1985

Equity for Debt Exchanges and Stockholder Wealth

RC ROGERS

JE OWERS

Follow this and additional works at: https://scholarworks.umass.edu/resec_faculty_pubs

Recommended Citation

ROGERS, RC and OWERS, JE, "Equity for Debt Exchanges and Stockholder Wealth" (1985). *Financial Management*. 138.
Retrieved from https://scholarworks.umass.edu/resec_faculty_pubs/138

This Article is brought to you for free and open access by the Resource Economics at ScholarWorks@UMass Amherst. It has been accepted for inclusion in Resource Economics Department Faculty Publication Series by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

Equity for Debt Exchanges and Stockholder Wealth

Ronald C. Rogers and James E. Owers

Dr. Rogers is a Visiting Scholar, Federal Home Loan Bank Board, Washington, D.C. and is currently on leave from the University of Connecticut; Dr. Owers is on the faculty at the School of Management, University of Massachusetts, Amherst.

I. Introduction

Equity for debt exchanges have recently experienced a surge in popularity. Before 1981, such transactions occurred occasionally, but because of a change in the tax laws, these transactions have since taken on new prominence. The financial press suggests that there are two main reasons for undertaking an exchange: (1) to increase the current period earnings per share and (2) to improve the balance sheet by reducing debt.¹ The technique has been used by a broad cross-section of firms, and in certain cases, the earnings generated by the exchange have represented most of the earnings reported for the period.² These transactions are not without cost, since the firm may be replacing a low cost source of funds with equity, and

thereby, reducing interest tax shields. An equity-for-debt exchange may therefore represent a trade-off between near term accounting benefits and longer term cash flow costs. An important question about these transactions is how this trade-off affects the value of the firm.

The purpose of this paper is to address that question by examining the risk-adjusted returns of exchanging firms around the transaction date. We begin by discussing the valuation implications of equity-for-debt exchanges,³ followed by a description of the sample of exchanging firms, and the empirical methods. Finally, we present the results of the analysis and concluding remarks.

II. Valuation Implications

A review of the press announcements of exchanges suggests that some managers undertook these transactions because of the immediate accounting changes that occur in the income statement and balance sheet, specifically, an increase in earnings for the current

The authors would like to acknowledge the helpful comments and suggestions of the editor, Robert Taggart, and those of two anonymous referees.

¹See for example [1].

²The Tax Reform Act of 1984 eliminated the favorable treatment of gains in an exchange; consequently, the transactions have been used infrequently since July 1984

³Finnerty [8] provides a description of the institutional and tax details of exchanges.

period and a reduction in financial leverage. As with a discount bond repurchase, the gain on the transaction is the total amount of the discount on the bonds retired, and this gain may be reported as earnings.⁴ In the case of U.S. Steel, the gain amounted to \$87 million in the second quarter of 1982, turning an \$83 million loss into a profit of \$4 million for the quarter. The balance sheet changes result from the reduction in the principal amount of outstanding debt, and an increase in equity by the amount of the newly issued shares plus the gain.

While the financial press has focused on the beneficial accounting effects of equity for debt exchanges, the capital market reaction to an exchange might be positive or negative, depending on the perceived purpose of the transaction.⁵ For example, certain firms may have used the exchange to effect a permanent change in financial leverage, and in those cases, recent findings would suggest a permanent negative revaluation of the shares. Studies of capital structure change have documented a positive relationship between the change in equity value and the direction of the change in financial leverage,⁶ with the change attributed to a tax effect, a wealth transfer, or an information effect.

Other firms used an exchange as part of a bond refunding strategy, in response to the Bankruptcy Tax Act. Kalotay [9] demonstrated that the profitability of a refunding decision depends on the avoidance or deferral of any associated tax liability. Following the change in the tax law, deferral was permitted when the bonds were exchanged for equity. Thus, a profitable equity for debt exchange might be expected to have a positive impact on the value of the firm's equity.⁷

The announcement of an exchange could therefore lead to differing valuation effects across companies, with the direction of the change determined by the market's perception of the motivation for the transaction. A permanent negative revaluation would result if

the firm were perceived as permanently reducing financial leverage. An upward revaluation would result from the perception that the firm was using the exchange as part of a profitable bond-refunding strategy.

The market's perception of the motivation for the exchange is crucial in the revaluation, and it is likely that this perception would be based upon information conveyed by the characteristics of each exchange. For example, a firm using the exchange as part of a refunding strategy could signal this information to the market by issuing debt prior to the announcement of the exchange, or by using a combination of cash and equity in the exchange.⁸ In contrast, a firm that wished to use the exchange to reduce financial leverage would be expected to use only equity in payment for the bonds, since the use of cash would moderate the impact on leverage.

III. The Sample of Equity for Debt Exchanges

The sample of transactions for this study includes equity for debt exchanges in 1981 and 1982⁹ by firms meeting the following criteria:

- (i) the firm's stock returns be available in the CRSP daily returns file. This limited the sample to NYSE and ASE listed firms.
- (ii) the equity for debt exchange had an identifiable announcement date.
- (iii) no other major firm-specific events occurred within 20 trading days of the exchange.¹⁰

⁸The use of cash in the exchange would provide a non-ambiguous signal that the firm was not altering its capital structure by the full amount of the exchange, since the use of cash would moderate the desired effect. We recognize that it is not necessarily true that the use of cash indicates that the firm will be refunding debt, however, we contend that this is a likely situation because of the favorable tax treatment of exchanges with regard to refunding. A possible alternative explanation for the use of cash would be when a firm was using the exchange as part of a sinking fund management program.

⁹The first exchange, by Quaker Oats, was completed in August 1981. Our sample period thus extends from August 1981 through December 1982.

¹⁰Two investment banking firms provided us with internal listings of all exchange transactions. From these lists, more than 200 transactions were initially identified. All of the original press announcements were read, and *The Wall Street Journal Index* was reviewed for 50 days before and after the announcement date to be certain that each transaction met these criteria. Firms were excluded when any confounding event occurred within that window. In a number of cases, the exchange was announced along with the periodic earnings. This was a primary cause of sample shrinkage. Examples of other confounding events included product liability litigation for Esmark, and an oil discovery by Phillips Petroleum.

⁴There has long been concern over the treatment of the profit when firms retire discount bonds. The SEC has been concerned that the discount was being reported as ordinary rather than extraordinary income. Generally, the gain is extraordinary if the scheduled maturity date is more than one year beyond the repurchase date.

⁵Finnerty [8] presents an extensive analysis of the valuation consequences of equity for debt exchanges, providing the insights of an investment banker. A number of his observations were helpful in the development of this section.

⁶See, for example Dann [5], Masulis [11], Mikkelsen [15], and Vermaelen [19].

⁷The net effect is confounded by any negative valuation impact associated with the reduction in long-term debt resulting from the transaction.

The Wall Street Journal Index and the original *Wall Street Journal* articles were reviewed to make certain that each of the transactions met the preceding three criteria. These selection criteria resulted in a final sample of 108 equity-for-debt exchanges undertaken by 90 firms. In Exhibit 1, we present the relative size distribution of the transactions, where size is the number of shares exchanged as a proportion of the total shares outstanding. The cross-sectional variation is apparent.

Three event-related dates were identified for each transaction. The date the first announcement of the exchange appeared in *The Wall Street Journal* is referred to as the announcement date. The second date of interest is the date when the new shares were registered with the Securities and Exchange Commission (SEC), defined as the filing date. Typically, the filing date preceded the announcement date by one or more trading days. Finally, the pricing date is the day when the firm actually issues the new shares to the investment banker. The terms of the transaction are established by the market prices on that day, and any uncertainty about the transaction is resolved then. The pricing date was generally the last of the three dates, although there were some cases where it was coincident with the announcement date.

In order to identify those firms in the sample using the exchange as part of a bond refunding program, we searched the Compuserve data base for new bond issues during the period January 1, 1981 through June 30, 1983. This procedure allowed us to partition the sample into 34 exchanges where there was a new bond issue (the refunding group) and 74 exchanges where there was no new issue. The sample was further partitioned on the basis of the use of cash in the transaction. Transactions in which cash was used were included in the refunding group.¹¹ The selection criteria resulted in a final sample of 43 refunding exchanges, and 65 non-refunding exchanges.

IV. Methodology

Security returns are examined over an event period from 50 trading days before the announcement date (day 0) to 50 trading days after. The market model was estimated over the period from $t = -200$ to $t = -51$,

Exhibit 1. Size Distribution of Transactions (Equity Exchanged as a Percentage of Outstanding Equity)

S	N		
S > .10	2		
.10 > S > .08	2	Maximum	14.80%
.08 > S > .06	3	Minimum	.03
.06 > S > .04	6	Mean	2.10
.04 > S > .02	26		
.02 > S > .00	69		
	108		

and the ordinary least squares coefficient estimates are denoted as $\hat{\alpha}$ and $\hat{\beta}$. The prediction error for security j on day t is defined as

$$PE_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}), \quad (1)$$

where

R_{jt} = the rate of return for security j on day t , and
 R_{mt} = the value-weighted return for the market portfolio on day t .

For each trading day t , the average prediction error is

$$PE_t = 1/N_t \sum_{j=1}^{N_t} PE_{jt}, \quad (2)$$

where

N_t = the number of securities with a prediction error defined on day t .

The cumulative average prediction error through day T is defined as

$$CPE_t = \sum_{t=-50}^T PE_t. \quad (3)$$

The cumulative average prediction error over the interval from t_1 to t_2 inclusive is

$$CPE_{t_1, t_2} = \sum_{t=t_1}^{t_2} PE_t \quad (4)$$

where the interval has length $L = t_2 - t_1 + 1$, reflecting the requirement that t_2 does not precede t_1 .

The analysis of the significance of the PE_{jt} 's and their cumulation over defined intervals uses the methodology of Dodd and Warner [7]. The test-statistic

¹¹The basis for this partition was the similarity in abnormal returns for the two groups. The 12 firms that used cash as part of the exchange had abnormal returns equal in magnitude and significance to those of the 33 firms that issued new bonds. This similarity existed despite the fact that only two firms (three exchanges) were in both groups. To the extent that we were unable to identify firms that repurchased shares with bank borrowings, our partition is less than perfect.

employed is the mean standardized cumulative prediction error. For a specific interval $L_j = T_{1j}, \dots, T_{2j}$, this test-statistic is

$$\overline{SCPE}_j = \frac{\sum_{t=T_{1j}}^{T_{2j}} (PE_{jt}/s_{jt})}{\sqrt{T_{2j} - T_{1j} + 1}}. \quad (5)$$

s_{jt} is defined as

$$s_{jt} = \left\{ s_j^2 \left[1 + 1/D_j + \frac{(R_{mt} - \bar{R}_m)^2}{\sum_{t'=1}^{D_j} (R_{mt'} - \bar{R}_m)^2} \right] \right\}^{1/2} \quad (6)$$

where s_j^2 is the residual variance for security j from the market model regression,

D_j is the number of observations during the observation period,

R_{mt} is the rate of return on the market index for day t ,

$\bar{R}_m$ is the mean rate of return on the market index during the estimation period, and

$R_{mt'}$ is the rate of return on the market index for day t' of the estimation period.

For a portfolio of N securities, the test-statistic is

$$Z = \frac{\sum_{j=1}^N \overline{SCPE}_j / \sqrt{N}}{\sqrt{N}}, \quad (7)$$

which follows a unit normal distribution since each standardized prediction error, PE_{jt}/s_{jt} , is assumed to follow a unit normal distribution in the absence of abnormal performance. The interval over which $\overline{SCPE}_j$ is calculated, L_j , can be of equal or different length across securities. When the interval is equal, we analyze security performance for all firms relative to one of the three event dates and refer to this as the 'event day' technique. The event day analysis may lead to cross-sectional inconsistency because of the multiple event dates, and the fact that uncertainty about the transaction is resolved over intervals that vary from firm to firm.¹² In order to overcome this inconsistency, we also utilize an 'event interval' analysis, where L_j is firm specific.

V. Results

In Exhibit 2, we report the daily mean prediction

errors (PE) and the mean cumulative prediction errors (CPE) for event days -50 through $+50$ for both the refunding and non-refunding groups. Exhibit 3 is a plot of the respective CPE's over the same period. The test-statistics for various intervals around the announcement date are reported in Exhibit 4. Two aspects of the CPE patterns are notable: the overall differences throughout the interval, and the similarity of the patterns at the initial event (day 0) for the transaction.

A. Overall CPE Patterns

The differences in the CPE patterns for the two groups are striking, with a total accumulation for the refunding group of 7.39% on day 50 compared to -1.03% for the non-refunding group. In addition, the CPE for the non-refunding group is negative during most of the 101-day period of analysis, while that for the refunding group is mostly positive and generally increasing past day -20 . The post-event accumulation for the refunding group was statistically significant for all except the shortest of the intervals reported. The results reported here are consistent with our earlier discussion, *i.e.*, there is a positive price effect for the refunding group, and no significant post-event valuation effect for the non-refunding group.

B. Announcement Period Effects

Despite the differences in overall results, the reaction to the initial event is similar for the two groups. In each case the test-statistics in Exhibit 4 are significant and negative during the two-day event interval. The difficulty and importance of identifying the announcement date with precision in any event study is well known,¹³ and is especially pertinent here since there were three key dates for each exchange, and any uncertainty over the terms of the exchange was not finally resolved until the pricing date. Generally, the initial press announcement followed the SEC filing by one or more days, creating the possibility that information about the transaction was available prior to the press date. In order to avoid this potential measurement problem, we define day 0 as the earliest of the press or filing date, and examine prediction errors on days -1 and 0.

In Exhibit 5, we report the results of this phase of the analysis, and present the distributions of two-day CPE's for both groups. The CPE for the refunding group is -1.29% (test-statistic -4.53), while that for

¹²For example, with the event day (day 0) defined as the announcement date, at day $+3$ some firms will be past their pricing day while others will not yet have reached that date.

¹³See Brown and Warner [3].

Exhibit 2. Daily Prediction Errors (PE) and the Cumulative Prediction Errors (CPE) Around the First Announcement (Day 0) of Equity for Debt Exchanges

Non-Refunding Firms			Refunding Firms		
Day	PE	CPE	Day	PE	CPE
-50	-0.00150	-0.00150	-50	0.00213	0.00213
-40	-0.00248	-0.01200	-40	-0.00027	-0.00569
-30	0.00062	-0.00500	-30	0.00202	0.00227
-20	-0.00095	-0.00324	-20	0.00006	0.00098
-10	-0.00311	-0.00594	-10	0.00461	0.01575
-9	-0.00096	-0.00498	-9	-0.00222	0.01353
-8	-0.00211	-0.00719	-8	-0.00506	0.00847
-7	-0.00057	-0.00776	-7	0.00285	0.01132
-6	-0.00296	-0.01072	-6	-0.00252	0.00880
-5	0.00453	-0.00637	-5	0.00460	0.01340
-4	0.00238	-0.00399	-4	-0.00032	0.01308
-3	-0.00132	-0.00531	-3	0.00086	0.01394
-2	-0.00347	-0.00878	-2	-0.00137	0.01256
-1	-0.00002	-0.00880	-1	-0.00432	0.00824
0	-0.00599	-0.01479	0	-0.00864	-0.00040
1	-0.00496	-0.01975	1	0.00062	0.00022
2	-0.00317	-0.02292	2	0.00222	0.00244
3	0.00189	-0.02103	3	-0.00054	0.00190
4	-0.00213	-0.02316	4	0.00274	0.00464
5	-0.00121	-0.02437	5	0.00202	0.00665
6	0.00140	-0.02296	6	0.00291	0.00956
7	0.00166	-0.02131	7	0.00280	0.01236
8	-0.00042	-0.02173	8	0.00667	0.01903
9	0.00226	-0.01947	9	0.00521	0.02425
10	-0.00428	-0.02375	10	0.00108	0.02533
20	0.00054	-0.01849	20	0.00162	0.03682
30	-0.00145	-0.01556	30	0.00219	0.05238
40	-0.00256	-0.00869	40	0.00275	0.05464
50	-0.00095	-0.01026	50	0.00187	0.07394

the non-refunding group is -0.6% (test-statistic -2.32), and the distributions of the CPE's for the groups are similar with 67% and 63% negative, respectively. Of the 108 transactions, 70 were associated with negative event interval prediction errors. These results provide strong evidence of the negative common stock price reaction to the initial exchange announcement. This result might be expected for the group using the exchange to reduce its financial leverage, but it is puzzling for the refunding group which had such a strong positive price effect in the post-event period. For that group, the announcement causes a brief but significant discontinuity in the positive trend of the CPE's. This result raises a question about the cause of the similar negative responses to the announcement for the two groups.

C. Analysis of the Results

Several possible explanations of the negative returns have been identified in previous studies. These include

supply effects, tax effects, wealth transfers between classes of security holders, transaction costs, and information effects. In this section, we use both direct and indirect tests to identify the factor(s) which actually caused the decrease in value.

Supply Effect. A possible explanation of the excess returns pattern observed in this study is the price pressure hypothesis discussed by Scholes [18], Marsh [10], and recently, by Asquith and Mullins [2]. This hypothesis asserts that newly issued shares create a supply/demand imbalance, causing the additional shares to be sold at a discount, and that the size of the discount is a positive function of the size of the issue. Equity for debt exchanges have characteristics similar to secondary distributions;¹⁴ and, if the newly issued shares did cause a supply imbalance, a pattern of re-

¹⁴Scholes reported the average proportion of the firm traded in his sample to be 0.0216; the average proportion of equity exchanged in our sample was 0.021.

Exhibit 3. Plot of the Cumulative Prediction Errors for the Two Groups

turns similar to that observed here might result.¹⁵

Previous studies of the price pressure hypothesis have produced conflicting results. Neither Scholes nor Marsh found evidence to support the existence of a

price pressure effect in studies of secondary issues and primary issues, respectively. The recent study by Asquith and Mullins, however, reports a significantly negative relationship between the announcement day returns and the size of the equity offering, evidence consistent with a price pressure effect.

To test this hypothesis, we examined the relationship between the event interval cumulative prediction

¹⁵Copeland and Weston [4], p. 327, discuss the price pressure hypothesis, and present diagrams representing the shape of CPE patterns when price pressure exists. The diagrams are quite similar to the patterns in Exhibit 3.

Exhibit 4. Test-Statistics for Various Intervals Around the Earliest Event Date (Day 0) Associated with the Exchange

Non-Refunding Firms		Refunding Firms	
Interval	t-statistic	Interval	t-statistic
-50 to 0	-1.117	-50 to 0	0.196
-25 to 0	-0.954	-25 to 0	0.059
-10 to 0	-1.010	-10 to 0	-1.584
-5 to 0	-0.613	-5 to 0	-2.035
-1 to 0	-2.319	-1 to 0	-4.529
1 to 5	-2.355	1 to 5	1.330
1 to 10	-1.475	1 to 10	3.411
1 to 25	0.495	1 to 25	3.520
1 to 50	-0.038	1 to 50	4.753

error, and the relative size of each transaction. The two-day CPE was regressed on the size variable, and, following Scholes, on the natural log of size,¹⁶ for both the entire sample, and by refunding sub-group. In none of the regressions was there a statistically significant relationship between the size of a transaction and the CPE. This result is not consistent with the existence of a price pressure effect.

Tax Effects. Mikkelsen [15] has shown that the reduction in tax shield is a factor that helps explain the reduction in firm value associated with a decrease in financial leverage. The tax shield consequences of equity-for-debt exchanges are affected by whether an offsetting reissue occurs; thus, the tax effect should differ from the refunding to the non-refunding group. We interpret the combination of differing tax consequences and similarity of announcement-period value changes as indirect evidence that the tax consequences of equity for debt exchanges do not explain the decline in value at the announcement. The lower level of interest tax shields could explain the permanent decrease in value exhibited by the non-refunding group after the announcement.

Wealth Transfers. Although it seems unlikely that firms would undertake transactions that would transfer wealth from stockholders to bondholders, a leverage reducing equity for debt exchange has the potential to effect this transfer. A transfer in wealth could result from lower expected bankruptcy costs, a change in relative priorities of claims, and a reduction in variance of return to stockholders. To investigate the existence of a wealth transfer, the abnormal returns on senior securities of all exchanging firms were exam-

ined along with the comovement of returns on common stock and senior securities for individual companies.¹⁷ There was no evidence of a wealth transfer being associated with equity for debt exchanges.

Transactions Costs. While transactions costs may have contributed to the decline in value observed at the announcement, they were not a major factor. The financial press reported transactions costs to be approximately 3% of the value of equity exchanged, and the average percentage of equity exchanged in our sample was 2.10%. These figures suggest that, on average, transactions costs accounted for 0.0633% of the decline in equity value. Even for the largest exchange considered, in which 14.8% of the outstanding equity was swapped, the implied valuation consequence is only 0.444%.

Information Effects. Information effects appear the most likely explanation for the negative reaction to the announcement. Since the transaction provided no real economic benefit to the firm, the announcement provided an ambiguous signal to the market. Those firms using an exchange to manufacture accounting earnings may have been perceived as having a limited investment opportunity set, while those using the exchange as part of a sinking fund management program did not disclose that information at the announcement. The net effect for each may have been a negative reaction to the ambiguity surrounding the purpose of the transaction.

VI. Summary

Equity for debt exchanges became a popular transaction in mid-1981, with more than 200 firms using the technique by the end of 1982. The financial press suggested that firms were using the exchanges to enhance earnings, and to reduce financial leverage ratios, thereby "cleaning up" their balance sheets. Investment bankers attributed the sudden popularity of exchanges to the passage of the Bankruptcy Tax Act, because that legislation foreclosed tax-deferred gains on bond refundings except when that refunding was accomplished through an exchange.

This paper examined the impact of equity-for-debt exchanges on stockholder wealth by analyzing abnormal returns around the announcement of the exchange. The sample of 108 exchanges was partitioned into two groups: those in which the bonds were refunded, and those where there was no apparent refunding. The

¹⁶The log of size was used because of the long right tail on the size variable.

¹⁷See reference [17] for a complete description of the analysis.

Exhibit 5. Distribution of the Two-Day (–1,0) Common Stock Cumulative Prediction Errors for the Sample of Equity for Debt Exchanges

CPE	Non-Refunding		Refunding	
	N	%	N	%
CPE < –.08	0	0.00	2	4.65
–.08 < CPE < –.06	0	0.00	1	6.98
–.06 < CPE < –.04	4	6.15	2	11.63
–.04 < CPE < –.02	13	26.15	10	34.88
–.02 < CPE < .00	24	63.08	14	67.44
	41		29	
.00 < CPE < .02	16	87.69	10	90.70
.02 < CPE < .04	5	95.39	2	95.35
.04 < CPE < .06	3	100.00	1	97.67
.06 < CPE			1	100.00
	24		14	
	65		43	
Maximum	.0554		.0653	
Minimum	–.0482		–.0957	
Mean	–.0060	(Z = –2.32)	–.0129	(Z = –4.53)

firms that used the exchange as part of a bond refunding program had cumulative abnormal returns of 7.39% on day 50, compared to cumulative abnormal returns of –1.03% for those firms that did not refund the bonds.

Despite the difference in post-event price changes, each group had significant negative abnormal returns at the announcement of the exchange. Possible causes of the negative reaction were examined, including a supply effect, tax effect, and transactions costs; however, none of these were supported by the data. The evidence suggests that the price reaction at the announcement was caused by uncertainty on the part of investors regarding the purpose of the exchange.

References

1. G. Anders, "Corporations Find Help For Balance Sheets: Swap Costly Debt For Low Yielding Stock," *The Wall Street Journal* (June 30, 1982).
2. P. Asquith and D. W. Mullins, "Equity Issues and Stock Price Dilution," *Journal of Financial Economics*, forthcoming.
3. S. J. Brown and J. B. Warner, "Using Daily Stock Returns: The Case of Event Studies," *Journal of Financial Economics* (March 1985), pp. 3–31.
4. T. E. Copeland and J. F. Weston, *Financial Theory and Corporate Policy*, 2nd ed., Reading, MA, Addison Wesley, 1983.
5. L. Y. Dann, "Common Stock Repurchases: An Analysis of the Returns to Bondholders and Stockholders," *Journal of Financial Economics* (June 1981), pp. 113–138.
6. H. DeAngelo and R. W. Masulis, "Optimal Capital Structure Under Corporate and Personal Taxation," *Journal of Financial Economics* (March 1980), pp. 3–30.
7. P. Dodd and J. B. Warner, "On Corporate Governance: A Study of Proxy Contests," *Journal of Financial Economics* (April 1983), pp. 401–438.
8. J. D. Finnerty, "Stock for Debt Swaps and Shareholder Wealth," *Financial Management* (Autumn 1985), pp. 5–17.
9. A. J. Kalotay, "On the Advanced Refunding of Discounted Debt," *Financial Management* (Summer 1978), pp. 14–18.
10. P. Marsh, "Equity Rights Issues and the Efficiency of the UK Stock Market," *Journal of Finance* (September 1979), pp. 839–862.
11. R. W. Masulis, "The Effects of Capital Structure Change on Security Prices: A Study of Exchange Offers," *Journal of Financial Economics* (June 1980), pp. 139–177.
12. R. W. Masulis, "Stock Repurchase by Tender Offer: An Analysis of the Causes of Common Stock Price Changes," *Journal of Finance* (May 1980), pp. 305–319.
13. R. W. Masulis, "The Impact of Capital Structure Change on Firm Value: Some Estimates," *Journal of Finance* (March 1983), pp. 107–126.
14. J. J. McConnell and G. G. Schlarbaum, "Evidence on the Impact of Exchange Offers on Security Prices: The Case of Income Bonds," *Journal of Business* (January 1981), pp. 65–85.
15. W. H. Mikkelsen, "Convertible Calls and Security Returns," *Journal of Financial Economics* (September 1981), pp. 237–264.
16. J. W. Peavey and J. A. Scott, "The Effect of Stock-for-Debt Swaps on Security Prices," *Financial Analysts Journal*, forthcoming.
17. R. C. Rogers, J. E. Owers, and J. E. Finnerty, "Equity for Debt Exchanges and Security Returns," BEBR Working

- Paper No. 1073, University of Illinois, September 1984.
18. M. Scholes, "The Market for Securities: Substitution Versus Price Pressure and the Effects of Information on Share Prices," *Journal of Business* (April 1972), pp. 179–211.

19. T. Vermaelen, "Common Stock Repurchases and Market Signalling: An Empirical Study," *Journal of Financial Economics* (June 1981), pp. 139–183.

JOURNAL OF BUSINESS FINANCE & ACCOUNTING

Editor: Richard Briston

Autumn 1985

Vol. 12 No. 3

Contents

An Assessment of the Relationship Between US Corporate Environmental Performance and Disclosure

by JOANNE W. ROCKNESS

Forecast Disclosure: An Information Economics Perspective

by MARTIN WALKER

Takeovers: Partitioning of Gains and Pareto Improvement in a Rational Market with Asymmetric Information

by I.R. DAVIDSON

The Accounting Standards Overload Problem for American Small Businesses

by DENNIS L. KNUTSON AND HENRY WICHMANN, JR.

Sharing Rule Contracts Between Management and Investors and Their Effect on the Management's Attitude Towards Risk

by SAMUEL B. BULMASH AND AVRAHAM MEHREZ

The Accuracy of Budgetary Estimates: Some Statistical Evidence

by DAVID T. OTLEY

A Note on Currency Option Pricing Models

by HO. C. YANG

Market Behavior and the Capital Asset Pricing Model in the Securities Exchange of Thailand: An Empirical Application

by PAIBOON SAREEWIWATTHANA AND R. PHIL MALONE

Selecting a Suitable Solution Method for a Multi Objective Programming Capital Budgeting Problem

by E. THANASSOULIS

Limitations of Using the Cash Recovery Rate to Estimate the IRR: A Note

by R.P. BRIEF

1985 subscription £40 in UK and £50 elsewhere (or US \$99 or Can \$121.50) to library and business subscribers, or £21.25 in UK and £26.75 elsewhere (or US \$52.50 or Can \$65) to individual teachers and students. Order from Journals Dept., Basil Blackwell Publishers, 108 Cowley Road, Oxford, OX4 1JF, UK. Editorial communications to JBFA/CRIBA, University of Warwick, Coventry CV4 7AL, UK. Students and teachers in the UK and members of the E.A.A. and E.F.A. may qualify for a specially reduced subscription price; details may be obtained on request from the editors.