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CORPORATE FINANCIAL REPORTING REQUIREMENTS: REGULATION S-X, A REVIEW AND ANALYSIS

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FOR DISCUSSION PURPOSES ONLY

Introduction

Recent changes in corporate financial reporting requirements have been instituted by the Securities and Exchange Commission through revision of Regulation S-X "Form and Content of Financial Statements." Corporations filing the 10-K report are now required to provide detailed information, through balance sheet segregation and footnote disclosure, concerning their short-term and long-term debt, restrictions (including compensating balance agreements) on cash and near-cash assets, and the terms and nature of credit line arrangements.

These new requirements represent a significant departure from past financial reporting practice. Disclosure of the terms-of-debt arrangements previously was voluntary and quite rare. Details on credit lines, compensating balances, and restrictions on the liquid assets of the firm were not typically published because the underlying agreements were mostly informal and felt to be legally unenforceable. The position now taken by the S.E.C. is that such detailed information on the composition of cash assets and debt is quite important to the investor, and that informal credit/balance arrangements and restrictions are economic realities which influence corporate liquidity as well as the availability and cost of credit to the firm. Knowledge of this aspect of the firm's operations is felt to be essential if the investor is to appraise management's financial policies.

The S.E.C. disclosure rules have been in effect since November 1973, and data called for under the regulations are now available to the public in published 10-K reports. In this paper we first examine the information requested by the S.E.C. to determine how it might be useful to the investor. We then examine a sample of corporate 10-K and annual reports to judge whether compliance with the disclosure rules meets the standard implied in the S.E.C. reporting requirements. We conclude with recommendations for improving the reporting method.

Characteristics of the Disclosure Requirements

The S.E.C. disclosure rules affect the form and content of corporate reporting in the following balance sheet categories: cash and cash items, other assets, accounts and notes payable, bonds and other long-term debt. The new requirements are discussed below with regard to concept, measurement, and the method of reporting. An evaluation of the information required, from the investor's viewpoint, is presented in the following section.

Cash and cash items

Firms are now required to show as separate line items under this heading on the balance sheet the following:

1. Cash on hand and unrestricted demand deposits;
2. Any legally-restricted deposits held as compensating balances against current or future short-term borrowing arrangements;
3. Unrestricted time deposits and certificates of deposit (with interest rates and terms detailed in footnotes);
4. Any funds subject to repayment on call or immediately after the date of the balance sheet (detailed in footnotes);

5. Any other funds which are known to be subject to withdrawl or usage restrictions (detailed in footnotes).

Other assets

Under this heading on the balance sheet, firms must show as a segregated line item legally restricted deposits held as compensating balances against current or future long-term borrowing arrangements (i.e., mortgage loans, term loans, bonds).[1] Balance sheet footnotes should detail any compensating balance agreements which legally restrict the free use of cash balances by management and compensating balances maintained under an agreement to assure future credit availability.

Accounts and notes payable

Firms are now required to segregate accounts and notes payable on the balance sheet in terms of amounts payable to:

1. Banks, factors, and other financial institutions for borrowings;
2. Holders of commercial paper;
3. Trade creditors;
4. Parent companies and subsidiaries;
5. Any other affiliated entities or persons the investments in which are accounted for by the equity method;
6. Underwriters, promoters, directors, officers, employees, and principal holders (other than affiliates) of stock in the firm and its affiliates;
7. Others.

The expanded reporting rules also require that firms calculate and report the weighted-average, nominal interest rate for each of these categories of current debt as of the end of the reporting period. Terms and formal provisions for extension of maturities for categories 1, 2, and 3 must be disclosed in footnotes along with the maximum amount of short-term borrowing outstanding at the end of any month during the accounting period for each of the categories.

Furthermore, firms are required to disclose in footnotes the approximate average, aggregate, short-term borrowings outstanding during the reporting period and the approximate weighted-average, nominal interest rate and a description of the computation method used.

Regarding unused lines of credit for both short- and long-term borrowings, the amount and terms (including commitment fees and conditions under which the commitment may be withdrawn) must be shown in detail. The amount of these credit lines which support commercial paper borrowing or similar credit arrangements must be separately identified and described.

Bonds, mortgages, and other long-term debt

On the balance sheet or in notes relating to each issue or type of debt obligation information must be included to show:

1. The character of each type of debt including the rate of interest;
2. The maturity date or serial schedule;
3. An indication of contingency of interest or principal payments (if contingency exists);

4. An indication of priority schedule of issues;
5. The basis of convertibility (for convertibles);
6. Sinking fund amounts and schedules for the five year period following the balance sheet.

Also, the amount and terms (including commitment fees and conditions under which the commitment may be withdrawn) of unused commitments for long-term financing must be described in footnotes to the financial statements.

Value of the Required Information to the Investor

The new disclosure requirements promise to provide the investor with valuable insight regarding the financing policies and practices of firms. We shall consider the usefulness of the information requested by the S.E.C. under three headings: corporate liquidity, future debt capacity and availability of debt, and the cost of capital.

Corporate liquidity

The investor's ability to accurately assess the firm's liquidity is greatly improved by the new reporting rules. By requiring the segregation of period-end cash balances, the rules separate legally restricted funds (compensating balances and special purpose funds) and "window dressing" deposits from funds that have no legal restrictions and are legally available for use at management's discretion. An investor may determine the amount of cash having no withdrawal or usage restrictions by adjusting the legally available funds for the effect of informal compensating balances (as disclosed in the footnotes).

Disclosure of the terms of certain, specified, current liabilities and of long-term debt facilitates calculation of the maturity structure of the firm's financial commitments and thus contributes to an understanding of liquidity. Furthermore, knowledge of the links between certain cash items and the short- and long-term liabilities allows the investor to judge the significance of these arrangements for corporate liquidity.

Future availability of credit

The new reporting rules require firms to report in detail the terms and costs of arrangements providing for the future availability of credit. Thus the investor is able to find information such as the total credit line, related compensating balances, commitment fees, and credit fee arrangements. Lines of credit which support the sale of commercial paper are detailed separately. Additionally, the firm must disclose conditions under which commitments could be withdrawn and situations in which the company is in violation of cash restriction agreements.

The above-described information, coupled with an understanding of the long-term debt position, provides the investor with data needed to assess the future availability of credit to the firm.

The cost of capital

The requirement that information on interest rates, cash balance restrictions, terms, and commitment fees be disclosed for each type of debt reflects S.E.C. recognition of the importance of the cost of capital calculation to the investor. Earlier forms of the proposed reporting rules explicitly required the reporting firm to calculate the effective cost of debt including the effect of compensating balances and other fees and charges in the calculation. The S.E.C. was quite clear regarding the importance of the effective rate of interest in its April 1973 proposed disclosure requirements:

> Funds subject to withdrawal or usage restrictions often are a significant element in financial policy decisions of management. The existence of restrictions affects both the liquidity and the effective cost of borrowing of a firm. Disclosure of such amounts and their effect on interest rates is necessary if the investor is to adequately appraise management's financial policies.[2]

In the final version (November 1973) of the reporting rules, however, the position of the S.E.C regarding disclosure of the effective interest rate is quite different.

> The proposed requirement that the effective interest rate (including the impact of compensating balances, fees, etc.) on borrowing be disclosed has been eliminated. Comments received indicated many practical difficulties in determining such a rate and the Commission has concluded that such problems make it impractical to require this disclosure in financial statements as a general rule ...[3]

In its stated reasons for disclosure under the November 1973 requirements, the S.E.C. cites the importance of disclosing cash restrictions and the existance of compensating balance links with sources of financing, but makes no mention of the effective interest rate which earlier versions had held to be necessary information for the investor.

A Test of the Usefulness of the New Information: The Effective Interest Rate Calculation

The decision not to require firms to calculate and present the effective cost of bank borrowing detracts substantially from the usefulness of the newly available information to investors, unless the effective cost can be developed from the data provided. The following analysis seeks to determine whether such a rate can be calculated and, when it cannot, points to deficiencies in both firm reporting and the S.E.C. specifications. While such an approach is not a general critique of the amendments, it is, at least, illustrative of the remaining problems.

An effective interest rate model

A model for calculating the effective cost of borrowing under an arrangement which includes compensating balance requirements on borrowings and on a line of credit as well as commitment fees on the credit line is shown below:

$$K = \frac{apB + c \quad (L-B)}{B-\left(\frac{B}{1-e} - B\right) \quad - d \quad (L-B)}$$

where K = the effective borrowing cost (percentage per year);

a = a multiple of the prime rate;

p = the average prime borrowing rate (percentage per year);

e = effective compensating balance required on borrowings (percentage);

B = average amount borrowed during the year (dollars);

d = effective compensating balance required on unused portion of credit line (percentage);

L = average line of credit (net of credit line employed to assist commercial paper financing) (dollars);

c = commitment fee on the unused line of credit (percentage).

This is a simple, straightforward calculation which may be done with data from the reporting period. However, it requires two important assumptions regarding compensating balances. The assumptions are connected logically to the functional role played by compensating balances in the credit relationship.

Assumption 1. The compensating balances represent borrowed funds rather than balances which normally would be held as part of the firm's minimum cash balance (MCB). If the funds were part of the firm's MCB, they would represent no incremental cost to the firm. Under such conditions the balances should not be subtracted from the total loan amount. Of course, balances which are a part of the firm's MCB may be used to compensate a bank for credit: the bank wants the balances for security (i.e., for possible right of offset against the loan) and for investment purposes. Maintenance of such balances with the lending institution has no incremental cost to the borrower and may actually reduce the nominal interest rate and fees associated with a loan.

Unfortunately, the form of disclosure specifically rules out the distinction between compensating balances that are part of the firm's MCB and those that are not. The external analyst who applies all compensating balances to the appropriate outstanding credit will consistently overstate the effective cost of such funds, thus injecting bias into any comparison of the economic characteristics of various alternative types of credit.

Assumption 2. The compensating balances are held as compensation solely for the credit being analyzed. In many cases, compensating balances perform several functions representing support for credit outstanding, the promise of credit in the future, and payment for noncredit services being provided by the bank. Separating compensating balance amounts by these purposes is important if proper measurement of cost is to be made. According to an early version of its Guidelines and Interpretation, the S.E.C. clearly intended that such separation be made and reported.[4] Note, however, that the final amended regulation drops this requirement.

As demonstrated by Stone, calculation of the effective cost of credit for situations in which compensating balances serve multiple purposes is very complex, even when all required data are available.[5] This complexity may explain in part the elimination of the earlier requirement that reporting firms calculate the effective cost of credit. Even if compliance with the intent of the disclosure rules is complete, the revelation of joint purposes of balances will not in itself be sufficient to permit the investor to deal analytically with the effect on the cost of credit.

The empirical study

The annual reports and 10-K reports of over one-hundred firms were examined to ascertain the reporting response to amended regulation S-X. Firm selection was neither random nor classified; data availability played a significant role. Given this nonscientific sampling approach, no attempt is made to specify the frequency of reporting variations. Instead, illustrations of reporting differences are presented.

Additionally, firm anonymity is preserved by identifying the data by letter, only (e.g., Firm A). The purpose of this work is not to criticize the specific reporting practices of a small group of companies, but rather to indicate overall reporting variations and their effects on the calculation of effective borrowing cost.

The information necessary to calculate the effective borrowing rate, as reported by fifteen illustrative firms in response to amended Regulation S-X, is provided in Table 1. Four information categories are displayed: the dollar amount of line of credit and loan, the stated interest rate; credit fees; and compensating balances. A review of reporting differences within each category evaluates the quality of disclosure in terms of the ability to calculate the effective borrowing rate.

<u>Dollar amount of line of credit and loan</u>. The effective borrowing rate calculation requires the average daily amount of the credit line and the average daily loan throughout the year. Many firms reported an end-of-product level of one or both of these items. If the end-of-period amount does not differ significantly from the average (as is often true for line of credit), the computation of effective borrowing rate is not affected adversely. However, an explicit statement to his effect is required.

Stated interest rate. The average daily rate experienced during the year is needed to calculate the effective borrowing rate. The firm may provide the rate directly (as did most of the example firms), or it may show rate as a function (additive or multiplicative) of the prime rate. If the latter course is chosen, the daily average prime rate also must be provided because of fiscal year differences and varying views of the prime rate. Firms which fail to report an interest rate, which report a rate on a part of total borrowing, or which provide an end-of-period rate, rules out calculation of the effective borrowing rate.

Credit fees. An expression of commitment fee as a percentage of a specific dollar amount or of the unused portion of a line of credit is an acceptable form for reporting. Fees to be paid if compensating balances are not maintained must be stated in dollar amounts or in a manner which permits computation of the dollar amount. If portions of the credit line are subject to different fees, the details of amounts and arrangements must be shown. When no credit fee is required, a statement to this effect must be made.

Compensating balances. Reporting the average daily level of compensating balances maintained to support credit availability and borrowing is the most efficient presentation of the information necessary to calculate effective borrowing rate. Several of the example firms chose this option. Note that average, not end-of-period, balance is required. An acceptable alternate presentation calls for a statement of percentage of credit line and loan required. In the

Table 1
Illustrative Responses to Regulation S-X

Firm	Financing (in dollars): Line of Credit	Financing (in dollars): Loan	Average Interest Rate (in percentage)	Credit Fees: Commitment Fee	Credit Fees: Other Fees	Compensating Balances: Maintained to Assure Future Credit Availability	Compensating Balances: Maintained as Partial Compensation For Loan	Amount (in dollars)
A	50.5	37.8	10.3	---	---			4.2
B	---	7.8	11.0	---	---		15 percent of amount borrowed	
C	319.9	159.5	9.7	---	---	10 percent of un-used credit line	10 percent of amount borrowed	
D	155.0	89.0	11.0	½ percent on $73 million	---	10 percent of un-used credit line	20 percent of amount borrowed	18.0*
E	15.0*	2.5	11.1	---	---	10 percent of un-used credit line	10 percent of amount borrowed+	
F	105.0++	54.0	10.3=	½ percent on unused line	---	10 percent of un-used bank lines	15-20 percent of amount borrowed	9.4++
G	128.0#	73.0	10.2	½ percent on $30 million	---	15-20 percent of line of credit	10 percent of amount borrowed**	9.3
H	10.0	6.0	10.8	---	$100,000 fee in lieu of compensating balance	[illegible] percent of amount borrowed	20 percent of amount borrowed	
I	538.0	145.0	12.2	½ percent on $30 million	---	15 percent of line and 10 percent of line and	no balance on loans 10 percent of amount borrowed	
J	---	---	---	---	---	5-14 percent of available line of credit	Up to 10 percent of amount borrowed	4.6
K	63.0	33.0*	---	---	---	10 percent of credit line	10 percent of amount borrowed	
L	232.0	126.0	11.3	¼ percent on unused part of $48 million	---	10 percent of un-used credit line	10 percent of amount borrowed	9.6

Table 1, continued

Firm	Financing (in dollars) Line of Credit	Loan	Average Interest Rate (in percent)	Credit Fees Commitment Fee	Other Fees	Compensating Balances Maintained to Assure Future Credit Availability	Maintained as Partial Compensation for Loan	Amount (in dollars)
M	947.0	75.0	Prime plus ¼	½ percent on unused line	Fee to be paid if balance not maintained	10 percent of unused credit line	10 percent of amount borrowed	
N	75.0	39.0*	10.4*	½ percent on unused line	---	10 percent	10 percent of amount borrowed	10.4*
O	528.0*	390.0	10.4	---	---			14.6*

Source: Corporate 10-K and Annual Reports.

Notes:
- * End of year, not averaged
- \+ Withdrawal, not restricted
- ++ End of period level
- = Rate applicable to $14 million of debt
- #/ Of which 45 million is standby
- ** Plus compensating balance equal to 20 percent of the unpaid balance of certain loans made to customers.

event of several different arrangements, either the details of each or a weighted composite percentage is necessary. A range of terms will not suffice. If the terms of borrowing do not require compensating balances, the firm should state this explicitly.

Effective borrowing rate calculation

A critique of the information displayed in Table 1 is summarized in Table 2. If the firm provides appropriate data for calculating the effective borrowing rate, a "plus" sign is indicated. An "X" indicates that necessary information was either missing or provided in a form which could not be used in the effective rate model. A "dash" signifies that either the information is unnecessary because an acceptable alternate form was used or that the information category is not part of the borrowing arrangement. Since each firm shows at least one "X", the effective borrowing rate cannot be calculated without making certain assumptions about the data.

If the reported dollar amount of compensating balances is assumed to support credit, the effective borrowing rate for firm A can be calculated. If the dollar amount of compensating balances corresponding to the stated percentage requirement is assumed to be maintained, the effective rate for firms B and C can be found. For all other firms, the rate cannot be determined. As shown, the primary factors precluding calculation of the rate are: (a) missing information and, (b) presentation of end-of-period data. Since these problems relate primarily to the willingness of firms to develop and to present information which should be readily available, the issue is reduced to the enforcement of existing regulations.

TABLE 2

Effective Rate Calculation Critique

	Dollar Financing			Credit Fees		Compensating Balances			
Firm	Credit Line	Loan	Average Interest Rate	Commitment Fee	Other	Future Credit	Loan	Amount	Separation of Non-Credit Compensating Balances
A	+	+	+	-	-	-	-	+	X
B	-	+	+	-	-	-	+	X	-
C	+	+	+	-	-	+	+	X	-
D	+	+	+	+	-	+	+	X	X
E	X	+	+	-	-	+	+	X	-
F	X	+	X	+	-	+	+	+	X
G	+	+	+	+	-	X	+	+	X
H	+	+	+	-	X	-	+	X	-
I	+	+	+	+	-	X	+	X	-
J	X	X	X	-	-	X	X	+	X
K	+	X	X	-	-	+	+	X	-
L	+	+	+	X	-	+	+	+	X
M	+	+	X	+	+	+	+	X	-
N	+	X	X	+	-	-	+	X	X
O	X	+	+	-	-	-	-	X	X

+ Required Information Given.
X Required Information Missing or Inappropriate.
- Not Applicable.

TABLE 2 continued

Firm	Can Effective Interest Rate Be Calculated?	If All Balances Are Assumed to Support Credit, Can Effective Interest Rate Be Calculated?	If Required Balances Are Assumed to Equal Actual Balances, Can Effective Interest Rate Be Calculated?	Reason(s) for Inability to Calculate, or Effective Rate of Interest
A	No	Yes	--	
B	No	No	Yes	
C	No	No	Yes	
D	No	No	No	End-of-period compensating balance amount given.
E	No	No	No	End-of-period line of credit shown
F	No	No	No	End-of-period line of credit given; cannot calculate commitment fee
G	No	No	No	Fails to separate restricted balances from total; range of compensating balances given
H	No	No	No	Fails to specify whether credit fee is paid in lieu of all required balances
I	No	No	No	Range of compensating balance percentages given
J	No	No	No	Loan, line of credit, and interest rate data not given
K	No	No	No	End-of-period line of credit provided, no interest rate shown
L	No	No	No	Cannot calculate commitment fee from data provided
M	No	No	No	Average interest rate not shown
N	No	No	No	End-of-period loan and interest rate given
O	No	No	No	End-of-period line of credit provided

Conclusion

The expanded information on cash balances and borrowing arrangements provided by corporations in response to amended regulation S-X benefits investors in several important ways. First, evaluation of the firm's short-term borrowing and cash management policies is facilitated by the availability of information relating to liquidity and cost. Knowledge of restricted balances, compensating balances, credit fees, and the line of credit, heretofore not normally revealed, should enable the investor to develop a clearer picture of liquidity and to calculate effective borrowing cost. Second, detailed information on both short-term and long-term borrowing arrangements should encourage the use of cash flow analysis in place of financial ratio analysis in determining financial risk. Finally, the publication of previously unreported information should discourage management decision making which is motivated by the degree to which the results are revealed or hidden in the financial statements. The choice from among alternatives is properly a function of the underlying economics, not reporting convention.

The quality of information disclosed in response to regulation S-X, as measured by an investor's ability to calculate the effective cost of borrowing is in need of improvement. Two suggestions are in order: First, the variations in company response suggest a lack of understanding by firms as to the exact information required by the S.E.C. Stronger statements of the requirements including, perhaps, a form on which to report may be necessary. Second, firms should not resist supplying this information to investors. While no positive evidence of such resistance could be found, the researchers developed the feeling that many of the omissions and inappropriate reporting could easily have been avoided. Efficient firms have everything to gain by supplying better information to investors.

Finally, this study has suggested a variety of useful empirical research deriving from the newly available data. The authors intend to pursue this activity in the near future.

FOOTNOTES

1. For reporting purposes, the S.E.C. defines compensating balances as follows:
"...that portion of any demand deposit (or any time deposit or certificate of deposit) maintained by a corporation (or by any other person on behalf of the corporation) which constitutes support for existing borrowing arrangements of the corporation (or any other person) with a lending institution. Such arrangements would include both outstanding borrowing and the assurance of future credit availability. S.E.C. Docket 1, No. 11 (April 24, 1973): 6.

2. S.E.C. Docket, p. 4.

3. U.S., Department of Commerce, Accounting Series Releases, No. 148 (November 13, 1973), p. 3412.

4. "S.E.C. Release No. 148," Accounting Series Releases (Washington D.C.: Commerce Clearing House, 1974), p. 3417.

5. Bernell K. Stone, "Cash Planning and Credit-Line Determination with a Financial Statement Simulator: A Cash Report on Short-Term Financial Planning," Journal of Financial and Quantitative Analysis 8, No. 5 (December, 1973): 711 ff.