Does financial reporting distort the analysis of corporate tax policy?

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Status (7/14/06)

We are still awaiting access to the data necessary to perform this work. Mills' large-corporation data via continuing IRS contract are somewhat stale and her Treasury appointment has expired excepting completion of current work-in-process (Graham/Mills). The infrastructure for Plesko's new SOI consultancy is in-place, but he is awaiting final contract approval. The authors decided in late 2005 to pursue Plesko's SOI data access rather than Mills' bridging from Treasury back to IRS. Hence, the document below is still in the form of a proposal. We welcome suggestions regardless of the time horizon for realistic completion.

Abstract and Introduction

We examine the financial reporting of tax information under SFAS 109 to determine whether financial statements provide useful information about firms' tax positions. The disclosure of tax expense and its components under SFAS 109 are the only publicly available data available to estimate a firm's taxable income. As a result, financial statement disclosures are an important source of information to investors, and policy analysts trying to determine effects of tax changes. Business analysts frequently use financial statement data to form these perceptions about tax policy effects.

We test the efficacy of tax disclosure-based estimates of firms' taxable income and tax liability and examine the role of consolidation and international operations in affecting estimates of tax attributes. Given the traditional use of tax attributes (such as tax status or the tax rate) as an explanatory variable in empirical research, we also test whether the coefficients on financial statement-based measures are inherently biased.

Further, we note that the extent to which aspects of firms' operations are affected by U.S. tax policy is not well measured in published financial reports. Consolidated financial statements provide information on the worldwide operations of a firm, while U.S. tax policy, and many recent U.S. tax changes, may be targeted at only those operations that are located within the U.S. Using investment as an example, we examine how well investment data derived from publicly-available sources capture the investment behavior reported to U.S. tax authorities.

Motivation

We view this investigation as an important area of research to inform discussion on a number of topics. Specifically:

Why do we care about taxes paid?
- There is little theoretical doubt that taxes can affect behavior, and differential tax attributes have been shown to cause firms to respond to tax changes differently. Accurate estimates of tax liabilities are important to control for the effects of taxes on firm behavior.
- From an academic perspective, firms are expected to minimize taxes owed, all else equal. Without knowledge of how accurately the financial statement information reflects tax planning activity, we cannot assess how effective tax minimizing strategies are.
- Tax liabilities are value relevant and better information will be more valuable to investors and the market.

Why do we care about taxable income?
- Taxable income represents another measure of the earnings process.
- Tax liabilities are truncated but tax net income (not taxable income) is not. Taxable income is more important to know that tax liability in order to understand firm behavior. For example, tax net income reveals a firm's current period loss, and its ability to recognize additional current income without a tax cost
- Policy-makers use financial data to predict the effect of proposed legislation on taxable income. (Example: various dividend relief proposals and the President's Tax Reform Commission proposed exempting from tax at the individual level dividends received from profits already taxed tax at the corporate level.)
- The estimation of taxable income from financial statements is an important element of the National Income and Product Accounts. Recent experience has shown that a lack of information about taxable income can adversely affect national income estimates.

Prior Research

Various papers by Dworin, Hanlon, Mills, or Plesko already explain the difficulties in reconciling financial statement data to tax return data. However, none of the Mills or Plesko papers using tax return data provide a comprehensive analysis to assist researchers in making tax return inferences from public data.

Papers by Plesko and his co-authors have examined pieces of this broad question using a sample of domestic firms for whom entity differences are least likely, but which capture a relatively small portion of the capital market or population of interest to researchers. Papers by Mills and her co-authors use financial statement versus tax return comparisons for large-case audit firms, recognizing that this sample presents the greatest potential measurement error or challenges related to entity differences. By providing a comprehensive analysis of financial and tax return information for returns of varying

degrees of complexity, we hope to resolve some of the sampling discussions of prior research and recommend practical solutions for researchers using public data.

Sample and Research Design

We plan a pooled, cross-sectional analysis using a sample of matched financial statement and tax return data for ten years (1994-2003). We will conduct supplemental tests to explore any trends in how well financial statements explain tax returns over time. Our sample will be limited to non-financial service firms.

Implications

Our research audience is any interested party that does not have access to U.S. tax return data, and for which SFAS 109 is designed to provide information. These parties include, but are not limited to, the following: reporters, institutional investors, stock analysts, political action committees, researchers at think-tanks, managers of individual corporations and individual taxpayers. We are propose focusing on three substantive areas of tax policy changes and proposals: corporate integration, cross-border transactions, and capital investment.

Corporate Integration

Economists argue that taxing corporations separately from individuals impedes business investment by taxing earnings twice. In November 2005, the President's Tax Reform Panel recommended eliminating tax on dividends as part of its Simplified Income Tax Plan (Chapter 6). Specifically, they recommend that shareholders "exclude from income the value of dividends received from corporations that are paid out of profits on which tax is paid in the United States."[1]

We direct readers to the latter clause, *on which tax is paid in the United States.* The business press routinely ascribes tax payments to corporations that likely have paid little or no tax in the U.S. In the late 1990s, for example, the expenses related to employee stock options are estimated to have caused Cisco, Microsoft, and a number of other companies that had reported a positive current tax expense to be in loss position for tax purposes. To the extent that the business press influences tax policy debates, the difficulty that reporters have in using financial data to understand corporations' U.S. tax situation impairs thoughtful debate.

The President's Tax Reform Panel acknowledged the need for improved disclosure as follows: "Requiring corporations to publicly report to their shareholders and the IRS the proportion of profits that were taxed in the United States also would make the tax system more transparent by directly informing shareholders how much of their income is taxed in the United States." Recent frustration with a lack of transparency to tax authorities led

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[1] Corporate integration is not a new idea. When the U.S. cut the dividend and capital gains rate to 15% in 199X, this was a compromise solution to an earlier proposal to provide a dividends' paid deduction.. Other mechanisms for implementing tax integration include an imputation credit at the individual level. Australia and NZ use such "franking" credits.

to the development of the Schedule M-3, and there has been discussion, and Senate hearings on whether the M-3 should be made public.

Our results will provide evidence on the extent of distortions that arise from assuming U.S. taxpaying status from financial reports.

The aggregate numbers confirm the broad result that the business press potentially overestimates U.S. tax payments based on financial statement data. For our sample in 2003, aggregate U.S. current tax expense was $XX billion, but aggregate U.S. taxes paid after credits was only $XX billion. Thus, the disclosed U.S. current tax expense exceeded taxes actually paid by XX percent.

Cross-border tax policy
The Simplified Income Tax Plan (Chapter Six, page 132) recommends adopting a territorial system. The panelists argue that a territorial system would remove the distortions that repatriation decisions introduce into international funds flows. The distortion whereby U.S. multinationals choose to borrow funds in the U.S. rather than repatriate foreign funds is one cost cited by lobbyists in supporting the provision of AJCA2004.

The repatriation deduction is only the latest of international tax changes for which the business press and researchers have attempted to estimate winners and losers using public data. Surrounding TRA86, tax researchers considered the effect of the substantial decrease in the U.S. statutory corporate tax rate on incentives to shift profits into the U.S. In doing so, tax researchers want to estimate which corporations likely have foreign profits subject to tax rates higher or lower than the U.S. rate. These estimates generally use partitions of U.S. tax expense, U.S. pretax income, foreign tax expense, and foreign pretax income to compute relative U.S. and foreign effective tax rates.

Mechanically, foreign effective tax rates are higher when the corporation has losses in some but not all foreign jurisdictions. The foreign pretax income is the aggregate of all foreign profits and losses. However, the ETR numerator, foreign income tax expense, likely does not include future tax refunds on foreign losses at 100%. Corporations must record a valuation allowance when a deferred tax assets is not "more likely than not" to be realized. In the case of foreign jurisdiction losses, a valuation allowance is likely because carryforward periods are frequently shorter than the 20 years permitted in the U.S., and because the loss can only be absorbed by profits in that specific jurisdiction.

We propose to examine the limitations of using a financial statement measure of the average foreign effective tax rate (foreign current tax expense / foreign pretax income, or foreign total tax expense / foreign pretax income) to determine whether the corporation faces a FTC limitation. Louie et al. (2006 Treasury working paper) find very poor agreement between high financial statement foreign effective tax rates and implied FTC limitation based on FSC participation. Even with tax return data, it is difficult to determine whether a firm's FTC is limited, but we hope to revisit this result.

Congress passed the domestic production activities deduction (Section 199) without the Congress or Treasury having good available data on prior domestic production activities. As such, Treasury and JCT revenue estimates were widely apart due to differing assumptions (McClelland 2006). As the first tax filings become available related to Section 199, we will compare tax return data to financial statement segment and income tax breakdowns of foreign versus domestic sales, assets or pretax income.

Capital investment
Congress frequently uses the tax law as a lever for capital investment. However, the tax benefit of additional investment involves multiple complex factors. First, as noted in *Corporate Integration* above, a corporation may falsely appear to need a tax shield when it has positive tax expense on the financial statements but is not paying tax in the U.S. Second, as noted in *Cross-border Taxation* above, it is difficult to assess whether foreign tax credits are binding. The foreign tax credit limitation becomes more binding as U.S. interest expense is allocated against foreign source income. Most companies allocate interest expense based on the adjusted basis of property in the U.S. versus property abroad.

Tax return data shows that many large multinational corporations did not elect to claim bonus depreciation in 2001 – 2003. Declining to take advantage of the sizable acceleration of tax depreciation is logical if those companies were trying to preserve their foreign tax credits. Because depreciation is a temporary effect but foreign tax credits have a limited five-year carryforward life, a corporation would have to exercise caution in trading credits for depreciation, even if the immediate tax benefit is more favorable.

We propose to make various comparisons of capital investment across financial statement and U.S. tax return data.

Tables and Results
The remainder of this proposal provides mock-ups of the Tables we have designed to present the results of the tabulations and estimation.

We are particularly interested in obtaining feedback on the exact types of information that might be presented in the tables participants think would be of the greatest use to future researchers, and inform current policy debates.

Table 1
Sample Description – Long Panel (1994-2003) – Excluding Financial Services Firms

Sample Construction
Tax return firm years (1120 excl A,S, RIC, REIT)   aaa,aaa
Compustat firm years   bbb,bbb
Compustat firm-years with EIN   ccc,ccc
Merge results   **ddd,ddd**

Subsamples:

Panel A
Like Consolidation
Firms matched on assets (domestic companies for whom the
financial and tax entities are the same)   xxx,xxx

Panel B
Complex Domestic
(domestic companies with likely entity differences)   yyy,yyy

Panel C
Multinational
(U.S. multinationals – identified as having foreign operations)   zzz,zzz

Total   **ddd,ddd**

Table 1 (continued)

Distribution of Sample:
Number of observations by year

	Like	Complex	Multinational
1994			
1995			
1996			
1997			
1998			
1999			
2000			
2001			
2002			
2003			

Industry distribution (1 digit SIC)

	Like	Complex	Multinational
Agriculture			
Mining			
Construction			
Manufacturing			
Transportation, Communications, Electric, Gas, And Sanitary Services			
Wholesale Trade			
Retail Trade			
Finance, Insurance, And Real Estate			
Services			
Public Administration			

Table 2
Descriptive Statistics

	Mean	Std Dev
Panel A: Like Consolidation		
Assets		
Revenues – Book		
Revenues – Tax		
Book Pretax Income per 10-K		
Book Pretax Income per Return		
Tax Net Income		
Taxable Income		
Tax before credits		
Tax after credits		
Capital expenditures		
Interest expense / deduction		
Panel B: Complex Domestic		
Assets – Book		
Assets - Tax		
Revenues - Book		
Revenues - Tax		
Book Pretax Income per 10-K		
Book Pretax Income per Return		
Tax Net Income		
Taxable Income		
Tax before credits		
Tax after credits		
Capital expenditures		
Interest expense / deduction		
Panel C: Multinational		
Assets – Book		
Assets - Tax		
Revenues - Book		
Revenues - Tax		
Book Pretax Income per 10-K		
Book Pretax Income per Return		
Tax Net Income		
Taxable Income		
Tax before credits		
Tax after credits		
Capital expenditures		
Interest expense / deduction		

Table 3
Differences in Reported Values

Variables	Financial Statement	Return	T-stat
Panel A: Simple			
Revenues			
Pretax income versus Reported book income (M-1L1+2)			
Current tax expense/.35 v Tax net income (Line 28)			
Current tax expense/.35 v Income Subject to Tax			
Current tax expense v Tax before credits			
Current tax expense v Tax after credits			
Capital expenditures			
Interest expense / deduction			
Panel B: Complex Domestic			
Assets			
Revenues			
Pretax income versus Reported book income (M-1L1+2)			
Current tax expense/.35 v Tax net income (Line 28)			
Current tax expense/.35 v Income Subject to Tax			
Current tax expense v Tax before credits			
Current tax expense v Tax after credits			
Capital expenditures			
Interest expense / deduction			
Panel C: Multinational			
Assets			
Worldwide pretax income versus M-1 L1+2			
U.S. revenues			
U.S. Pretax income versus Reported book income (M-1L1+2)			
U.S. Current tax expense/.35 v Tax net income (Line 28)			
U.S. Current tax expense/.35 v Income Subject to Tax			
U.S. Current tax expense v Tax before credits			
U.S. Current tax expense v Tax after credits			
Foreign tax expense v Foreign Tax Credit taxes paid			
FTC Binding estimate versus 1116			
Capital expenditures			
Interest expense / deduction			

TABLE 4
Systematic Error in Estimating Taxable Income from Financial Data

$$TI_{tax} = a + b\ TI_{financial} + cX$$

Where the X is a vector of firm attributes (size, industry, leverage)

Issues to consider:
- Measurement error from affiliated company dividends
- Partitioning by likely M-1 starting point (worldwide versus U.S.)

The goal of this table is to estimate the extent, if any, that differences in the estimated value of each pair of variables is systematically related to particular firm or industry characteristics.

Panel A: Simple
Pretax income versus Reported book income (M-1L1+2)
Current tax expense/.35 v Tax net income (Line 28)
Current tax expense/.35 v Income Subject to Tax

Panel B: Complex Domestic
Pretax income versus Reported book income (M-1L1+2)
Current tax expense/.35 v Tax net income (Line 28)
Current tax expense/.35 v Income Subject to Tax

Panel C: Multinational
Pretax income versus Reported book income (M-1L1+2)
Current tax expense/.35 v Tax net income (Line 28)
Current tax expense/.35 v Income Subject to Tax

TABLE 5
Estimation Error from the Use of Taxable Income Derived from Financial Data:
Estimates of the Effects on Tax Coefficients

$$TI_{financial} = a + b\ TI_{tax} + cX$$

Where the X is a vector of firm attributes (size, capital intensity, industry, leverage)

This equation yields a measure, b, of the effect of the measurement error in each variable on the coefficient that would be obtained from using financial statement based estimates of a variable in place of the actual value. The benefit of such a result is to determine the extent that publicly-available data leads to an over or underestimate of the effects of tax policy, as they would traditionally be presented in research.

Panel A: Simple
Pretax income versus Reported book income (M-1L1+2)
Current tax expense/.35 v Tax net income (Line 28)
Current tax expense/.35 v Income Subject to Tax

Panel B: Complex Domestic
Pretax income versus Reported book income (M-1L1+2)
Current tax expense/.35 v Tax net income (Line 28)
Current tax expense/.35 v Income Subject to Tax

Panel C: Multinational
Pretax income versus Reported book income (M-1L1+2)
Current tax expense/.35 v Tax net income (Line 28)
Current tax expense/.35 v Income Subject to Tax

TABLE 6
Systematic Error in Estimating Tax Liability from Financial Data

$$LIABILITY_{tax} = a + b\ LIABILITY_{financial} + cX$$

Where the X is a vector of firm attributes (size, industry, leverage)

Panel A: Simple
Current tax expense v Tax before credits
Current tax expense v Tax after credits

Panel B: Complex Domestic
Current tax expense v Tax before credits
Current tax expense v Tax after credits

Panel C: Multinational
Current tax expense v Tax before credits
Current tax expense v Tax after credits

TABLE 7
Estimation Error from the Use of Taxable Liability Derived from Financial Data:
Estimates of the Effects on Tax Coefficients

$$LIABILITY_{financial} = a + b\ LIABILITY_{tax} + cX$$

Where the X is a vector of firm attributes (size, capital intensity, industry, leverage)

This equation yields a measure, b, of the effect of the measurement error in each variable on the coefficient that would be obtained from using financial statement based estimates of a variable in place of the actual value. The benefit of such a result is to determine the extent that publicly-available data leads to an over or underestimate of the effects of tax policy, as they would traditionally be presented in research.

Panel A: Simple
Current tax expense v Tax before credits
Current tax expense v Tax after credits

Panel B: Complex Domestic
Current tax expense v Tax before credits
Current tax expense v Tax after credits

Panel C: Multinational
Current tax expense v Tax before credits
Current tax expense v Tax after credits

TABLE 8
Evaluating the Significance of Measurement Error:
Assessing the Effects of Corporate Tax Integration

Tax Return Estimates of Dividends Eligible for Exclusion at the Individual Level

Panel A: Simple
Domestically Taxed Earnings
Dividends paid

Panel B: Complex Domestic
Domestically Taxed Earnings
Dividends paid

Panel C: Multinational
Domestically Taxed Earnings
Dividends paid

Financial Statement Estimates of Dividends Eligible for Exclusion at the Individual Level

Panel A: Simple
Estimated Domestically Taxed Earnings
Dividends paid

Panel B: Complex Domestic
Estimated Domestically Taxed Earnings
Dividends paid

Panel C: Multinational
Estimated Domestically Taxed Earnings
Dividends paid

TABLE 9
Assessing Debt Policies and Investment Incentives

Panel A: Simple
Capital expenditure estimates
Interest deductions

Panel B: Complex Domestic
Capital expenditure estimates
Interest deductions

Panel C: Multinational
Capital expenditure estimates
Interest deductions