The Effects of the Liability Method of Interperiod Income Tax Allocation on the Financial Statements of Early Adopters of SFAS 96

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Abstract

This study examines the effects of the liability method on the financial statements of SFAS 96's early adopters, and the effects of the early adopters' switch to the liability method on the intercompany comparability among firms during the standard's transition period. The results of the study indicate that, although the financial results of the early adopters were somewhat affected by the switch to the new method, the inter-company comparability among firms was not so adversely affected.

Introduction

In December, 1987, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 96 (SFAS 96), "Accounting for Income Taxes," to supersede Accounting Principles Board Opinion No. 11 (APB 11). In SFAS 96, the Board began to require the liability method to be used for interperiod income tax allocation in place of the deferred method which was previously prescribed by APB 11. Because of the complexity of the requirements in SFAS 96, the FASB deferred the Statement's effective date three times. At last, the longest transition period of accounting pronouncements in history came to an end. As a consequence, the liability method became mandated, not under SFAS 96, but under a new FASB statement (SFAS No. 109) for fiscal years beginning after December 15, 1992, with early adoption encouraged. Thus, SFAS 96's requirements never formally went into effect, although the provisions about income tax allocation that can be found in SFAS 96 for a large part remain practically unchanged in SFAS 109. At any rate, the unusually lengthy transition period of SFAS 96 allowed a great deal of flexibility for companies to determine when to adopt the new method to account for income taxes.

In some ways, both APB 11 and SFAS 96 are similar, because the FASB continued to require comprehensive tax allocation without discounting the deferred liability. However, by requiring the liability method, the Board

introduced dramatic changes in the way deferred tax assets, liabilities, and income tax expense were determined. A significant impact on the financial statements of early adopters of SFAS 96 (hereafter early adopters) could have resulted from these changes (Carpenter and Wilburn 1988; Merryman and Robinson 1991). Additionally, because of the lengthy transition period during which both methods were permitted, some were concerned that intercompany comparisons of financial results between early adopters and late adopters might somehow be hindered. Further, the comparability of financial results across early adopters could also have been reduced by the fact that both the restatement method and the cumulative effect method were permitted to account for the accounting change during the transition period (Knutson 1988; Carpenter and Wilburn 1988; Merryman and Robinson 1991).

The purpose of this paper is twofold: (1) to examine the effects of the liability method on the early adopters' financial statements, and (2) to shed light on the effects of the early adopters' decisions on the intercompany comparisons between users of the two different tax allocation methods, and between users of the two accounting-change implementation methods during this unusually lengthy grace period.

Differences Between the Liability and Deferred Methods

Under the liability method, the tax rates used to measure deferred taxes are those enacted rates to be in effect when temporary differences reverse. Any enacted changes in tax rates taking place after the temporary differences originate require the deferred tax balances to be calculated based on the new rates, with an adjustment made to the deferred tax accounts in the periods of enactment. Under the deferred method, the tax rates used are those in effect when the differences originate, with reversals made at the originating tax rate under the gross change procedure and at the current tax rate under the net change procedure. No adjustment to deferred taxes is required for tax rate changes under the deferred method. The future tax rates used in SFAS 96 to determine deferred taxes appear to provide a more realistic measure of the true tax liability.

Under SFAS 96, a more stringent rule applied for recognizing deferred tax assets. That is, in order to record a deferred tax asset, it must be possible to carry back net deductible amounts arising in future years to the current or prior years to offset these years' taxable incomes. Of course, under APB 11, no such rule existed to limit the recognition of deferred tax assets. The stricter rule under SFAS 96 reflected the FASB's then position that deferred tax items that hinged on the occurrence of future events should not be recognized in the current year.

Also, under SFAS 96, because future events were not anticipated, net operating loss carryforwards did not have any tax consequences until they were used to offset taxable income to reduce tax liability and tax expense in a profitable year. Under APB 11, the benefit associated with NOL carryforwards ordinarily was not recorded until taxable income was generated in a subsequent year. Realization of the tax benefit resulted in the recording of an extraordinary gain. If the realization could be reasonably assured, however, the benefit could be recorded in advance as an asset when a net loss was incurred.

Finally, under SFAS 96, when a business combination was accounted for using the purchase method, deferred tax assets and liabilities must be recognized for the differences between market values of acquired assets and liabilities and their tax bases. Under APB 11, acquired assets and liabilities were recorded at market values net of any related income tax effects for the differences between recorded amounts and tax bases, and thus no deferred tax assets and liabilities would be recognized under the circumstances.

The aforementioned differences between the two methods reveal that adoption of the substantially different method to account for income taxes could

cause a significant impact on the financial reports of early adopters. The probable effects of such a change in methods can briefly be summarized as follows:

First, the 1986 Tax Reform Act (1986 TRA) considerably reduced statutory tax rates from 45% to 34%. Under the new method, deferred tax liabilities are to be measured using the higher tax rates in effect when temporary differences turn around, not the tax rates in effect when these differences originated. As such, the use of the liability method results in using lower tax rates to compute the deferred tax liability, which tended to assure early adopters of a sizable, positive cumulative effect on the adoption year's net income (provided that the cumulative effect procedure was used to implement the method change) (Carpenter and Wilburn 1988; Jerris and Tennant 1990).

Second, the stricter rule used to recognize deferred tax assets could cause firms to lose deferred tax assets and loss carryforwards. The effect of this adjustment on net income would be negative (Jerris and Tennant 1990).

Third, while a large one-time cumulative effect adjustment is expected to occur in the adoption year, income from continuing operations for the adoption year and each subsequent year would be lower relative to the counterpart under the deferred method. The reason is that temporary difference reversals are made at the originating tax rates under the gross-change deferred method, while these reversals are made at the newly enacted lower tax rates under the liability method. This will continue to be the case as long as there are temporary differences originating before the 1986 TRA's effective date and these differences remain yet to reverse (Clark 1990).

Fourth, from a balance sheet perspective, the use of lower tax rates to account for deferred tax liabilities would also cause long-term debt to decrease, thereby affecting the company's risk position.

The analysis presented here suggests that both favorable and unfavorable effects on companies' financial results could arise from the SFAS 96 adoption. These effects should have been carefully evaluated by early adopters as they decided when and how to adopt the new standard. Given that the financial information under the new method has become available, these effects merit investigation. In fact, the results of the study should provide some insight for us not only to understand the effects of the method per se but also to ponder the implications of the FASB's policy allowing several different methods to exist for such a long period of time. The comparability of financial results among users of different methods during this period is certainly an issue that deserves special consideration.

Sample and Data

A listing of companies that adopted SFAS 96 from 1988 to 1990 was obtained from the American Institute of Certified Public Accountants, which provided the information based on its survey results. These companies include 99 firms that adopted the standard in 1988, 31 firms in 1989, and 16 in 1990.¹ These early adopters can be separately identified as the cumulative effect firms or restatement firms based on the implementation method followed. Accounting data required for the analysis were collected from the Compact Disclosure file and these companies' annual reports.

Empirical Results

An inspection of the financial data provided a basis for discussing the effects of the standard. Comparisons of income statement and balance sheet data were made between the liability method and the deferred method for both the cumulative effect firms and the restatement firms.

Panel 1 of Table 1 shows that the mean value of the cumulative effect reported by the cumulative effect firms is 35.339 million. Out of these 77 cumulative effect firms, only 10 firms reported a negative cumulative effect and the negative amounts of the cumulative effect are mostly insignificant. While there could be a wide variety of reasons for these 10 firms to adopt the standard early, the choice of the cumulative effect method to account for the method change could have something to do with the relative ease with which the accounting change can be implemented. On the other hand, there were 67 cumulative effect firms reporting the income-increasing cumulative effect. The fact that a majority of these firms reported large amounts of the income-increasing cumulative effect substantiates the assertion by many respondents of an earlier survey (Cassidy and Ralston 1990) that the beneficial financial statement effects were the key factor that led them to adopt early. In addition to the cumulative effect, the table also shows the ratios of the "cumulative effect to income from continuing operations" and the "cumulative effect to net income," which were determined based on the absolute values of the items involved. It can be seen that the cumulative effect, on average, accounts for approximately three quarters of income from continuing operations and one quarter of net income. Indeed, these large percentages of the cumulative effect convey some non-trivial importance of the cumulative effect to the income statement. The non-trivial importance of the cumulative effect, in turn, points to the possibility that the reporting of the cumulative effect on the income statement as a line item might more or less inhibit the effective prediction of future cash flows.

Panel 2 of Table 1 displays a comparison for net

deferred taxes between the two methods. In fact, in this study, none of the sample firms reported a deferred tax asset during the sample period. Thus, the term "net deferred taxes" actually refers to the deferred tax liability of each company. As expected, because of the interplay of the liability method and the TRA, the liability method's average balance of the deferred tax liability is smaller than that under the deferred method. The difference in deferred tax liability between the two methods is significant at the .01 level in a two-tailed test. Theoretically, the deferred method should yield a larger amount of the deferred liability. The result shown in the table supports that theory and does indicate that the deferred method's deferred liability is significantly greater than that under the liability method at the .01 level in a one-tailed test. In addition to net deferred taxes, comparisons were made between the two methods for three ratios calculated by dividing the deferred tax liability by three items: stockholders' equity, total liabilities, and total assets. Although the difference is found to be significant for net deferred taxes/total assets only, there is a tendency for the deferred tax liability's ratio to be smaller under the liability method. Overall, the results reported here reveal that the deferred tax liability's balance, and those ratios relating to deferred tax liability that depict part of the company's risk position, may be reduced in the short run due to the switch to the liability method. This, to some extent, could mitigate the problem of ever-increasing amount of deferred taxes that arises from repetitive temporary differences, and inflation in asset prices which also plays a role in the typical situation involving depreciation-type repetitive differences.

Panel 3 of Table 1 reports the financial statement effects of the liability method on the early adopters using the restatement method to account for the accounting change. The restatement method requires that the financial statements of previous years presented in the comparative financial statements be restated using the new method. Thus, a closer look at the new method's impact on the company's financial conditions becomes possible as we compare the pre-adoption year's financial reports under the liability method (shown in the adoption year's comparative statements) with the reports prepared in the pre-adoption year under a different method.

Panel 3 of Table 1 indicates that, in the absence of the cumulative effect, chances do exist for the liability method to produce net income (averaged approximately 58 million, as shown in the table) lower than that under the deferred method (averaged about 1,463 million). Intuitively, one possible explanation for this phenomenon is that these firms might have lost significant amounts of deferred tax assets due to the switch to the liability method. Nonetheless, an earlier survey by Cassidy and Ralston (1990) has shown that a vast

Table 1
Financial Statement Effects of the Switch
to the Liability Method¹

Panel 1: Adoption Year (Cumulative Effect Firms)

	<u>Mean</u>	<u>Median</u>	<u>Std Dev</u>	<u>Minimum</u>	<u>Maximum</u>
Cum. Effect (CE)	35.339	1.500	111.776	-106.900	544.000
CE/Income from					
Contin. Operations	.734	.134	2.391	.000	19.000
CE/Net Income	.233	.117	.334	.000	1.557

Panel 2: Pre-Adoption Year (Cumulative Effect Firms)²

	<u>Mean</u>		<u>t-value</u>	<u>2-tail prob</u>
	<u>Liability</u>	<u>Deferred</u>		
Net Deferred Taxes (NDT)	1,609.5312	1,644.8701	-2.77	.007
NDT/Stockholders' Equity	1.8072	1.9282	-1.41	.162
NDT/Total Liab.	.8415	.8416	-.01	.991
NDT/Total Assets	.5592	.5645	-3.64	.001

Panel 3: Pre-Adoption Year (Restatement Firms)

	<u>Mean</u>		<u>t-value</u>	<u>2-tail prob</u>
	<u>Liability</u>	<u>Deferred</u>		
Net Income	57.7367	1,463.2000	-.96	.345
NDT	421.7500	441.0333	-.11	.911
NDT/Stockholders' Equity	.0922	1.6076	-.98	.335
NDT/Total Liab.	.0569	1.9381	-1.00	.327
NDT/Total Assets	.0329	.8763	-.99	.329

Notes:¹Dollar amounts in the table are in millions.

²To obtain financial data of the pre-adoption year under the liability method for the cumulative effect firms, the following data conversion is required, where D, L denote the deferred method and the liability method, respectively:

(1) NDT (L) = NDT (D) - Cumulative Effect

(2) Stockholders' Equity (L) = Stockholders' Equity (D) + Cumulative Effect

(3) Total Liab. (L) = Total Liab. (D) - Cumulative Effect

(4) Total Assets (L) = Total Assets (D)

majority of their early adopting respondents (92%) did not lose significant deferred tax assets. With that being the case, the decrease in reported income may be attributed to the gross change procedure originally adopted by many of these restatement firms. Prior to the change to the liability method, many companies used the gross change approach as a means of accelerating recognition of the benefit inherent in the rate reductions of the TRA (Bell and Bible 1987). Under this approach, deferred tax expense is calculated separately for originating and reversing temporary differences. The deferred tax expense for an originating temporary difference is computed based on the originating tax rate, a procedure identical to the liability method. The negative amount of deferred tax expense for a reversing temporary difference, however, is computed by multiplying the temporary difference figure by the originating tax rate, rather than the current rate used by the liability method. In the event the temporary difference originated before the TRA's effective date but reversed after that date, when the difference reversed, it is the higher

tax rate (the originating rate) that would be used to compute the decrease in deferred tax expense. Because the liability method uses a lower tax rate (the tax rate in effect at the reversal time) to compute the decrease in deferred tax expense, the net income figure under the deferred method is expected to be higher in the situation, as reflected in the table.

Panel 3 of Table 1 also shows that, for the restatement firms, the liability method has a lower deferred tax liability balance in comparison with that under the deferred method. Clearly, the difference in the deferred tax liability's balance between the two methods is not as significant as that for the cumulative effect firms. In other words, the economic advantage for the one-time adjustment to flow through the adoption year's net income in the case of these restatement firms is less evident, which probably explains why these firms elected the restatement method. Additionally, when stated as a percentage of stockholders' equity, total liabilities, and total assets, the restatement firms' deferred tax liability is also lower under the liability method, although none of these differences is statistically significant. Needless to say, these lower tax liability balances for the liability method are very much attributed to the tax rate reductions effected by the TRA.

To analyze the effect of the switch of the method on comparability, the Wilcoxon signed ranks test was performed on five ratios calculated under both the deferred and liability methods for the restatement firms for the year before adoption. These five ratios, selected to represent the company's risk and profitability positions, include "the debt-equity ratio", "debt to total assets", "net income to stockholders' equity", "net income to total assets", and "earnings yield". The ratios were selected because they can easily be affected by the change in methods. Panel 1 of Table 2 presents such results for the effect of the change to the liability method on the intercompany comparisons of the five ratios. The results suggest that, in terms of risk posi-

Table 2
Effect of the Restatement Firms' Switch to
the Liability Method on the Intercompany Comparability
among the Restatement Firms

Panel 1: Wilcoxon Signed Ranks Test (Liability vs. Deferred):
Pre-Adoption Year (Restatement Firms)

	Number of Matched Pairs for which			z-value	2-tail prob
	DMR ¹ <	DMR >	DMR =		
	LMR ²	LMR	LMR		
Debt-Equity Ratio	21 (13.86) ³	5 (12.00)	4	-2.9335	.0034
Debt to Total Assets	21 (14.48)	5 (9.40)	4	-3.2636	.0011
Net Income to Stockholders Equity	18 (12.33)	7 (14.71)	5	-1.6010	.1094
Net Income to Total Assets	16 (11.06)	10 (17.40)	4	-.0381	.9696
Earnings Yield	13 (9.69)	6 (10.67)	11	-1.2475	.2122

Panel 2: Kendall's tau & Spearman Rank Order (SRO) Correlation
Coefficients:
Pre-Adoption Year (Restatement Firms)

	Def. Sample vs.		Def. Sample vs.		Liab. Sample vs.	
	Liab. Sample Kendall	SRO	Mixed Sample Kendall	SRO	Mixed Sample Kendall	SRO
Debt-Equity Ratio	.8023	.8816	.9055	.9757	.8351	.8750
Debt to Total Assets	.8023	.8816	.9008	.9743	.8406	.8637
Net Income to Stockholders Equity	.7563	.7842	.9453	.9901	.8084	.7930
Net Income to Total Assets	.7793	.7869	.9578	.9816	.8255	.8015
Earnings Yield	.7241	.8274	.8282	.8778	.9690	.9871

Notes: ¹DMR: the deferred method ratio

²LMR: the liability method ratio

³The parenthesized numbers represent mean ranks

tion, the financial statements look significantly different under the two different methods at the .01 significance level. Thus, when measuring risk position, intercompany comparability among the restatement firms might be diminished, depending on the method adopted. Meantime, the method change does not make any significant difference in profitability position.

To further test the intercompany comparability among the restatement firms, Kendall's tau and Spearman rank order correlation were calculated for the aforementioned ratios to make three possible comparisons: the deferred sample vs. the liability sample, the deferred sample vs. the mixed sample, and the liability sample vs. the mixed sample.² Here, the mixed sample were the same restatement firms, but would contain some deferred firms and some liability firms. It was randomly determined whether a company would be represented by its deferred method data or liability method data. The use of the mixed sample to make comparisons was intended to reflect the real-world condition where different firms use different methods. As shown in Panel 2 of Table 2, all coefficients are found to be significant at the .01 level. The high rank correlation

depicted in the panel indicates that the use of the deferred or liability method has no influence on the ranking of firms' ratios. Thus the two methods actually produce ratios that are relatively and absolutely similar.

The second step to be taken was to determine if the reporting of the cumulative effect on the income statement significantly distorted net income, thereby affecting the intercompany comparability. Because the focus here was on the cumulative effect of the method change, only "net income to stockholders' equity" and "net income to total assets" were used. Comparisons were made between the ratios calculated with the cumulative effect and the ratios calculated without regard to the cumulative effect. Specifically, Kendall's tau and Spearman rank order correlation coefficients were calculated for these ratios in making the following comparisons: (1) sample with cumulative effect vs. sample without cumulative effect, (2)

sample with cumulative effect vs. mixed sample, (3) sample without cumulative effect vs. mixed sample, and (4) (sample with cumulative effect + restatement firms) vs. (sample without cumulative effect + restatement firms).

Here, again, the mixed sample was created using the procedure described earlier which contained some firms with the cumulative effect and some firms without the effect. The results thus obtained are reported in Table 3 with all coefficients being significant at the .01 level. Basically, the table shows that the reporting (or elimination) of the cumulative effect did not alter the relative rankings of the profitability position among the cumulative effect firms. Based on the results presented, it can also be noted that, even when the restatement firms were included in the analysis, the reporting of the cumulative effect by the cumulative effect firms did not significantly affect the relative rankings of profitability position among all the early adopters included in the study.

The third step involved a test that was performed on

Table 3
Effect of the Reporting of the Cumulative Effect
on Intercompany Comparability

Kendall tau & Spearman Rank Order (SRO) Correlation Coefficients:
Adoption Year (Cumulative Effect Firms)

	Net Income to Stockholders Equity		Net Income to Total Assets	
	Kendall	SRO	Kendall	SRO
Cumulative Group with CE vs. Cumulative Group without CE...	.8744	.9471	.8880	.9503
Cumulative Group with CE vs. Mixed Sample.....	.8740	.9445	.8831	.9519
Cumulative Group without CE vs. Mixed Sample.....	.9412	.9882	.9378	.9905
(Cumulative Group + Restatement Firms) vs. (Cumulative Group without CE + Restatement Firms)	.8825	.9553	.8889	.9630

the aforementioned five ratios calculated for the restatement firms and an equal number of randomly selected late adopters. For these late adopters to be selected, they were matched by size and industry with the restatement firms first. Kendall's tau and Spearman rank order correlation coefficients were then calculated for the five ratios to make the following comparisons: (1) all deferred sample vs. combined sample, (2) all deferred sample vs. mixed sample, and (3) combined sample vs. mixed sample. The samples mentioned here are described as follows: (a) all deferred sample = restatement firms (on deferred method) + late adopters (on deferred method), (b) combined sample = restatement firms (on liability method) + late adopters (on deferred method), and (c) mixed sample = part of restatement firms (on deferred method) + part of restatement firms (on liability method) + late adopters (on deferred method).

Table 4 shows significant coefficients (at the .01 level) across three comparisons for all five ratios. The high ranking correlation produced here once again suggests that the restatement firms' switch to the liability method did not have a significant impact on these ratios' rankings among all the firms considered.

Summary and Conclusions

This study examined the effects of the liability method on the financial statements of SFAS 96's early adopters, and the effects of the early adopters' switch to the liability method on the intercompany comparability of financial results among firms during the transition period. The issue raised here is of particular interest

and great importance to us due to the fact that the transition period of the standard is the longest among various pronouncements, and different methods were permitted to account for the accounting change.

The results reported in the paper indicate the following: (1) By and large, the intercompany comparability among firms was not adversely affected by the fact that various methods could be used to account for income taxes and the accounting change during the lengthy transition period. This finding is in contrast to several authors' predictions; (2) The financial results (including

the risk and profitability positions) of early adopters, to a certain degree, were affected by the switch to the liability method, as contended by many authors; and (3) Companies were motivated to elect early adoption by the favorable effects brought about by the liability method's adoption.

In any event, the results presented here should have important implications for financial statement users, and for the FASB as it considers appropriate transition rules for future pronouncements.

Footnotes

1. No 1991 and 1992's early adopters were included in the study due to the increasingly smaller number of firms adopting the standard during the later stage of the transition period. The reason is that many companies, unsure about the final form or effective date of the standard, put their plans for adopting the statement on hold as the Board continued its reconsideration of the fundamental aspects of the standard.
2. The procedure involving a mixed sample followed here was originally used by Derstine and Huefner. For a detailed discussion, see Derstine and Huefner (1974).

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Table 4
Effect of the Restatement Firms' Switch to
the Liability Method on the Intercompany Comparability
Between Restatement Firms and Late Adopters

	All Def. Sample vs. Combined Sample		All Def. Sample vs. Mixed Sample		Combined Sample vs. Mixed Sample	
	<u>Kendall</u> <u>SRO</u>		<u>Kendall</u> <u>SRO</u>		<u>Kendall</u> <u>SRO</u>	
Debt-Equity Ratio	.8802	.9391	.9480	.9883	.9446	.9873
Debt to Total Assets	.8802	.9391	.9480	.9883	.9446	.9873
Net Income to Stockholders Equity	.8644	.8910	.9627	.9944	.9616	.9944
Net Income to Total Assets	.8814	.8924	.9672	.9930	.9695	.9933
Earnings Yield	.8550	.9150	.8900	.9272	.8942	.9283

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