are also reflected in the observed differences in the terms contained in the two methods of financing. Table 2 provides evidence on the

Table 2. Japanese offshore issues of convertible debt and warrant bond financing, 1977–1989. The sample containes all convertible and warrant bonds issued by Japanese companies (except utilities and financial companies) on the dollar offshore market from 1977 to the end of 1989 for which an event date could be found in the *Financial Times*. The size is the average yen amount in millions and average maturity is in years.

		Convertible issues			Warrant bond issues		
	Total sample no.	no.	Size	Matur.	no.	Size	Matur.
Total	451	83	12 285	14.19	368	27 354	4.74
1977	5	5	5920	15.00			
1978	1	1	10 255	15.00			
1979	6	6	10 520	14.00			
1980	4	4	7 798	13.75			
1981	20	20	9 738	14.67			
1982	10	8	9 387	14.86	2	11 535	5.00
1983	11	9	17 599	14.11	2	17 586	5.00
1984	31	15	15 167	12.94	16	12 753	5.67
1985	28	13	15 215	14.44	15	14 693	5.13
1986	42				42	15 267	5.32
1987	86	2	15 969	15.00	84	18 530	5.10
1988	103				103	21 044	4.66
1989	104				104	50 178	4.12

Source: Stultz (1993).

Japanese experience with these instruments during the 1980s. As is typical of the experience in other countries, convertible issues tended to have longer maturities, while five-year maturities were popular in debt plus warrant issues. The shorter maturities on the Japanese warrant bonds are tailored more closely to the requirements of the currency swap market. Other observed differences occur between the exercise price on the warrants, which tend to be set near the money, and the conversion price, which tends to be set out of the money. In contrast to recent Japanese experience, there is still a preponderance of convertible financing in the United States. This market practice persists in the face of strong arguments in favor of debt plus warrant financing (e.g., Billingsley et. al., 1990). In the United States, debt plus warrant issues have typically been used by "smaller, riskier companies." This typical issuer profile has created a negative market perception for bond-cum-warrant offerings, (Finnerty, 1986). This perception does not appear to extend to bond-cum-warrant issues in other countries with different accounting practices, e.g. since the early 1980s, Germany which has experienced a "continuing boom" in bond-cum-warrant financing (Gebhardt, 1989).

In addition to differences between convertible and bond-cum-warrant issues, there are also practical differences between bond-cum-warrant issues. Unlike convertibles, these offerings do permit the warrant component to be detached as a separate security and traded independently. While, in some cases, the underlying debt issue can be used for the payment in the event of exercise, it is conventional for the detachable warrants to be exercisable only with cash.[4] The different possible designs for bond-cum-warrant issues have specific implications for groups which have a stake in the offering: the company shareholders, the investors in the issue, the underwriters and the tax authorities. For the German case where accounting regulations approximate those of APB 10, Gebhardt (1989) identifies two important design features of debt plus warrant offerings: whether the issue is being offered by a parent company or a foreign finance subsidiary; and, whether the issue is being offered at face value or at a premium. Of these, due primarily to the tax implications of the issue discount, the latter factor is more significant in other countries.

Accounting Standards

The typical transaction in a bond-cum-warrant issue involves the receipt of cash by the issuing corporation in exchange for debenture/loan stock units and warrants. In most cases, at primary distribution the warrant price is embedded in the price of the debenture to which the warrant is attached. If the offering is recorded as debt rather than split between debt and equity, an anomaly is created: low coupon debt is recorded on the balance sheet as being issued at par or, in some cases, a premium. To avoid the potentially adverse accounting implications, the practice of separating the two values (split accounting) for debt with warrants has been required in the United States since 1969 (APB 14). Similar split accounting is also recommended by the International Accounting Standards Committee (IASC), in its exposure draft E40, issued in August 1990.[5] Currently, Singapore does not have an accounting standard or recommendation for recording such complex capital issues.[6] However, because

Singapore accounting standards are normally modelled after the IASC standards, there may be changes in these standards in the future (Price Waterhouse, 1992).

The recommended accounting practices contained in APB 14 and IASC E40 require that "the issuer of a compound instrument should identify the instrument's component parts and account for them separately in such a manner that the sum of the carrying amounts assigned to the components of a compound financial instrument on initial recognition is always equal to the value of the instrument as a whole."[7] The justification for separating the component values is that, when a detachable or separate conversion/stock purchase option is issued along with the debt, the option is usually traded separately from the debt security and thus has its own identity and its own market value making it a distinct and separate financial instrument. However, this general approach can raise a number of practical problems, e.g. where the debt and the warrants are not traded in the secondary market.

To record various scenarios associated with debt plus warrant financing, three possible approaches are suggested to accomplish the split accounting or the separating of the values of the component parts:[8]

(1) Assess the fair market value of each component on the date of issue and adjust the amounts so determined on a pro rata basis to add to the whole. Thus the portion of the issuance proceeds allocated to the option/warrant is based on the relative fair values of the debt and the share purchase option or warrant at issue.

(2) Assign the residual amount to the least easily measurable component (often the equity instrument), after deducting from the total proceeds the value of the other measurable component(s).

(3) The value of the option may be determined by reference to the value of a similar option, if one exists, or by using an option pricing model.

When the warrants are assigned a value from the total proceeds received, these proceeds are to form a part of the equity section as a non-distributable reserve. This amount is to be added to the amounts received from the exercise of the warrants to form a part of the share premium account or the "capital-in-excess of par" account as the case may be. The amount relating to the warrants not exercised is to be left in the reserve account. But in no event is it to be treated as a profit on the issue of the capital.

For debt issued with below market coupons, an allocation of warrant part of the proceeds to the equity account will give rise to an original issue discount (OID) on the debt issue indicating that the debt was sold at a price lower than its par or face value. Under the US Internal Revenue Code, this OID is to be amortized as an interest expense over the life of the debt instrument, in order to represent the "true" higher effective interest cost of the debt to the issuer. This tax benefit realized by OID issuers is balanced against the increased tax liability of OID investors (Billingsley, et. al., 1990). Taking account of the OID is expected to result in a higher interest charge and a lower net earnings on the profit and loss account, as well as impacting the return ratios, the interest coverage ratio, and the gearing ratio. By reducing reported earnings, the diluted EPS will also be affected. However, in the absence of differing tax implications, the cash flows remain unaffected under either accounting treatment.

The Sample

The reporting sample includes companies listed on the SES which issued warrants with debt/loan stock during the two-year period July 1988 to June 1990. Companies which had issued TSRs (transferable subscription rights) with an issue of equity were excluded because these involved no debt. Subsequent issues of similar bonds by the same corporation within the two-year period are not included in the calculations. These procedures gave a final sample for analysis of 23 bond-cum-warrant issues by Singapore companies, which are listed in Table 3. Twenty-five percent of the sample companies sold the warrants separately to their own shareholders. The loans of these companies were privately placed with financial institutions at a discount. Almost half of the sample companies sold their debt issue in a rights offer to their own shareholders. In many of the sample companies, large blocks of shares were held by other related corporations, making the loan primarily an inter-corporate transaction. In the case of the remaining companies, details of the structure are not well known. For present purposes, it is assumed that the initial investor in bonds bought them with the attached warrants.

Table 3. Bond-cum-warrant issues in Singapore, July 1988 to June 1990

Company	Issue date	Amount in thousands
Hotel Properties	August 88	70 000
Lum Chang Holdings	December 88	34 511
Singapore Land	January 89	109 822
OCBC	February 89	200 000
InnoPac Holdings	March 89	18 100
OUB	May 89	118 000
Guthrie	June 89	13 288
SSL	June 89	150 00
SSL	June 91[a]	90 000
DBS Land	July 89	100 000
DBS Land	Feb/Apr 90[a]	375 000
Fraser & Neave	August 89	200 000
Chuan Hup	August 89	79 677
YHS	August 89	40 000
Sembawang Shipyard	September 89	50 000
FELS	September 89	151 700
Causeway	September 89	7 253
Nat Steel	October 89	95 800
UOB	November 89	167 954
UOB	June 92[a]	200 000
Wing Tai Holdings	December 89	116 750
Singmarine	December 89	54 350
Singmarine	December 89	60 190[b]
EYS	December 89	8 984
ICB	December 89	75 000
JCMPH	February 90	79 850
Cycle & Carriage	April 90	61 250
Total amount raised		2,727,479

[a]These bond amounts are not included in the analysis.

[b]Issued in US dollars. Amount shown is the Singapore dollar equivalent.

To test the impact of split accounting on the financial statements of Singapore companies, it is assumed that the sample companies adopt the E40 recommendations which are used to arrive at the warrant values and reconstruct the accounts to evaluate the suggested split accounting practice. The corporation prospectuses, published with the announcement of the debt issue, were thoroughly examined, together with the annual reports for the three year period 1989 through 1991. Additional information to the extent possible is sought from the *Daily Financial News* published by the SES. Of the total sample of (23) companies which issued bonds with warrants during the two-year period, five companies sold the loan and the warrants separately to investors through their underwriters.[9] For four of these companies, the selling price of the warrants was actually available and the amount of proceeds received was objectively determinable. However, the loans were not actively traded and, consequently, a loan quotation was unavailable. Fifteen others had their loans selling on the market immediately after issue date and thus, loan values and total proceeds from loan sale were ascertainable. The remaining companies had neither their loans trading on the market nor was any verifiable or objectively determinable data available on warrant values. This leaves a sample of 19 offerings.

To illustrate the implications of split accounting, the approach used is to allocate a value first to the more objectively determinable or measurable component and assigning the residual to the other component. Using a sample of German offerings, Gebhardt (1989) provides evidence that the separate after-market trading values for the bond and detached warrants were almost precisely equal to the total proceeds received from the bundled offering, providing empirical support for the valuation methodology selected. Given this, the other two possible accounting approaches suggested in E40 are found to be less reliable due to (a) insufficient data and (b) possible errors associated with estimates from a warrant pricing model.[10] Based on this rule of allocating an objectively determined value to one component and the residual to the other, it is possible to calculate the carrying value of the loan for each of the 19 companies. The carrying value of the loan so determined, on the date of issue, reflects the present value of the contractual arrangement to settle the obligation at maturity and to make the scheduled periodic interest payments up to the date of settlement.

The difference between the issue price or total proceeds received, and the carrying value of the debt is used to establish a value for the warrants in 15 cases where no specific warrant value was available. The other four cases calculate the residual using the market value provided for the warrants. The difference between the par value (face value) of the debt and the carrying value of the debt, which is the present value of the principal and interest cash flows, is the original issue discount (OID). For the sample of 19 firms, only four issues were sold at premiums, ranging from 3 to 25 percent.[11] The remaining issues were structured to price the bond plus the warrant at the par value of the bond. Despite this, all the sample companies issued their debt at a discount. All issues were quoted and sold at less than the face or par value after separating the value of the warrants. The discounts range from a low of 13.5 percent to a high of 32.63 percent. The effective interest rate is higher than the coupon interest rate in all cases. As illustrated in Table 4, on average nearly 25.7 percent of the funds raised by bond-cum-warrant issues constituted the price/value

Table 4. Warrant values, selected issues

Issue price	Warrant value	As % of Issue Price
8 984	2 313	25.75
75 000	18 750	25.00
18 100	5 647	31.20
95 772	22 602	23.60
50 000	12 470	24.94
109 822	24 051	21.90
150 000	40 410	26.94
167 955	37 790	22.50
40 004	7 201	18.00
7 253	2 227	30.70
79 677	19 781	24.83
70 000	18 550	26.50
13 288	1 993	15.00
79 805	26 481	33.18
34 511	4 814	13.95
61 250	18 000	29.39
100 000	24 026	24.03
151 700	49 506	32.63
114 540	38 080	33.25

of the warrants. This compares favourably with the 20 percent warrant value for Japanese warrant bond issues reported by Stulz (1993).

Results

Assuming that coupon payments are made semiannually, an internal rate of return (IRR) or an effective interest rate is calculated for each issue such that the present value of the cash flows from interest and principal is equal to the present carrying value of the loan. The calculated values of the OID and the effective interest rate are used to restate the actual interest cost of the debt. The average value of OID in our sample group was 24.5 percent of the face or par value of the debt issued. The spreads between the coupon interest rates and the calculated effective interest rates range from 3.25 percentage points to 8.9 percentage points. Table 5 shows that the actual cost of borrowing as represented by the effective interest rate ranges from 6.89 percent to 14.9 percent. In comparison, the risk-free rate of interest during this period, represented by the five-year Government bond yield, varied between a monthly average high of 5.70 percent in August 1988 and a low of 5.09 percent in August 1989. In the first half of 1990, it remained within this range.[12] The actual difference between the coupon and the expected effective interest cost is a function also of the perceived risk associated with the issuer. This is evident in the table, which shows that the highest difference between the two rates does not necessarily occur with the deepest discount.

By using the accounting information prepared according to E40 recommendations, it is possible to recalculate the financial statements for the firms in the sample. To do this, different approaches can be used to calculate key financial ratios for each of

Table 5. Coupons and effective interest rates

Coupon rate	Effective rate (%)	Spread
6.50	10.13	3.63
6.00	14.90	8.90
5.00	8.35	3.35
5.00	12.24	7.24
4.00	7.67	3.66
4.00	11.04	7.04
3.50	11.97	8.47
3.00	11.80	8.80
3.00	7.35	4.35
2.00	7.31	5.31
1.50	7.33	5.82
1.50	7.60	6.10
1.50	7.21	5.71
1.50	8.17	6.67
1.50	6.89	5.39
1.25	7.29	6.04
1.25	9.63	8.38
1.00	8.40	7.40

Includes 18 of the 23 companies for which calculations were possible.

Table 6. Change in ratings after discount amortization, 1989–1991 reporting periods. All figures in percent

Range of reduction in return ratios		Range of reduction in interest coverage		
Method one	Method two	Method one	Method two	Average improvement in debt to equity
22 – 95	34 –169	12 – 95	21 – 95	24.4
7 – 11	10 – 13	70 – 70	74 – 76	30.5
8 – 36	7 – 27	13 – 24	13 – 19	19.3
6 – 8	8 – 11	18 – 38	24 – 42	19.6
2 – 4	3 – 5	23 – 40	27 – 45	19.3
8 – 21	12 – 31	6 – 18	10 – 25	4.7
22 – 25	28 – 30	40 – 62	48 – 66	24.4
2 – 2	3 – 3	56 – 67	60 – 73	17.6
13 – 72	16 – 99	6 – 15	8 – 18	11.6
17 – 124	17 –116	18 – 32	21 – 32	18.3
19 – 30		20 – 48		39.1
37 – 108	14 –120	32 – 49	39 – 51	11.9
5 – 42	7 – 50	11 – 17	13 – 21	12.1
17 – 25	21 – 27	11 – 13	13 – 17	30.0
11 – 28	9 – 27	12 – 15	11 – 12	5.3
1 – 3	2 – 3	19 – 38	22 – 42	15.5
7 – 11	9 – 14	5 – 32	7 – 36	4.5
19 – 30	26 – 34	68 – 78	75 – 81	42.2
20 – 31	26 – 36	73 – 92	79 – 93	42.3

Method one: Straight–line amortization.
Method two: effective yield amortization.

the sample offerings. For comparative purposes two approaches have been used: one approach is based on a straight line amortization of the OID over the life of the bond, and the other is based on the effective interest rate method of amortisation of the OID. Given this, Table 6 provides the results for changes in certain key ratios:

return on assets, interest coverage, and debt to equity ratio.[13] Ratios calculated using E40-consistent accounting numbers are compared with the ratios calculated from the data reported in the annual reports, which treat bond-cum-warrant issues as all debt. Due to reduction in earnings associated with the inclusion of the amortized OID value, it is expected that return on assets (earnings/total assets) will fall. A similar comment applies to interest coverage ([earnings + interest]/interest) and the debt to equity ratio.

The results calculated for the three reporting years (1989–91) examined are as expected: the return ratios and the interest coverage ratios show deterioration and the debt/equity ratios show improvement after the E40 recommended split accounting method is used. As is evident from the table, there is a noticeable effect on the reported earnings and the interest cost of the issuer if the warrants are assigned a value and the consequent discount is recognized. Due to the varied nature of the companies in the sample, both as to the nature of business and performance during the three-year period, the effect is more dramatic in the case of some of the companies than in the case of others. Nevertheless, all companies would have had to show deteriorated earnings and return ratios and increased interest burdens if the E40 rules were followed. On balance, the effect on the interest coverage ratio is usually more pronounced than the effect on the return ratios.

Conclusions

This paper illustrates the complications which can arise in international comparisons of accounting information. Specifically, differing accounting treatments are possible for bond-cum-warrant issues. In Singapore, it is conventional to account for debt plus warrant issues by increasing only the amount of debt outstanding. Results were provided which compared actual reported financial results of selected Singapore companies with accounting information produced using E40 recommended treatments. It is demonstrated that key financial ratios are significantly changed by giving recognition in the equity account to the market value of the warrants. Among other features, earnings, interest cost as well as debt and equity are affected for all sample companies. From an international accounting perspective, this is important because other countries, e.g., the United States and Canada, use the APB 14 and IASC E40 standards for preparing financial statements.

This analysis does raise the question of why Singaporean companies do not give recognition to the warrant values when there is a de facto issue of two separate financial instruments. One possible motivation for non-recognition of warrant values and the resultant issue discount may be that the discount amortization which will be required under the E40 rules is not currently specified as a tax-deductible expense. In the meantime, the financial institutions which invest in these loan issues currently benefit from a lower tax on the lower cash interest receipts. Arguably, if the rules of recognition of discount are to be adopted, a case can be made for issuer tax deductibility of the discount amortised as additional interest (Price Waterhouse, 1992). Another possible motivation may be the ability to report higher earnings and lower interest costs, because the investing public at large values reported earnings more than any

other piece of information on the financial statements. For the immediate future, corporate debt plus warrant issues have begun to appear in emerging capital markets such as Malaysia and Indonesia.

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Notes

1. For the uninitiated, warrants are a form of call option, written by the corporation, for purchase of its shares by the warrant holder at a specified exercise price within a specified period of time. Exercise of warrants involves an increase in the number of shares outstanding. In Singapore, warrants are commonly referred to as transferable subscription warrants or transferable subscription rights.
2. OECD (1988), FASB (1990), FASB (1991) and International Accounting Standards Committee (1990).
3. Bernstein (1993, p. 374).
4. Lim and Goh (1985) examine a sample of Singaporean warrants which could be exercised with low coupon "loan stocks," valued at par. Eleven of the 23 bond-cum-warrant issues used in the present study have this feature on the bond issues.
5. The comment period for the exposure draft ended on May 31, 1992. The IASC Board published its tentative conclusions based on its review of the comments received on the E40 draft in a special issue of IASC *Insight* in May 1993. According to IASC sources, a substantial majority of commentators on the special issue emphasized the need for re-exposure. As a consequence, a revised exposure draft, E48, was published on January 1, 1994, with comments due by July 31, 1994.
6. The ICPAS had a draft proposal for adopting rules similar to APB 14 and IASC E40 (*Singapore Business Times*, December 9, 1991). However, decision on the issue was postponed. Recently the institute has recommended a *disclosure* of the two separate components of the total proceeds of debt with warrant issues. Consequently, with some of the new issues (Fraser and Neave, Annual Report, March 1993) companies have reported a percentage of proceeds received as being the loan value and assigned a separate value to warrants. However, IASC's E40 maintains that disclosure can not be a substitute to recording as per the standard.
7. Paragraph 28, E40 issued by the IASC in August 1990. This paragraph also lists the approaches that can be used in measurement of the components.
8. Paragraph 28 in IASC E40, and paragraph 16 in the APB 14
9. Of the five which sold the warrants separately, to their own shareholders, one did not disclose the proceeds at which the warrants were sold. The loan also was not traded. Hence, this company is one of the four for which split accounting could not be performed.
10. Several researchers have examined the applicability of the Black–Scholes model of option pricing and found it not acceptable for pricing warrants, e.g. Ng (1992) and Crouhy and Galai (1991). Lim and Goh (1988) develop a model for pricing of warrants with an option to exercise by surrender of loan stocks.
11. Some companies reported this premium amount as part of the equity section but as a premium on loan and not as the value of the warrants. Some of these companies reported that they amortized this premium on a straight-line basis over the life of the bond, usually five years. This will have erroneously increased their reported earnings instead of showing a higher interest cost as expected.
12. Five-year government bond yields are taken from the monthly statistics of the Monetary Authority of Singapore (MAS).
13. The interest coverage ratio is not adjusted for potential tax adjustments. For both the return and interest coverage ratios, the recalculations involve subtracting the amortized OID from earnings.

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