Simplifying Deferred Taxes

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Abstract

This paper summarizes the asset/liability approach described in Accounting Standard Codification Topic 740 and highlights four flaws in the current accounting standards. The paper proposes three alternatives to the asset/liability method offering improvements in the current standard and avenues for future research. Empirical evidence for these alternatives is provided demonstrating increases in the debt-equity ratio and resulting improvements in the relevance/reliability of this important benchmark in investment decisions.

Introduction

Domestic corporations have been accounting for deferred taxes since the Accounting Principles Board (APB) implemented APB Opinion No. 11 *Accounting for Income Taxes* in 1967 (APB, 1967). Deferred taxes occur when items are reported on the tax return in different amounts than they are reported on the income statement. Nearly every profit seeking entity has a stake in deferred taxes, so it is no surprise that several changes to APB Opinion No. 11 were made over the years.

The current accounting for Deferred Taxes is described in Financial Accounting Standard (FAS) 109 *Accounting for Income Taxes* (FASB, 1992) and requires corporations to account for taxes using the asset/liability approach. FASB's codification efforts have compiled standards for accounting for income taxes in the Accounting Standard Codification (ASC) Topic 740 (ASC-740) *Income Taxes*. This Codification encompasses all tax related FASB accounting and financial reporting standards including FAS 109 (FASB, 2009). We refer to ASC-740 when referencing the current standards.

The most recent attempt to reexamine deferred taxes was driven by the International Accounting Standards Board (IASB) and FASB initiative to achieve a global standard converging FASB's ASC-740 with the International Accounting Standard (IAS) 12, *Income taxes* (Fleming, Gill, and Gillan, 2011). This paper briefly summarizes the asset/liability approach described in ASC Topic 740 and IAS 12 (IASB, 1996), and highlights four flaws in the current accounting standards. The paper proposes three alternatives to the asset/liability method offering improvements in the current standard and avenues for future research. Empirical evidence for the proposed alternative

methods is provided demonstrating increases in the debt-equity ratio and resulting improvements in the relevance/reliability of this important benchmark in investment decisions.

Accounting Standards Codification - Topic 740

The Codification identifies two principles of income tax accounting: a) to recognize the estimated taxes payable or refundable on tax returns for the current year as a tax liability or asset; and b) to recognize a deferred tax liability or asset for the estimated future tax effects attributable to temporary differences and carryforwards (FASB, 2009, ASC 740-05-5). The first principle relates to taxes due to/receivable from taxing authorities for the current period where, until paid/received by the entity, the entity would record a liability/asset. The second principle creates deferred taxes if there is a difference between taxable income on the tax return versus pretax income on the income statement where the difference was caused by the timing of recognition of income/revenue or deductions/expenses between tax accounting versus financial accounting. These differences are termed temporary differences because it is expected that they will reverse in the future (FASB, 2009). According to ASC 740-10-20, two conditions must be met for a temporary difference to exist. The difference must: a) result from events that have been recognized in the financial statements; and b) result in taxable or deductible amounts in future years based on the provisions of the tax law (FASB, 2009).

We illustrate the current accounting for deferred taxes using a depreciation difference on the tax return and income statement. Federal tax rules allow corporations to utilize an accelerated depreciation method different from the one used in GAAP-based financial statements. Differences in taxable income on the tax return and income statement result. Those differences are reported as deferred taxes and impact both the tax expense and tax asset/liability calculations.

Assume revenues of $100,000 with a $10,000 asset, depreciable over 4 years acquired in the first year of the company's existence. The tax return reports double-declining depreciation in years 1-4 respectively: $5,000 (year 1); $2,500 (year 2); $1,250 (year 3); and $1,250 (year 4). The income statement reports straight-line depreciation in years 1-4 of $2,500 each year. Assuming a 20% tax rate, the company recognizes $500 deferred taxes from a $2,500 depreciation difference on the tax return and income statement, as follows: Debit income tax expense $19,500 (Book Income of $97,500 x 20% = sum of deferred tax liability and income tax payable); credit deferred tax liability $500 (depreciation difference of $5000 - $2,500 x 20%); and credit income tax payable of $19,000 (taxable income of $95,000 x 20%).

The accelerated depreciation on the tax return allows the company to pay a smaller tax bill in years 1 and 2, and pay a higher bill in years 3 and 4 when the accelerated depreciation wanes, giving rise to a deferred tax liability in years 1 and 2. However, this tax liability presupposes that the company will earn a profit in years 3 and 4. If the company experiences operating losses instead, then taxes will not be paid in years 3 and 4 and the deferred tax liability will have no relevance. This flaw in the current accounting for deferred taxes is one of four criticisms we examine next.

Flaws in the Current Asset/Liability Method

Colley, Rue and Volkan (2005) and, Rue and Volkan (1997, and 1985) highlight four flaws in the current asset/liability approach described in FAS 109 and discussed in ASC 740. Each of the four criticisms appears below:

1. Inconsistent individual and aggregate measurements - the asset/liability approach utilizes a measurement base that is inconsistently applied – deferred taxes are measured on an individual basis even though income taxes are assessed by the government on an aggregate basis;

2. Unreliable allocations - the asset/liability approach utilizes unreliable allocations by deferring taxes into future periods even though future profits, and related taxes, are uncertain;

3. Flawed definitions of assets/liabilities - the asset/liability approach reports tax assets and liabilities that fail to comply with strict definitions of assets and liabilities in Concept Statement 6 due to the uncertainty of future taxable income; and

4. Flawed definitions of temporary differences - the asset/liability approach permits recognition of temporary differences that may reverse in theory but not in practice, thereby resulting in temporary differences that are not temporary, and impacting the reliability and relevance of reported values.

We discuss each criticism in the sections that follow and recommend improvements to address these concerns.

Inconsistent Individual and Aggregate Measurements

The unit problem focuses on the level of aggregation that should be used to account for transactions/events as either an individual event or an aggregation of like-kind events (Devine, 1985). Individual versus aggregate categorization of events will lead to a difference in accounting for the elements on the financial statements. FASB has taken both approaches in creating the deferred tax standards. For example, warranty expense is approached using the aggregate view in that all sales of a warranted item are grouped together, an estimate of warranty claims is made and the resulting expense/liability is recorded. Individual calculations of each warranty claim are not made (Colley, Rue and Volkan 2005). In the case of income tax calculations, FASB uses inconsistent measurements, advocating aggregate calculations in some areas and individual calculations in others.

In ASC 740-10-10, the FASB recognizes that identifying specific future tax consequences of events that have been recognized is unrealistic because taxes are based on all items on the tax return which result from current and past years' events and information available about the future is limited. As a result, attribution of taxes to individual items and events is arbitrary and, except

in the simplest situations, requires aggregate estimates and approximations (ASC 740-10-10-2; FASB, 2009)

In other areas, the FASB allows the entity to determine the unit of account. According to ASC 740-10-25-13, the appropriate unit of account for determining what constitutes an individual tax position, and whether the more-likely-than-not recognition threshold is met for a tax position, is a matter of judgment based on the facts and circumstances of the position. The unit of account used will depend on the manner in which the entity prepares and supports its income tax return. Because the individual facts and circumstances of a tax position will determine the appropriate unit of account, a single defined unit of account would not be applicable to all situations.

In the area of temporary differences (taxable or deductible) which lead to deferred taxes, an individual perspective is taken as the FASB looks at the reported amounts of assets and liabilities that will be recovered and settled, respectively. Based on that assumption, a difference between the tax basis of an asset or a liability and its reported amount in the statement of financial position will result in taxable or deductible amounts in some future year(s) when the reported amounts of assets are recovered and the reported amounts of liabilities are settled (ASC 740-10-25-20; FASB, 2009).

Unreliable Allocations

ASC 740 and the asset/liability method account for unrealized taxes/deductions (deferred taxes) as realizable and allocate them over future periods. However, these unrealized taxes/deductions (deferred taxes) are essentially an element of wealth redistribution created by taxing authorities and should not be allocated over future periods as required by ASC 740. We contend that this approach is flawed for several reasons:

1. Deferred taxes do not satisfy the definition of an expense;
2. Taxes are an element of wealth redistribution rather than revenue generation;
3. Unrealized future taxes/deductions do not create liabilities/assets because of the uncertainty of future events, namely taxable income; and
4. Anticipation of future income is prohibited in accounting theory and standards.

Statement of Financial Accounting Concept No. 6 (Statement 6), *Elements of Financial Statements,* paragraph 81, specifically states that expenses represent actual or expected cash outflows (or the equivalent) that have occurred or will occur as a result of the entity's operations. The assets that are used or the liabilities that are incurred may be of various kinds—for example, units of product delivered or produced, employees' services used, kilowatt hours of electricity used to light an office building, or taxes on current income (FASB, 1985). The statement makes it clear that current taxes are expenses; but the statement does not include the deferred portion of the current tax provision since the latter does not fit the definition of an expense.

Statement 6 (FASB, 1985) continues in paragraphs 146 – 149 to classify expenses into three categories: 1) matched with revenue (cost of goods sold); 2) period costs (selling expenses); and 3) the cost of assets benefiting future periods using systematic and rational allocation into the future (depreciation). Taxes paid in the period are a period cost. It is our contention that future

taxes (deferred taxes) do not represent a cost of assets benefiting future periods and future allocation is not appropriate.

Unrealized future taxes/deductions do not create liabilities/assets because of the uncertainty of future events, namely taxable income. Taxes are levied based on the amount of taxable income the entity earns; they are not incurred to increase revenue. If an entity pays more taxes that does not mean they will get a corresponding increase in revenue; there is no cause and effect with increased taxes and increased revenue. Taxes are based on the laws in effect to assist government with its policies (monetary and fiscal) and are neither controlled nor contracted by the entity. Therefore, we agree that current taxes are an expense because they are a cost of doing business in the current period (a period cost). However, we do not agree that the deferred tax portion is an expense/benefit to be allocated over future periods. Deferred taxes are dependent on future taxable income and the taxes paid or refunded in the current period relate only to the taxable income of the current period. Deferred taxes should not be recognized because they do not exist at the date of the financial statements.

Flawed Definitions of Assets/Liabilities

We contend that unrealized future taxes/deductions do not create liabilities/assets due to the uncertainty of future taxable income. Concept Statement 6, paragraph 35 defines liabilities as probable future sacrifices of economic benefits arising from present obligations to transfer assets to other entities as a result of past transactions or events and paragraph 25 defines assets as probable future economic benefits controlled by an entity as a result of past transactions (FASB, 1985). At first blush, deferred taxes would seem to be a liability/asset. However, the income tax due/refundable in the future is based on future events, not on past events, and thereby violates the definition of a liability/asset as it is debatable as to the obligation of the entity or the ability of the entity to control the deferred tax liability/asset. It is however possible to characterize the deferred tax/benefit as a contingency. According to ASC 450-10-20 a contingency is an existing condition involving uncertainty as to possible gain (gain contingency) or loss (loss contingency) that will be resolved when one or more future events occur or fail to occur (FASB, 2009). Thus, treating deferred taxes as a contingency rather than an asset/liability makes more sense.

Under ASC 740, a deferred tax asset is reduced by a valuation account if the entity anticipates an inability to utilize the benefits provided by the deferred tax asset. The standard takes into consideration the likelihood that the deferred asset may not be fully useable to offset future taxable income; however, it does not account for a deferred tax liability the same way. Essentially, the standard acknowledges possible loss contingencies (recognized assets may not be realized), but not gain contingencies (recognized liabilities may not be incurred). This treatment is consistent with the accounting for contingencies, and lends support to referring to deferred tax asset/liabilities as contingencies.

Flawed Definitions of Temporary Differences - The Fallacy of Temporary Differences Related To Depreciation

FASB recognizes that some temporary differences may not reverse and exempts such differences from deferred tax recognition in ASC 740-10-25-3 (FASB, 2009). Depreciation is not one of the

differences exempt from recognition under the current standard. We illustrate below how depreciation differences fail to reverse when aggregated in asset groups and should therefore be exempt from recognition as a deferred tax. In our example, the deferred tax liability peaks after the first four years of the asset group, and assuming that asset costs remain constant, the deferred tax liability does not change until management quits replacing assets.

It is our contention that aggregate deferred tax liabilities from depreciation stay on the balance sheet until the company reaches its life expectancy and stops purchasing fixed assets. Therefore, the only time aggregate depreciation differences reverse is when the company is no longer active in that business arena. We find it difficult to define this type of a timing difference as temporary as it is likely that depreciation differences will remain on the books for decades and thereby act more like permanent differences that should avoid accounting treatment all together.

An example of how depreciation fails to reverse is given below. We start with $1,000,000 equipment with a five year useful life, residual value of $80,000 and a fixed asset replacement policy to buy new equipment at the end of its useful life. The entity is a start up and expectations are that it will increase production each year, thus resulting in the need to purchase new equipment each year for the first five years. After the first five years it will maintain its productive capacity by replacing worn out equipment without adding additional machines. The entity's estimated tax rate is 34%. We assume the cost of new equipment remains at $1,000,000 and residual value remains at $80,000. For book purposes the asset is depreciated using the straight-line method ($184,000 per year) and the double declining balance method ($400,000; $240,000; $144,000; $86,000; and $50,000 for years 1 – 5) is used for preparing the tax returns. We assume revenue for year 1 is $1,000,000 and that it will increase by $500,000 each year. We assume that operating expenses excluding depreciation are 40% of revenue, depreciation and taxes are kept track of separately. Owners contribute $1,000,000 at the entity's inception. The equipment is purchased through financing with principal payments of $200,000 per year and interest is paid and included in operating expenses.

Entities purchase operating assets based on their fixed asset replacement policies. Like-kind assets are grouped together and depreciated over the useful life using a systematic and rational method for book purposes and accelerated methods for taxing authorities. Due to differences in methods, temporary differences arise on an individual basis but when aggregated in a group, temporary differences average out over the useful lives of the grouped assets. As an example, we look at an asset group with a useful life of five years and a hypothetical company policy to purchase new equipment each year and sell off assets as the useful lives expire. Using this example we illustrate how the temporary difference is postponed indefinitely. Tax depreciation and book deprecation for years 1 – 6 (in thousands of dollars, based on the assumptions above) resulting in a temporary difference in depreciation for years 1 – 4 as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Book Depreciation	184	368	552	736	920	920
Tax Depreciation	400	640	784	870	920	920
Difference (Tax vs Book)	216	272	232	134	0	0

By year 5 the total book and tax depreciation taken each year is equal due to the reinvestment plan and assuming that the equipment cost does not increase. At a 34% average tax rate, the deferred tax liability grows each year for years 1 – 4 to $290,360 and will remain at $290,360 each year until the entity quits replacing equipment as it is worn out. If the cost of the equipment increases in the future, the deferred tax liability will also increase. The following shows the entry for/and increase in the deferred tax liability (in thousands of dollars) for years 1 – 6:

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
(dr.) Income tax expense	141.44	180.88	220.32	259.76	299.20	401.20
(cr.) Def. tax liab.	73.44	92.48	78.88	45.56	0.00	0.00
(cr.) Taxes payable	68.00	88.40	141.44	214.20	299.20	401.20
Def. tax liability balance	73.44	165.92	244.80	290.36	290.36	290.36

In years five and beyond, based on the example above, income tax expense equals income tax payable - effectively supporting an argument for the use of the flow through method discussed below. The quasi-permanent deferred tax liability that remains on the statement of financial position under the current standard overstates the entity's liabilities. If we relax the assumption of profitability each year, Rue and Volkan (1997) illustrate the compounded result that occurs when income varies and net losses are reported. An operating loss carryback/carryforward, depending on the significance of the loss, will negate the company's ability to take advantage of the depreciation differences and refute accounting for depreciation differences as temporary.

In summary, our position is that income taxes are assessed on taxable income as a whole and should not be calculated on individual items. Recording income tax expense should be based on the reported taxable income and the related income tax expense for the period. Taxes are imposed to fund the taxing authority's agenda and act more like wealth redistribution than actual expenses of an entity. Since taxes are an inherent part of doing business they should be treated as period costs and expensed as they occur and not be allocated over future periods as required by the current standard. Temporary differences that do not reverse in the foreseeable future should not create deferred taxes as they act more like permanent differences. Treating them as temporary differences creates an added liability on the statement of financial position which does not provide relevant or reliable information for users of the financial statement. To address flaws in ASC-740, we propose alternatives to the current accounting in the sections that follow.

Alternatives to Accounting Standards Codification Topic 740

We propose three alternatives to the current asset/liability approach with the goal of presenting a method that may be adopted for global reporting. The three potential methods are:

1. Flow Through Method;
2. Contingent Asset/Liability Method; and
3. Equity Flow Through Method.

The flow through method is addressed in numerous articles (e.g., Rue and Volkan, 1985 and 1997; Colley, Rue and Volkan, 2005). Income taxes owed on the tax return are simply reported

on the income statement as income tax expense. This method is the simplest and least costly method to apply. Alternatively, the contingent asset/liability method is a method similar to the current asset/liability approach; however, only contingent liabilities expected to reverse in the forecast horizon are recorded and the rest are disclosed in the notes if they meet note disclosure requirements. Lastly, the equity flow through method, the most drastic of the three methods, assumes the difference between income tax payable and income tax expense is an element of equity. The method acts very similar to the flow through method, where income tax payable equals income tax expense. However, future taxable differences are reported in equity rather than the statement of financial position and avoid creation of deferred tax assets/liabilities.

The Flow Through Method

The flow through method for accounting for income tax expense is simple and straightforward in that income tax expense equals the amount of income taxes payable to the taxing authorities during the accounting period. Income tax expense is treated as a period cost and is expensed in the period incurred and not allocated over future periods. The entry to record taxes would be based on the amount of taxes due:

(dr.) Income tax expense	XXXX	
(cr.) Income tax payable		XXXX

Due to the uncertainty of future taxable income, no asset or liability is recorded for the difference between taxable income and pretax income.

Contingent Asset/Liability Method

Based on FASB's past actions and decisions, it is unlikely standard setters will yield to the flow through method for accounting for income taxes. Thus, we provide additional alternatives which address flaws with the current method. The contingent asset/liability method is similar to the current method as it is currently applied to deferred tax assets. However, deferred taxes are not recorded unless they are probable and can be reasonably estimated. We contend that the quasi-temporary nature of many differences makes the likelihood of occurrence to be remote (or reasonably possible) and therefore, the contingent liability would not be recorded, but disclosed in the footnotes instead. In this case, the entry would be identical to the one under the flow through method.

The Equity Flow Through Method

The equity flow through method is the most drastic of the three proposed methods and is more complicated than the flow through method or applying contingencies to income taxes. This method assumes the difference between income tax payable and income tax expense is an element of equity. The method acts very similar to the flow through method, where income tax payable equals income tax expense. However, the future taxable difference flows through equity instead of through the income statement and through assets/liabilities. The goal of the equity flow through method is to highlight a paradigm shift in the way taxes are addressed in financial reporting. The concept goes back to looking at taxes as wealth distribution and treats the

temporary differences created from events like depreciation as changes in equity instead of creating an asset or liability.

The equity flow through method creates two new accounts: one representing earned capital and the other as contributed capital. Using these two accounts creates capitalized earnings which reverse to retained earnings or vice versa depending on the creation or elimination of the difference and its effect on the accounts. Returning to our last numerical example, the first year entry reduces retained earnings through wealth distribution and increases contributed capital through a capitalized tax as follows:

(dr.) Income tax expense	68.00	
(dr.) Wealth distribution (RE-)	73.44	
(cr.) Capitalized tax (CC+)		73.44
(cr.) Taxes payable		68.00

The taxing authority contributes capital to the entity by offering favorable tax laws to reduce the amount of taxes the entity pays in the current period. If this amount reverses over time, the capitalized taxes are reduced. The impact on retained earnings is similar to a dividend and restricts retained earnings until the reversal occurs, if ever.

The equity flow through method increases the transparency of temporary differences and avoids overstating liabilities with use of temporary differences that behave like permanent differences. The two new accounts created with this method offset each other in the equity section of the balance sheet, thereby reporting amounts in the income statement and the liability section of the balance sheet that are the same as the ones reported under the flow through method.

In the sections that follow, we illustrate the improvements gained from the use of these alternative methods in the debt/equity ratio and resulting relevance/reliability of reported information. Using an example company, we provide empirical evidence focusing on the impact of using these methods on the depreciation tax differences to support our analysis. We demonstrate how the current asset/liability method overstates the debt-to-equity ratio and the resulting deferred tax balances.

Illustration of the Three Proposed Methods

The three proposed methods are accounted for in a similar manner if we assume, consistent with the discussion above, that the probability of aggregate temporary depreciation differences reversing is less than possible. The main difference among the three methods is the creation of the two stockholders' equity accounts when using the equity flow through method.

Flow Through Method

This is the simplest of the three proposed methods to implement. Applying the facts to the example for the depreciable asset, the following shows the entries for and the impact on deferred tax liability (in thousands of dollars) for years 1 - 6:

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
(dr.) Income tax expense	68.00	88.40	141.44	214.20	299.20	401.20
(cr.) Taxes payable	68.00	88.40	141.44	214.20	299.20	401.20
Deferred tax liability balance	0.00	0.00	0.00	0.00	0.00	0.00

From years five and on there is no difference between the flow through method and the current method when reviewing the income statement; however, under the flow through method, the statement of financial position does not reflect the "quasi-permanent" difference that depreciation can create under ASC 740. We believe this method shows a more accurate picture of the entity's liabilities.

Contingency Method

The entries used to record the flow through method above would be the same ones used when recording the contingency method; the only difference would be additional disclosures in the notes to the financial statements, as follows:

Note XX:

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Contingent Taxes:	73.44	165.92	244.80	290.36	290.36	290.36

Equity Method

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
(dr.) Income tax expense	68.00	88.40	141.44	214.20	299.20	401.20
(cr.) Taxes payable	68.00	88.40	141.44	214.20	299.20	401.20
R/E – (dr. balance)	73.44	165.92	244.80	290.36	290.36	290.36
CC + (cr. balance)	73.44	165.92	244.80	290.36	290.36	290.36

A review of the three methods notes a difference in the amount of transparency among the methods, with the flow through method illustrating the least amount of transparency and the equity method showing the most. The contingency method provides the same information if note disclosures are taken into consideration due the level of disclosure required by ASC-450.

These methods offer an improvement over the current standard (ASC 740) by addressing four flaws outlined above in the current standard: 1) the unit problem; 2) allocation; 3) asset/liability definitions; and 4) temporary differences that do not reverse. To complete our analysis, we review the impact of the proposed standards on the debt-to-equity ratio. Application of these methods impacts other ratios, but we examine the debt-to-equity ratio given the importance this measure has on a company's risk and ability to access capital markets.

Impact of Proposed Methods on the Debt-To-Equity Ratio

Using the same example data (in thousands of dollars) provided above and hypothetical tax return data below, we illustrate the application of the current standard (ASC 740) and proposed alternative methods (all three produce the same impact on the debt-to-equity ratio).

Tax Return Data –

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue	1,000.00	1,500.00	2,000.00	2,500.00	3,000.00	3,500.00
Deductions	400.00	600.00	800.00	1,000.00	1,200.00	1,400.00
Depreciation deduction	400.00	640.00	784.00	870.00	920.00	920.00
Taxable income	200.00	260.00	416.00	630.00	880.00	1,180.00
Tax payable @ 34%	68.00	88.40	141.44	214.20	299.20	401.20

Financial Statements — ASC 740

Income Statement:	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue	1,000.00	1,500.00	2,000.00	2,500.00	3,000.00	3,500.00
Operating expense	400.00	600.00	800.00	1,000.00	1,200.00	1,400.00
Depreciation expense	184.00	368.00	552.00	736.00	920.00	920.00
Pretax income	416.00	532.00	648.00	764.00	880.00	1,180.00
Income tax expense	141.44	180.88	220.32	259.76	299.20	401.20
Net income	274.56	351.12	427.68	504.24	580.80	778.80
Stockholders' Equity (SE) Schedule:						
Beginning SE	0.00	1,274.56	1,625.68	2,053.36	2,557.60	3,138.40
Issuances	1,000.00	0.00	0.00	0.00	0.00	0.00
Net Income	274.56	351.12	427.68	504.24	580.80	778.80
Ending SE	1,274.56	1,625.68	2,053.36	2,557.60	3,138.40	3,917.20
Balance Sheet:						
Assets						
Book value	816.00	1,448.00	1,896.00	2,160.00	2,240.00	2,240.00
Other assets	1,332.00	1,743.60	2,202.16	2,687.96	3,188.76	3,967.56
Total assets	2,148.00	3,191.60	4,098.16	4,847.96	5,428.76	6,207.56
Liabilities & Stockholders' Equity						
Note Payable	800.00	1,400.00	1,800.00	2,000.00	2,000.00	2,000.00
Deferred tax liability	73.44	165.92	244.80	290.36	290.36	290.36
Total Liabilities	873.44	1,565.92	2,044.80	2,290.36	2,290.36	2,290.36
Stockholders' Eq.	1,274.56	1,625.68	2,053.36	2,557.60	3,138.40	3,917.20
Total Liab. & SE	2,148.00	3,191.60	4,098.16	4,847.96	5,428.76	6,207.56

Financial Statements — Any of the Three Alternative Methods

Income Statement:	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Revenue	1,000.00	1,500.00	2,000.00	2,500.00	3,000.00	3,500.00
Operating expense	400.00	600.00	800.00	1,000.00	1,200.00	1,400.00
Depreciation expense	184.00	368.00	552.00	736.00	920.00	920.00
Pretax income	416.00	532.00	648.00	764.00	880.00	1,180.00
Income tax expense	68.00	88.40	141.44	214.20	299.20	401.20
Net income	348.00	443.60	506.56	549.80	580.80	778.80
SE Schedule:						
Beginning SE	0.00	1,348.00	1,791.60	2,298.16	2,847.96	3,428.76
Issuances	1,000.00	0.00	0.00	0.00	0.00	0.00
Net Income	348.00	443.60	506.56	549.80	580.80	778.80
Ending SE	1,348.00	1,791.60	2,298.16	2,847.96	3,428.76	4,207.56
Balance Sheet:						
Assets						
Book value	816.00	1,448.00	1,896.00	2,160.00	2,240.00	2,240.00
Other Assets	1,332.00	1,743.60	2,202.16	2,687.96	3,188.76	3,967.56
Total assets	2,148.00	3,191.60	4,098.16	4,847.96	5,428.76	6,207.56
Liabilities & Stockholders' Equity						
Note Payable	800.00	1,400.00	1,800.00	2,000.00	2,000.00	2,000.00
Deferred tax liability	0.00	0.00	0.00	0.00	0.00	0.00
Total Liabilities	800.00	1,400.00	1,800.00	2,000.00	2,000.00	2,000.00
Stockholders' Equity	1,348.00	1,791.60	2,298.16	2,847.96	3,428.76	4,207.56
Total Liabilities & SE	2,148.00	3,191.60	4,098.16	4,847.96	5,428.76	6,207.56

Debt-to-Equity Ratio Comparison between ASC 740 and the Alternative Methods

ASC 740 overstates liabilities and the debt to equity ratio of the example entity. The percent increase reported below was calculated by dividing the difference in the debt-to-equity ratio by the debt-to-equity ratio calculated by using ASC 740 (for example, year 1's percent increase of 13.4% was calculated by dividing .0918 by .6853). The difference in the debt to equity ratio (a low of .0918 in year 1 to a high in year 3 of .2126) will be impacted by the amount owners have invested in the company. If the owners' investments had been $2,000,000 instead of $1,000,000 then the debt to equity ratio difference would have been (.0433 in year 1 to .0817 in year 6). Regardless, the difference in the debt to equity ratio shows that ASC 740 increases liabilities and causes an increase in the debt-to-equity ratio for firms who carry deferred taxes on their balance sheets.

ASC-740	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Debt	873.44	1,565.92	2,044.80	2,290.36	2,290.36	2,290.36
Equity	1,274.56	1,625.68	2,053.36	2,557.60	3,138.40	3,917.20
Debt-to-Equity Ratio	0.6853	0.9632	0.9958	0.8955	0.7298	0.5847
Alternative Methods						
Debt	800.00	1,400.00	1,800.00	2,000.00	2,000.00	2,000.00
Equity	1,348.00	1,791.60	2,298.16	2,847.96	3,428.76	4,207.56
Debt-to-Equity Ratio	0.5935	0.7814	0.7832	0.7023	0.5833	0.4753
Difference in the Debt-to-Equity Ratio	0.0918	0.1818	0.2126	0.1933	0.1465	0.1094
% increase	13.40%	18.88%	21.35%	21.58%	20.07%	18.70%

Large-Scale Empirical Analyses

To see the impact on the debt-to-equity ratio (DTE) for entities who report deferred tax asset/liabilities, we studied thousands of companies over a decade using the deferred tax balances of firms in the COMPUSTAT database (referred to as CT from this point forward). Our data includes companies reporting a deferred tax position over the period 2004-2010. The CT variables TXNDBL [the net accumulated deferred tax liability – a credit balance] and TXNDB [the net accumulated deferred tax asset (liability) – a net debit (credit) balance] are used for the analysis. Both of these variables represent the temporary differences between the reported revenues/expenses for financial reporting and tax purposes; the former is the liability position and the latter is the net asset or liability position. TXNDBL is a positive amount and TXNDB is a positive amount for net asset positions and a negative amount for net liability positions. We removed observations with negative common stockholders' equity and extreme outlier observations (DTE ratios greater than or equal to 5). We investigated the trends in deferred tax balances for a full sample consisting of 38,926 firm-year observations. Additional analysis was conducted on a smaller sample consisting of persistent firms (i.e. companies that reported deferred tax balances for all years in the 2004-2010 period) which is made up of 2,313 firms (16,191 firm-year observations).

Methodology

We compared the reported debt-to-equity ratio (DED – where D stands for deferral) calculated via ASC 740 to an adjusted debt-to-equity ratio reflecting the elimination of net accumulated deferred taxes (DEF – where F stands for flow through) to represent the alternative methods (i.e., the flow through, contingency, and equity methods). For purposes of estimating DEF, we deducted TXNDBL from total debt (numerator) and deducted TXNDB from total equity (denominator). The adjusted ratio (DEF) was based on the idea that no deferred taxes were recorded in the past. This resulted in lower liability and higher or lower equity balances (depending on whether TXNDB was a net asset or liability position). For each year we tested for

differences between DED and DEF; this was done for the overall sample as well as the more restricted sample of persistent firms.

Results

Our analysis indicates that the debt-to-equity ratio declines when the alternative methods are used (DEF). In addition, results show small fluctuations from year to year with a remarkably stable pattern, matching the trend demonstrated in the above example. Since it is logical to assume that deferred tax balances reverse over time, companies must have a policy of preventing aggregate deferrals from reversing on a continuous basis and keeping net deferred tax balances at a level commensurate with the change in total debt and equity positions, similar to the example above.

Table 1 presents the results of our study for the 2004-2010 period based on the entire sample. The number of companies included in the analysis ranged from a low of 4,846 in the 2010 fiscal year to a high of 6,087 in the 2005 fiscal year. Overall results for this sample are consistent with our prediction that the debt-to-equity ratio decreases. The decreases in the ratio are all statistically significant (p-value .001). We further duplicated this test using our sample of persistent firms (see Table 2) and found qualitatively similar results for this subsample. Finally, our analyses show that the debt-to-equity ratios for the overall sample and the persistent firms declined an average of 10.2 and 13.7 percent, respectively, when the alternative methods are used (Flow-Through, Contingency and/or Equity Method), with the declines ranging from a low of 8.7 percent (2008) to a high of 11.6 percent (2010) for all observations and from a low of 11.1 percent (2008) to a high of 15.0 percent (2010) for persistent firms.

Table 1 - Characteristics and Results (All observations, n=38,926)

Year	*Count*	*DED*	*DEF*	*Difference (DED-DEF)*	*(DED-DEF)/DED*	*p-value*
2004	5,398	1.14	1.02	0.12	10.5%	<.0001
2005	6,087	1.13	1.02	0.11	9.7%	<.0001
2006	6,079	1.12	1.01	0.11	9.8%	<.0001
2007	5,895	1.10	0.99	0.11	10.0%	<.0001
2008	5,444	1.15	1.05	0.10	8.7%	<.0001
2009	5,177	1.11	0.99	0.12	10.8%	<.0001
2010	4,846	1.12	0.99	0.13	11.6%	<.0001
Average					10.2%	

Table 2 - Characteristics and Results (Persistent firms, n=16,191)

Year	*Count*	*DED*	*DEF*	*DIF (DED-DEF)*	*(DED/DEF)/DED*	*p-value*
2004	2,313	1.07	0.93	0.14	13.1%	<.0001
2005	2,313	1.06	0.91	0.15	14.2%	<.0001
2006	2,313	1.03	0.88	0.15	14.6%	<.0001
2007	2,313	1.06	0.91	0.15	14.2%	<.0001
2008	2,313	1.17	1.04	0.13	11.1%	<.0001
2009	2,313	1.07	0.92	0.15	14.0%	<.0001
2010	2,313	1.07	0.91	0.16	15.0%	<.0001
Average					13.7%	

The evidence presented here shows that using the alternative methods to account for income taxes result in significant decreases in the debt-to-equity ratio for most firms, thus improving their reported financial position. The consistency in differences over the entire sample and over the smaller sample of persistent firms is remarkable.

Conclusions

The current reporting requirements for deferred taxes are complex and costly to apply. The ever-increasing net deferred tax liability position for many firms does not appear to be reversing, thereby giving rise to the concern that temporary differences are other than temporary. Thus, a re-examination of the current standard may be justified. This paper examines four flaws in the current standard and proposes three alternative methods that result in improvements in the debt-to-equity ratio for most firms. The proposed alternative methods represent a logical approach in accounting for taxes as long as taxation is viewed as a transaction occurring between the private and public sectors. That is, taxation is the act of transferring a portion of the periodic increase in an entity's net worth (computed using the tax law) to a government entity for the privilege of conducting business in that government's jurisdiction. Under the proposed alternatives, the tax provision for a period is equal to the cash outflow required to discharge the tax obligation for that period and the deferred tax assets and liabilities are eliminated.

Deferred taxes do not meet the FASB's definition of a liability and do not belong on the balance sheet. At best, they represent contingencies since most firms have tax policies that allow them to continue deferring taxes at the aggregate level indefinitely making it probable that temporary difference will not reverse in the foreseeable future. Where the reversal of deferred taxes is probable, it is appropriate to report those amounts in the financial statements, while lower likelihoods of reversals should be reported in the footnotes. In this manner, global convergence of accounting for inter-period tax allocation is achieved.

We propose adoption of one of the methods of accounting for deferred taxes illustrated in this paper to adequately assess the financial leverage of entities with significant deferred tax balances. With convergence around the corner, now is the time for change. If one of the proposed methods in this paper does not take root, FASB should consider exempting depreciation as a temporary difference in industries where depreciation acts more like a quasi-

permanent difference. Although this would not address all the inherent deficiencies of ASC-740, it would lessen the impact these flaws have on company balance sheets.

Suggestions for Future Research

Future research may examine the behavior of the deferred tax balances over time, normalized by a suitable variable such as total assets. In addition, the persistence of increases in deferred tax balances over time and in different industries may be analyzed. Finally, the impact of eliminating the deferred tax balance on the financial ratios in industries with high deferred tax balances versus industries with low deferred tax balances may be computed.

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