IN-SUBSTANCE DEFEASANCE AND SHAREHOLDERS' WEALTH

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Abstract

In November, 1983, the Financial Accounting Standards Board issued Statement No. 76: Extinguishment of Debt. The Statement permitted corporations completing an in-substance defeasance to recognize an increase in earnings and earnings per share. High interest rates in 1984 and the Statement encouraged corporate managers to in-substance defeasance debt and show the associated increase in earnings per share. In our examination of 19 companies defeasing bonds during the period 1983-1985, we found no impact on stock price. Although the process led to an accounting profit for each company, investors interpreted the change in capital structure to be transitory and/or too small to require altering their investment portfolios.

I. INTRODUCTION

In November, 1983, the Financial Accounting Standards Board issued *Statement No. 76: Extinguishment Of Debt* [5]. An important part of this Statement addressed in-substance defeasance, a process in which a debtor corporation places cash or other assets in a trust to satisfy the debt-service payments of the original issue. The Statement [5] says that under these circumstances for financial reporting purposes "...Debt is extinguished even though the debtor is not legally released from being the primary obligor under the debt obligation..." The Statement permits the corporation in-substance defeasing debt to report an increase in earnings. The increase is not taxable. The resulting wave of in-substance defeasance attracted the attention of both the popular press and academicians. Most of the popular press commented on the way that in-substance defeasance gives reported earnings a boost [11; 18]. Some writers, however, suggested that it may not be in the best interest of shareholders [13, pp. 65-66; 16, p.626].

The following pages present an

analysis of the link between in-substance defeasance and shareholders' wealth by examining the reaction of stock returns in a sample of defeasing corporations. Section II of this paper briefly examines the earnings and reporting impacts associated with in-substance defeasance. It also includes an example of the financial statement recognition of in-substance defeasance on earnings per share and leverage for General Mills, Inc. Section III discusses the expected impact of in-substance defeasance on stock price and shareholders' wealth in order to develop a framework for statistically analyzing the empirical results. Section IV describes the sample of firms and statistical methodology we employ. We use two separate tests to examine the impact of in-substance defeasance on stock price-- a Z statistic to examine the average relationship and a chi square statistic to test for individual stock price performance within the sample. Section V is a discussion of the statistical results. Statistical analysis indicates the stock prices and shareholders' wealth were unaffected by in-substance defeasance. Section VI is

a summary and conclusion.

II. EARNINGS AND REPORTING IMPACTS OF IN-SUBSTANCE DEFEASANCE

Management typically considers in-substance defeasance when interest rates are high and expected to decline,¹ the corporation has ample cash, and a low coupon bond is outstanding.

A. Earnings Impact

In-substance defeasance increases accounting earnings when interest rates rise above the original issue's coupon yield [13]. The result is a tax-free gain on the defeased bond measured by the difference between the original issue price and market value when defeased. However, the defeasing corporation may incur a taxable gain on the U.S. Treasury securities placed in trust: A capital gain representing the difference between the cost of a full-coupon government purchased at a discount and their face amount, and an ordinary gain on the difference between the cost of a stripped bond and its

face amount.² The corporation defers these taxes until the maturity date.

B. Reporting Impact

The corporation's auditor places information concerning in-substance defeasance in a footnote to the Annual Report To Shareholders for each year of the trust arrangement. Exhibit 1 illustrates the way that General Mills, Inc., presented to its shareholders a 1985 in-substance defeasance [8, p. 15]. The transaction increased fiscal 1985 net earnings by \$6.7 million and \$0.15 per share. Note that a 1984 in-substance defeasance increased earnings by \$4.0 million and \$0.09 per share.

C. Suggested Reasons For In-Substance Defeasing

The earnings and reporting impacts suggest that corporate management may be motivated to increase reported earnings for several reasons, among them the following: The corporation may be the target of a hostile takeover, and using cash to increase reported earnings may decrease the

Exhibit 1

Footnote Disclosure Of In-Substance Defeasance General Mills, Inc, Annual Report, 1985

Note 8: Long-Term Debt

In fiscal 1985, we satisfied the future requirements of certain sinking fund debentures through the deposit of U.S. obligations in an irrevocable trust. This transaction increased fiscal 1985 net earnings by \$6.7 million (\$.15 per share). In fiscal 1984, we satisfied the future requirements of certain sinking fund debentures through the deposit of primarily U.S. obligations in an irrevocable trust. This transaction increased fiscal 1984 net earnings by \$4.0 million (\$.09 per share). In fiscal 1983, we exchanged 239,331 shares of our stock held in treasury for \$15 million of our sinking fund debentures. This transaction increased fiscal 1983 net earnings by \$3.2 million (\$.06 per share).

inclination of stockholders to tender their shares to the acquiring firm. Management compensation may be based on accounting earnings, so that management may be motivated to increase its return by in-substance defeasing. Finally, the company may have non-recurring losses against which management wants to apply the nonrecurring gain from in-substance defeasing.

In our discussions with financial managers at firms that had in-substance defeased debt, three suggested impacts of the process unfolded: At least one manager suggested that in-substance defeasing was a good idea because "it permitted us to clean up our balance sheet." The two other suggestions were not so favorable: "The process seems nice in theory," volunteered a manager, "But in practice only the investment banker [advising us] and the trustee make any money." Finally, a manager offered an unsolicited reason that in-substance defeasance may not have any impact on shareholders' wealth: The process "... is pointless. It's no different than buying a U.S. T-bill, and we know a T-bill's net present value is zero." In response to our comment that we intended to examine the capital market effect of the process, he continued, "Frankly, you will probably discover that in-substance defeasance is a financial nonevent."

These diverse observations about the reasons and potential benefits associated with in-substance defeasing convinced us that we had a topic worthy of further theoretical and empirical analysis.

III. EXPECTED PRICE EFFECTS

In-substance defeasance may have an impact on the defeasing company's stock price resulting from the procedure's impact on earnings, cash flow, and capital structure.

A. Earnings.

The above discussion suggests that an important motive for in-substance defeasance is to increase reported earnings. Financial theory suggests that in an efficient market the earnings impact of in-substance defeasance is negligible because accounting earnings do not influence stock price. Stock price is a function of expected cash receipts from holding the shares [16, pp. 168-170], not of reported earnings. Earnings per share are an accounting artifact with little relationship to economic value and stock price.

B. Cash Flow

In-substance defeasance has an impact on the defeasing company's cash flow. First, the company pays an investment banking firm to advise and manage the process. Second, the company must pay the trustee to establish and implement the trust - collecting interest from the U.S. Treasury securities placed in trust and distributing interest to corporate bondholders. Finally, the defeasing company will experience a cash outflow at the termination of the trust when it pays taxes on the U.S. treasuries placed in the trust. Thus, what appears to be an accounting profit might actually lead to a cash loss to the company and its stockholders. The cost varies according to the size of the issue, but on a before-tax basis is typically \$20 to \$35 per bond (20 to 35 basis points).⁵

C. Capital Structure

In-substance defeasance changes the company's capital structure by reducing its debt-equity ratio. The impact on stock price and shareholders' wealth depends on the way investors view in-substance defeasance [1; 7; 9; 12; 13; 15]. If they believe the process signals a temporary change in capital structure, then there should be little or no change in the stock price. Any price change will be transitory and dissipated within a few trading days after the in-substance defeasance be-

comes public information.

If, on the other hand, investors believe that the company seeks a permanent change in its capital structure, then the stock price will change as a result of tax, wealth transfer, and information effects. The tax effect is negative because the process results in the company losing the tax shield associated with the defeased bond's interest expense. The wealth transfer from common shareholders to bondholders could result from lower expected bankruptcy costs, a change in the priorities of claims, and a reduction in the variance of after-tax earnings resulting from the lower degree of financial leverage. Stock price and shareholders' wealth will rise if the capital structure moves toward its optimal level, and fall if it moves away. The information effect is negative because the reduction in financial leverage will signal investors that operating prospects have deteriorated.

IV. SAMPLE, MODEL, AND METHODOLOGY

A. Sample Description.

We began our analysis by identifying 51 companies in-substance defeasing during the 1983-1985 period. These

companies came from an AICPA publication [8] and a list furnished by Morgan Guaranty Bank and Trust. We cross checked the sample with the National Automated Accounting Research Service (NAARS) of the AICPA. Exhibit 2 indicates that we initially eliminated several in-substance defeasance transactions from our initial data set. We did so because they were in-substance defeasance of leases and capital notes of financial institutions. We then eliminated companies not included in the Center for Research in Security Price (CRSP) data base that we used to estimate stock returns over the period. We then contacted financial officers at the remaining 32 companies in our sample. Fifteen either could not or would not identify a specific date associated with the defeasance beyond the ambiguous dates available in the Annual or Quarterly Report. We decided to eliminate these firms from our sample rather than try to guess at a date. The process above resulted in a final sample size of 19 companies with stock return data on the CRSP tapes and listed on the New York and American Stock Exchanges.

B. Model And Methodology

The model used to estimate the impact of in-substance defeasance on

Exhibit 2

Final Sample Of In-Substance Defeasance Transactions

Beginning Sample	51
Less Excluded Transactions	10
	41
Less Firms Not On CRSP Tapes	9
	32
Less Unavailable Specific Dates	13
Final Sample Size	19

stock price and shareholders' wealth is the market model, an expression of a security's returns as a linear function of the market return factor. The expected value of this expression given the market return factor is the market-conditioned expected return. This market-conditioned expected return is expressed,

$$E(R_{jt} | R_{mt}) = \hat{a} + \hat{b}R_{mt} \quad (1)$$

where: R_{jt} is the return to security j on day t
 R_{mt} is the return to the market portfolio on day t
 E is an expectations operator.

The return on a security is determined by the market-conditioned return and an abnormal return:

$$R_{jt} = E(R_{jt} | R_{mt}) + AR_{jt} \quad (2)$$

where AR is the abnormal security return. Rearranging equation 2 yields the abnormal return:

$$AR_{jt} = R_{jt} - E(R_{jt} | R_{mt}) \quad (3)$$

The abnormal return in the above equation is the forecast error of the market model and the prediction error in event analysis. We developed and examined security returns following the method in [4] and employed in [3; 7; 12; 15]. We supplemented this examination with a chi square test of the daily and cumulative prediction errors to ascertain that the possible averaging of extreme and offsetting stock price changes did not obscure our results. A detailed description of the chi-square test is available from the authors on request.

Security returns are examined over an event period from 45 trading days before the in-substance defeasance date (day 0) to 45 trading days afterward. The event date is the day on which the principals executed the trust. We used stock and market return data from the Center for Research in Security Prices at the University of Chicago for the time period from $t = -246$ days to $t = -46$ days to estimate market model regression parameters. The prediction error for security j on day t is:

$$PE_{jt} = R_{jt} - (\hat{a} + \hat{b}R_{mt}) \quad (4)$$

where R_{mt} is a return for the market portfolio on day t , measured by a value weighted portfolio of all securities trading on the New York and American Stock Exchanges.

For each trading day t , the average prediction error is

$$\bar{PE}_t = 1/N \sum_{j=1}^N PE_{jt} \quad (5)$$

Where N is the number of securities with a prediction error defined on day t . The mean cumulative prediction error over the interval t_1 to t_2 is:

$$MCPE(t_1, t_2) = \sum_{t=t_1}^{t_2} \bar{PE}_t \quad (6)$$

Analysis of the cumulative prediction error utilizes both a Z statistic developed by Dodd and Warner [4] and a chi-square statistic.

We test two hypotheses. First, we examine whether the mean cumulative prediction error (MCPE) as represented by equation (6) is significantly different than zero, using the Z statistic developed in [4.] Second, we use a chi-square statistic to establish whether significant positive and negative prediction errors averaged to zero in our sample.

More formally, the latter null hypothesis is written as:

$$H_0: (R_{jt} - \hat{R}_{jt}) = 0, \text{ all } j = 1 \text{ to } J, \text{ all } t = 1 \text{ to } T \quad (7)$$

Hypothesis (7) reveals a great deal, if it is not rejected. All that is required to reject (7) is a single strong abnormal return to a single security on a single trading day within the forecast interval. Thus, if (7) is not rejected, this reveals not only that in-substance defeasance had not effect, but that there were no other contaminating events within the forecast interval. The results of our tests using statistics (6) and (7) are discussed in the next section.

V. STATISTICAL RESULTS

Exhibit 3 presents the daily mean prediction errors and the mean cumulative prediction errors for event days -45 through +40. Exhibit 3 includes test statistics for the selected intervals around the day the corporate treasurer executed the trust. Exhibit 4 is a plot of the cumulative prediction error for the same period. Both the daily and cumulative Z statistics reveal that the in substance defeasance had no impact on the sample companies' average stock price and shareholder wealth: We cannot reject the null hypothesis regarding the daily or cumulative prediction error

at the 0.05 level. (The critical Z level for both the daily and cumulative prediction error is 1.96 at the five per cent level.)

The results of our chi square test are presented in Exhibit 5. The chi square statistic tests for the presence of a prediction error for any company within the nineteen included in our sample. It complements the results from Exhibit 3 by testing to see if positive and negative effects may have cancelled out to present a misleading inference of no change in the sample average stock return associated with in-substance defeasance. In every instance the statistic does not exceed its critical level. We, therefore, reject the null hypothesis of a prediction error on either a daily or a cumulative basis, and infer that in-substance defeasance failed to affect shareholders' wealth. The results are consistent with in-substance defeasance being a financial nonevent.

VI. SUMMARY AND CONCLUSION

A. Summary

This paper examined the relationship between corporate in-substance defeasance and shareholders' wealth. In November, 1984, the FASB formalized the accounting procedure for in-substance defeasing. It issued Statement No. 76, stating that the process removes the defeased debt from the corporate balance sheet and permits the corporation to report earnings roughly equal to the difference between the price of the defeased bonds and their book value.

Many corporations took advantage of the process to increase earnings per share and restructure their balance sheets. We expected the process to affect the defeasing companies' stock prices and shareholders' wealth for two reasons: (1) Investment banking fees, advice, market transactions, and service fees paid to the trustee all require

Exhibit 3
Prediction Error Performance

				Cumulative
Day	PE	Z	CPE	Z
-45	-0.00420	-0.86607	-0.00420	-0.86607
-40	0.00003	-0.48162	-0.01228	-1.92223
-35	0.00276	-0.76714	-0.00810	-0.81223
-30	-0.00486	-1.12056	-0.00865	-0.66020
-25	-0.00296	-0.54403	-0.00717	-0.40223
-20	-0.00492	-1.75678	-0.01038	-0.55144
-15	-0.00618	-1.65609	-0.01773	-0.83980
-10	-0.00298	-0.71796	-0.02040	-0.94531
-5	-0.00530	-1.28608	-0.02319	-1.02391
-1	0.00087	0.28202	-0.02837	-1.23255
0	-0.00250	-0.80306	-0.03087	-1.33749
+1	-0.00342	-0.71995	-0.03429	-1.42703
+5	0.00326	0.91703	-0.02912	-1.22988
+10	-0.00249	-0.45460	-0.03635	-1.45131
+15	0.00714	1.98037	-0.02355	-0.96358
+20	-0.00128	-0.67578	-0.01459	-0.74597
+25	-0.00004	0.24409	-0.02239	-0.85097
+30	-0.00266	-0.02779	-0.01343	-0.63470
+35	0.00222	0.88012	-0.01394	-0.58814
+40	0.00432	0.91539	-0.01907	-0.75106

cash; thus the price of the stock should decline by the present value of the future cash outflows associated with establishing and servicing the trust. (2) Restructuring the balance sheet reduces the corporation's debt-equity ratio and reduces financial risk. The price of the stock should may depending upon whether investors perceive the restructuring to be permanent or temporary and whether the corporation moves toward or away from its optimal capital structure.

To test for the impact on shareholders' wealth, we examined 19 in-substance defeasance transactions completed during 1983-1985. Based on the daily and cumulative prediction errors,

we inferred that there was on average no impact from the transaction on stock price and shareholders' wealth. Using a chi square test on the squared standardized prediction error, we fail to reject the hypothesis that none of the individual daily stock returns in our sample were individually affected by in-substance defeasance.

B. Conclusion.

Three factors probably explain the fact that in-substance defeasance fails to affect stock price and shareholders' wealth. (1) Even though the process results in a cash outflow to the investment banker and the trustee, the amount is small on an after-tax basis

Exhibit 5

Chi Square Test Of Prediction Errors

	Daily	Cumulative	Cumulative
Day	Chi Square	Chi Square	Degrees Of Freedom
-45	14.380	14.3875	19
-40	13.108	102.876	114
-35	10.697	177.874	209
-30	11.845	232.759	304
-25	11.148	343.011	399
-20	50.478*	472.333	494
-15	9.515	544.413	589
-10	35.647*	628.243	684
- 5	8.678	706.779	779
- 1	7.525	764.627	855
0	7.528	772.152	874
+ 1	15.081	787.233	893
+ 5	11.239	847.785	969
+10	5.625	902.070	1064
+15	27.186	988.472	1159
+20	11.080	1210.578	1254
+25	11.609	1278.648	1349
+30	17.569	1367.706	1444
+35	27.015	1439.270	1539
+40	28.062	1525.281	1634

* Significant at the 0.05 level; 19 degrees of freedom; critical chi square value for each of the daily chi squares is 30.144. The critical value for each of the cumulative chi squares is greater than the degrees of freedom at the 1, 5, and 10 per cent levels.

relative to the total corporate cash flow. In other words, the amount is too small to register in stock return. (2) Investors perceive the capital structure change to be temporary. We would not be surprised to learn that in-substance defeasance has no effect on capital structure because the company may remain liable for the debt. In other words, in-substance defeasance is an accounting artifact affecting

neither the economic value of the corporation nor the claims against it. (3) Using corporate cash to buy the U.S. Treasury securities for the trust is in fact no different from purchasing treasuries for any other purpose and should therefore have the same financial impact. Corporate liquidity is virtually unaffected because of the marketability of treasuries. Such an investment is risk free, and when discounted at the

risk-free rate of return yields a zero net present value. We should expect stock price to remain unchanged with such a transaction because the U.S. Treasury securities have a zero net present value.

In summary, in-substance defeasance is a financial nonevent with no implication for investors and no impact on stock price and shareholders' wealth.

FOOTNOTES

1. This condition means two things: The outstanding bond's price has declined, permitting a gain from in-substance defeasance. Also, any interest decline subsequent to defeasing permits the corporation to refund the U.S. Treasuries in the trust account and enjoy an additional gain.
2. An example by Peterson et al. [13, p. 61] calculates the gain taxable at the ordinary rate as the difference between the defeased bond's face value and the cash outlay for the U.S. treasuries.
3. Typical of such transactions is the cash impact for Waxman Industries, a corporation whose shares trade over the counter. Management in-substance defeased \$8,276,000 of notes in April, 1985. In conjunction with funding the trust, Waxman Industries incurred \$238,000 costs before taxes and reported a \$212,000 extraordinary gain.
4. The traditional CPE technique would average the positive and negative abnormal returns with the likelihood of generating falsely zero abnormal returns. Thus, an event may go unrecognized because large positive and negative outliers average out.

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