

STABLE BOOK-TAX DIFFERENCES, PRIOR EARNINGS,
AND EARNINGS PERSISTENCE

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This study resolves divergent prior findings relating book-tax differences to future earnings, determines whether prior literature has missed relationships between different types of book-tax differences and pre-tax and/or after-tax income, and investigates prior earnings as a factor contributing to the observed relationships. As past research has found that some firms have large book-tax differences over several years, this study separates these firms with large stable book-tax differences from others with large book-tax differences (non-stable) when investigating the link between large book-tax differences and future earnings. Finally, this study investigates whether the relationship between book-tax differences and future earnings reflects information about prior earnings and finds that prior earnings growth explains much of the lower persistence found for firms with large book-tax differences.

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INTRODUCTION

Prior research has found that firms with large differences between reported net income and taxable income (book-tax differences) exhibit lower earnings persistence, lower earnings growth, higher earnings management, fraudulently over-stated earnings, and lower earnings quality, when compared to firms with average levels of book-tax differences. Other studies have found that some firms maintain large book-tax differences over multiple years and attributed this to economic fundamentals, firm characteristics, or tax aggressiveness, rather than low earnings quality.

This study combines these streams of research and investigates the relationship between large book-tax differences and earnings persistence, controlling for firms with large differences over multiple years, and finds that different conclusions are reached when firms with large stable book-tax differences are separated from firms with large differences which are not stable in models of book-tax differences and earnings persistence. This study also looks at prior earnings patterns and determines that prior earnings of firms with large book-tax differences explains some of the lower earnings persistence exhibited by firms with large book-tax differences.

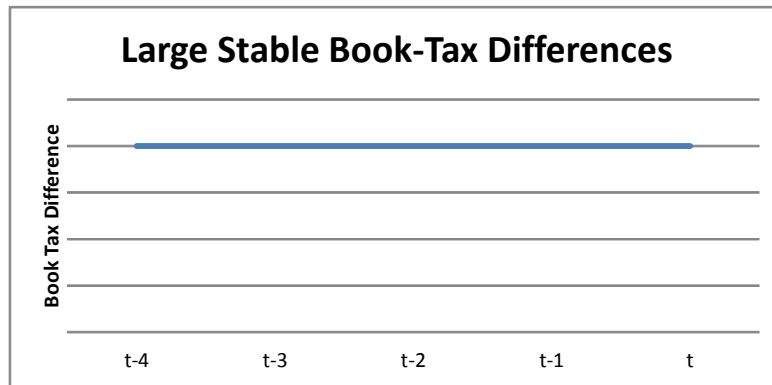
There is little theory addressing what drives the observed relationship between large book-tax differences and lower earnings persistence. Evidence of both earnings management and tax aggressiveness has been found; however, other economic factors have not been thoroughly examined. This study improves the conclusions that can be made about the relationship between large book-tax differences. By contrasting the relationship between book-tax differences and earnings persistence for firms with large stable book-tax differences and other firms with large but not stable book-tax differences it becomes easier to identify the factors driving the

relationship between large book-tax differences and low earnings persistence. For the purposes of this study a firm is considered to have a large book-tax difference if the difference scaled by assets is within the top twenty percent for the industry in a given year. A firm is considered to have a large stable difference if the firm has a large difference of a given type (temporary or permanent) for three consecutive years.¹

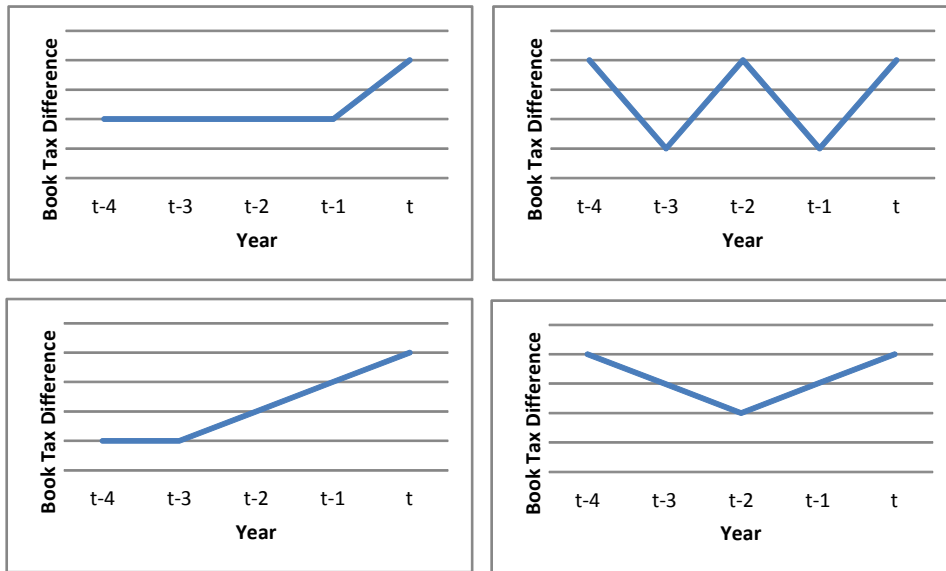
Figure 1 shows example patterns of book-tax differences, with a firm having large stable book-tax differences shown at the top, and other firms with large book-tax differences in year t , but not in all prior years below.

¹ Alternate time periods are examined and the results are not sensitive to different time period specifications for large stable differences.

FIGURE 1
Examples of Book Tax Differences Over Time



Large Book-Tax Differences in Year T, but not Large in all Prior Included Time Periods



A finding that firms with large stable differences are systematically different from other firms with large book-tax differences would suggest that models linking book-tax differences and future earnings should incorporate this distinction.

I find that firms with large stable book-tax differences are different than other firms with large book-tax differences, and that this contrast is important for understanding the relationship between book-tax differences and future earnings. This study examines whether book-tax differences are linked to future earnings persistence, because book-tax differences reflect

variability in prior earnings or differences in prior earnings growth and finds differences in both prior earnings variability and growth, but finds that only prior earnings growth is useful for explaining the lower earnings persistence for firms with large book-tax differences. This study answers the call in recent reviews of tax research for studies into why book-tax differences convey information about future earnings and whether permanent and temporary book-tax differences each lead to different conclusions about future earnings (Hanlon and Heitzman 2009; Graham et al. 2010). For the purposes of this study, both temporary and permanent book-tax differences refer to aggregate differences estimated from financial statements. Companies with temporary differences often experience large and/or increasing differences over time. While individual temporary differences eventually reverse, new temporary differences are created and the overall level may increase, decrease, or remain constant. Permanent differences do not reverse as with temporary differences, but companies with permanent differences can have new permanent differences each year, thus maintaining large permanent differences over many years.

Large aggregate book-tax differences have led to calls for book-tax conformity, ostensibly to minimize the incentives for earnings management and/or increase tax receipts. This study determines that large book-tax differences result both behaviors such as earnings management and tax aggressiveness, but can also be explained by prior earnings as suggested by the finding that book-tax differences are strongly linked to economic cycles (McClelland and Mills 2007). As changes in prior earnings (due to economic cycles or other reasons) explain some of the relationship between book-tax differences and earnings persistence, then concerns that large book-tax differences reflect aggressive earnings or tax management (or even tax fraud)

may be misplaced.² This finding also suggests that future research attempting to use large book-tax differences as a proxy for earnings quality or management should consider both whether the large differences are stable and the prior earnings growth of those firms. Low earnings quality (and potential earnings management) is most likely to be found where book-tax differences are large but not stable and where low persistence cannot be explained by higher prior earnings growth. This may lead future researchers to better use book-tax differences as a tool to study earnings management by isolating those more suspect firms.

This research contributes to the literature by linking two streams of research, namely, studies that find relationships between book-tax differences and future earnings, and studies that show that firms with large book-tax differences over long time periods have different characteristics than other firms with large book-tax differences. It also uses the findings that firms with large stable book-tax differences differ from other firms with large book-tax differences to determine that in some cases the relationship between book-tax and earnings persistence reflect past earnings growth.³

The remainder of this paper is organized as follows. Section II describes prior literature and develops the hypotheses. Section III describes the proposed data sample and research methodology. Section IV presents the results and Section V discusses the significance of the findings and concludes.

² The government still has an incentive to increase revenue by requiring book and tax earnings to conform. This issue is unlikely to be settled by any evidence about causes and effects of book-tax differences.

³ Other firms with large book-tax differences in year t may include firms with many different possible levels of book-tax differences. Firms with relatively small differences that suddenly increase, firms with large differences in prior years, but a drop in one or more years returning to a large difference in year t , or a myriad of other combinations. These differences may be thought of as ‘unstable,’ but the degree of instability would vary greatly. For this reason, the term non-stable refers to firms with large book-tax differences which do not meet the criteria to be considered stable (top 20% within industry for three consecutive years).

PRIOR RESEARCH AND HYPOTHESIS DEVELOPMENT

Both temporary and permanent book-tax differences are linked to lower future earnings. Hanlon (2005) finds that firms with large temporary book tax differences have lower pre-tax earnings persistence than firms with smaller temporary book-tax differences.⁴ Lev and Nissim (2004) find that firms with large total (temporary and permanent) book-tax differences have lower future after-tax earnings growth than firms with smaller differences. Hanlon's and Lev and Nissim's studies are motivated with potential earnings quality issues, but use different measures of both book-tax differences and different measures of future earnings. Graham, Ready, and Shackelford (2010) call for further study of these findings by using separate measures of temporary and permanent book-tax differences. This proposed study does so and separates firms with large stable book-tax differences when examining the link between book-tax differences and future earnings and potential explanations for this relationship.⁵

Jackson (2009) attempts to reconcile the differences in the measure of book-tax differences and earnings, and finds that the relationship between permanent book-tax differences and after-tax earnings is related to changes in future tax expense, while temporary book-tax differences are related to pre-tax earnings. This study separates firms with large stable book-tax differences and re-examines whether a different conclusion can be reached about the relationship between each type of book-tax difference and both pre-tax and after-tax earnings persistence.

Other research has suggested that firms manage earnings using tax expense (Schmidt 2006; Dhaliwal et al. 2004; Holland and Jackson 2004). Firms manage tax expense downward to

⁴ Hanlon finds that firms with large negative book-tax differences and large positive book-tax differences both have lower pre-tax earnings persistence than firms with average levels of book-tax differences. In this study large book-tax differences refer to instances where reported earnings are higher than estimated taxable income.

⁵ Firms with large stable book-tax differences are those firms which have large differences for the current year and each of the prior two years.

meet after-tax earnings targets. If firms manage earnings downward using permanent differences, this suggests at least a negative correlation between current pre-tax earnings and permanent book-tax differences. This study separates firms with large stable book-tax differences from other firms with large book-tax differences which provides a better understanding of how permanent differences are related to pre-tax earnings persistence; as well as after-tax earnings through tax expense as suggested by Jackson (2009).

Other research suggests that some firms with large book-tax differences or low effective tax rates maintain these large differences over multiple years.⁶ Dyreng, Hanlon, and Maydew (2008) find that some firms maintain low cash effective tax rates for as long as ten years.⁷ Other studies use the cash effective tax rate measure used in Dyreng et al. (2008) to identify firms that are tax aggressive.⁸ Blaylock, Shevlin, and Wilson (2009) use the cash effective tax rate to identify firms as tax aggressive, and separate tax aggressive firms from firms with high earnings management incentives. They find that tax aggressive firms do not have lower earnings persistence, while firms with high earnings management incentives do have lower earnings persistence.

⁶ Low average effective tax rates occur when firms have comparatively low taxes relative to book income, which corresponds to firms having large book-tax differences.

⁷ The cash effective tax rate uses cash taxes paid divided by pretax book income less special items.

$$CASHETR = \frac{Cash\ Taxes\ Paid}{(Pr\ etax\ Book\ Income - Special\ Items)}$$

In the case of multiple year (N) measures, the cash ETR is calculated as the sum of cash taxes paid over a number of years divided by the sum of pretax book income less special items over a number of years.

$$CASTETR_N = \frac{\sum_{i=1}^N Cash\ Taxes\ Paid_i}{\left(\sum_{i=1}^N Pr\ etax\ Book\ Income_i - Special\ Items_i \right)}$$

⁸ Firms with low cash effective tax rates are considered tax aggressive as their actual cash outlays for taxes are relatively low for long periods of time.

Dhaliwal, Huber, Lee and Pincus (2008) find that while the cost of capital is related to variability in book-tax differences, the size of the book-tax differences is the most important factor. This research builds on the findings of Dhaliwal et al. by examining whether variability in book-tax differences is important when examining the relationship between large book-tax differences and earnings persistence. Separating firms with large stable book-tax differences from firms with large non-stable book-tax differences provides more insight into the relationship between book-tax differences and earnings persistence.

This study's first set of hypotheses directly addresses whether firms with large stable book-tax differences have higher earnings persistence than other firms with large book-tax differences.⁹ If book-tax differences reflect prior earnings, firms with large stable book-tax differences can be expected to have higher earnings persistence than other firms with large book-tax differences. Both temporary and permanent differences are examined. Hypotheses one through four are stated in alternate form below, hypotheses one and two examine temporary differences and hypotheses three and four examine permanent differences

H1: Firms with large positive stable temporary book-tax differences exhibit higher pre-tax earnings persistence than other firms with large positive temporary book-tax differences in year t.

H2: Firms with large positive stable temporary book-tax differences exhibit higher after-tax earnings persistence than other firms with large positive temporary book-tax differences in year t.

⁹ Earnings persistence is defined as the coefficient of current earnings in a regression of year ahead earnings. The following is the regression equation for pre-tax book income persistence.

$$PTBI_{t+1} = \alpha + \beta * PTBI_t + \varepsilon$$

In this equation, β represents pre-tax earnings persistence, and PTBI is pre-tax book income.

H3: Firms with large positive stable permanent book-tax differences exhibit higher pre-tax earnings persistence than other firms with large positive permanent book-tax differences in year t .

H4: Firms with large positive stable permanent book-tax differences exhibit higher after-tax earnings persistence than other firms with large positive permanent book-tax differences in year t .

There are many studies that provide evidence that book-tax differences are linked to earnings management, earnings quality, and fraud. Book-tax differences have been found to be incrementally useful to accrual-based measures in identifying firms with fraudulently over-stated earnings (Ettredge et al. 2008). Other studies have also shown that firms manage earnings using tax expense to meet targets; avoid losses; and smooth earnings, and that the market seems to discount such management (Dhaliwal et al. 2004; Schmidt 2006; Frank and Rego 2006; Tang 2007).

A few recent studies have also attempted to directly address the question of whether the book-tax gap can be explained by earnings management or tax aggressiveness (Blaylock et al. 2009; Seidman 2010). McClelland and Mills (2007) suggest additional causes, finding that book-tax difference are related to macro-economic conditions, with aggregate differences increasing during economic expansion and decrease during economic contractions. By applying this finding on a micro level to companies, Hypotheses 5 and 6 investigate whether companies with large book-tax differences have different levels of prior earnings growth than firms without large book-tax differences. Both Lev and Nissim (2004) and Jackson (2004) find that firms with large differences have lower future earnings growth. This study investigates whether this may be related to differences in prior earnings growth and provides evidence that the lower future

earnings growth is related to prior earnings and not necessarily only earnings management or tax aggressiveness. Hypotheses five and six are not directional since either high or low prior earnings can indicate lower future earnings. Higher prior earnings growth may represent an unsustainable level of earnings and it may be that future earnings will be lower, while lower prior growth may represent a trend that continues into the future.¹⁰ The relationship may be different for firms with temporary than for firms with permanent differences, which might provide evidence about the inferences which can be made about firms with each type of difference. Hypotheses 5 and 6 are stated below.

H5: Firms with large temporary book-tax differences have either higher or lower prior earnings growth when compared to firms without large temporary book-tax differences.

H6: Firms with large positive book-tax differences have either higher or lower prior earnings growth when compared to firms without large permanent book-tax differences.

Hypotheses 7 and 8 predict differences in prior earnings variability among firms with large book-tax differences. As with earnings growth, variability in prior earnings is a factor that may contribute to lower earnings persistence for firms with large book-tax differences. Either higher or lower variability in prior earnings may be related to the observed differences in earnings persistence; thus, Hypotheses 7 and 8 are non-directional. As the mechanism for temporary and permanent differences may be different; each is tested separately. Hypotheses 7 and 8 are stated below.

¹⁰ Lower prior earnings level may represent an abnormally low level that will increase in the future, and higher prior earnings growth may also represent a trend that will continue into the future; however, prior research has shown that firms with large book-tax differences have lower future earnings growth.

H7: Firms with large temporary book-tax differences have either higher or lower prior earnings variability when compared to firms without large temporary book-tax differences.

H8: Firms with large permanent book-tax differences have either higher or lower prior earnings variability when compared to firms without large permanent book-tax differences.

In addition to the testing of hypotheses, additional analysis was conducted to determine whether there is a link between earnings persistence and past earnings growth and/or variability and whether the relationships between book-tax differences and earnings can be explained by differences in prior earnings growth and/or variability for firms with large book-tax differences.

SAMPLE AND METHODOLOGY

The data to be used in this study are derived from financial statements issued by publicly traded companies and obtained from *Compustat*. To compare only firm-years using a consistent standard in accounting for income taxes, the study begins with 1994, when Statement of Financial Accounting Standards 109, *Accounting for Income Taxes* (SFAS 109) was implemented. The implementation of SFAS 109 has been shown to positively affect investors' ability to interpret information in book-tax differences (Lev and Nissim 2004). To be included in the primary sample, each firm must have data available for current tax expense, deferred taxes, pre-tax book income, net operating loss carry-forwards, and net income in each year. As in prior research, financial services firms and utilities are excluded from the sample since they have different incentives influencing reported earnings than other firms.

Firms with large stable book-tax differences are those that have large book-tax differences in the current year (year t) and the preceding two years. A sensitivity analysis examines the impact of different specifications of multiple year book-tax differences.

Only U.S.-based firms are included in the study, and firm-years with any of the following: negative tax expense, negative net income, or a net operating loss carry-forward in year t is excluded. Additionally, sensitivity analysis examines the effect of excluding firms with large amounts of non-US earnings, as those firms have different opportunities to manage taxable income and their income is subject to different tax rates.

To determine which firm-years have large differences (both temporary and permanent), firms are ranked for each year for each of these differences and the top twenty percent in each category (temporary and permanent) are considered to have large differences. Temporary differences are calculated as deferred taxes deflated by average total assets. Permanent

differences are estimated as the difference between estimated tax expense at the statutory tax rate less deferred tax expense and are also deflated by average total assets. Quintile rankings are performed for each year within each industry using Fama-French industry definitions.¹¹

The model used to test Hypothesis 1 is:

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargeTempDiff_t + \beta_4 \cdot StableTempDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StableTempDiff_{t-2 \rightarrow t} \quad (1)$$

Where for firm i and year t :

$PTBI_t$ is pre-tax book income in year t ;

$PTBI_{t+1}$ is pre-tax book income in year $t+1$;

$LargeTempDiff_t$ is a binary variable that equals one if firm i has a large temporary book-tax difference in year t and zero otherwise;

and $StableTempDiff_{t-2 \rightarrow t}$ is a binary variable that equals one if firm i has a large temporary difference for all three years starting with $t-2$ and continuing through year t (years $t-2$, $t-1$, and t).¹²

All variables are deflated by total assets.

Table 1 presents the interpretations and expected values of coefficients estimated from equation 1 predicted by hypothesis 1:

¹¹ There is large variation in levels of book-tax differences within all industries and years. In every industry and for every year levels of book-tax differences range from firms with higher taxable income than book income to firms with high book-income and little or no taxable income.

¹² The LargeTempGroup includes the StableTempDiff group. This differs from the groups used in testing hypotheses 3 through 6 where the groups do not overlap. Care should be taken when comparing regression results to t-test results.

TABLE 1 Interpretations and Predictions for Coefficients for Equation 1		
Coefficient	Interpretation	Expected Value
β_2	Pre-tax earnings persistence of firms without large temporary differences	(+)
β_3	Pre-tax earnings persistence of firms with large temporary differences in year t, relative to firms without large temporary differences	(-)
β_5	Pre-tax earnings persistence of firms with large temporary differences in years t, t-1, and t-2, relative to all firms with large temporary differences in year t	(+)
A positive coefficient for β_5 indicates support for H1 Pre-tax earnings persistence higher for firms with large stable differences relative to other firms with large differences		
β_2	Pre-tax earnings persistence of firms without large temporary differences	
$\beta_2+\beta_3$	Pre-tax earnings persistence of firms with large temporary differences, not-stable	
$\beta_2+\beta_3+\beta_5$	Pre-tax earnings persistence of firms with large stable temporary differences	

The model used to test Hypothesis 2 is equation 2 below:

$$\begin{aligned}
 IBEI_{t+1} = & \alpha + \beta_1 \cdot LargeTempDiff_t + \beta_2 \cdot IBEI_t + \beta_3 \cdot IBEI_t * LargeTempDiff_t + \\
 & \beta_4 \cdot StableTempDiff_{t-2 \rightarrow t} + \beta_5 \cdot IBEI_t * StableTempDiff_{t-2 \rightarrow t}
 \end{aligned} \quad (2)$$

Where pre-tax book income (PTBI) is replaced with IBEI; IBEI is income before extraordinary items.

Table 2 presents the interpretations and expected values of coefficients estimated from equation 2 predicted by hypothesis 2:

TABLE 2 Interpretations and Predictions for Coefficients for Equation 2		
Coefficient	Interpretation	Expected Value
β_2	After-tax earnings persistence of firms without large temporary differences	(+)
β_3	After-tax earnings persistence of firms with large temporary differences in year t , relative to firms without large temporary differences	(-)
β_5	After-tax earnings persistence of firms with large temporary differences in years t , $t-1$, and $t-2$, relative to all firms with large temporary differences in year t	(+)
A positive coefficient for β_5 indicates support for H2 After-tax earnings persistence higher for firms with large stable differences relative to other firms with large differences		
β_2	After-tax earnings persistence of firms without large temporary differences	
$\beta_2+\beta_3$	After-tax earnings persistence of firms with large temporary differences, not-stable	
$\beta_2+\beta_3+\beta_5$	After-tax earnings persistence of firms with large stable temporary differences	

The models used for testing H3 and H4 are similar to the models used for testing H1 and H2, with permanent differences replacing temporary differences in the model. The model for testing hypothesis 3 is equation 3 below:

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermDiff_t + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t} \quad (3)$$

Where previously used variables are defined as above and:

$LargePermDiff_t$ is a binary variable that equals one if firm i has a large temporary book-tax difference in year t and zero otherwise;

and $StablePermDiff_{t-2 \rightarrow t}$ is a binary variable that equals one if firm i has a large permanent difference for all three years starting with $t-2$ and continuing until ending in year t (years $t-2$, $t-1$, and t).

Table 3 presents the interpretations and expected values of coefficients estimated from equation 3 predicted by hypothesis 3:

Table 3 Interpretations and Predictions for Coefficients for Equation 3		
Coefficient	Interpretation	Expected Value
β_2	Pre-tax earnings persistence of firms without large permanent differences	(+)
β_3	Pre-tax earnings persistence of firms with large permanent differences in year t, relative to firms without large permanent differences	(-)
β_5	Pre-tax earnings persistence of firms with large permanent differences in years t, t-1, and t-2, relative to all firms with large permanent differences in year t	(+)
A positive coefficient for β_5 indicates support for H3 Pre-tax earnings persistence higher for firms with large stable differences relative to other firms with large differences		
β_2	Pre-tax earnings persistence of firms without large permanent differences	
$\beta_2+\beta_3$	Pre-tax earnings persistence of firms with large permanent differences, not-stable	
$\beta_2+\beta_3+\beta_5$	Pre-tax earnings persistence of firms with large stable permanent differences	

The model for testing hypothesis 4 is equation 4 below, which is identical to equation 3 except pre-tax book income (PTBI) replaced with income before extraordinary items (IBEI).

$$IBEI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot IBEI_t + \beta_3 \cdot IBEI_t * LargePermDiff_t + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot IBEI_t * StablePermDiff_{t-2 \rightarrow t} \quad (4)$$

Table 4 presents the interpretation and expected values of coefficients estimated from equation 4 predicted by hypothesis 4.

TABLE 4 Interpretations and Predictions for Coefficients for Equation 4		
Coefficient	Interpretation	Expected Value
β_2	After-tax earnings persistence of firms without large permanent differences	(+)
β_3	After-tax earnings persistence of firms with large permanent differences in year t, relative to firms without large permanent differences	(-)
β_5	After-tax earnings persistence of firms with large permanent differences in years t, t-1, and t-2, relative to all firms with large permanent differences in year t	(+)
A positive coefficient for β_5 indicates support for H4 After-tax earnings persistence higher for firms with large stable differences relative to other firms with large differences		
β_2	After-tax earnings persistence of firms without large permanent differences	
$\beta_2+\beta_3$	After-tax earnings persistence of firms with large permanent differences, not-stable	
$\beta_2+\beta_3+\beta_5$	After-tax earnings persistence of firms with large stable permanent differences	

For hypotheses 5 through 8, the sample is divided into three groups for permanent differences and three groups for temporary differences. For temporary differences; group 1 (Small Temporary Difference) consists of firm-years which do not have large temporary differences in year t; group 2 (Large Temporary Difference) consists of firm-years that have large temporary differences in year t that do not also have large differences in year t-1 and t-2; and group 3 (Large Stable Temporary Difference) consists of firm-years which have large differences in year t, t-1, and t-2. For permanent differences three groups are also constructed similarly to the groups for temporary differences: Group 1 (Small Permanent Difference), Group 2 (Large Permanent Difference), and Group 3 (Large Stable Permanent Difference).

Hypotheses 5 and 6 examine the means of prior earnings growth and compare means between groups. Hypothesis 5 compares means of prior earnings growth between the three temporary difference groups. Hypothesis 6 compares means between the three permanent difference groups. Prior earnings growth is defined similarly to future earnings growth in Lev and Nissim (2004), however using pre-tax book income, see equation 5 below:

$$\frac{PTBI_{t-2} + PTBI_{t-1} + PTBI_t}{PTBI_{t-2}} \quad (5)$$

Where $PTBI_n$ is pre-tax book income scaled by average assets in year n.

Hypotheses 7 and 8 examine the variance of prior earnings and compare means between groups, with hypothesis 5 comparing mean variance between the three temporary difference groups and hypothesis 6 comparing mean variance between the three permanent difference groups. The variance of prior earnings is calculated as the variance of the pre-tax income divided by average assets over the three years from t-2 through year t.

RESULTS

The sample of firms used for the regression and other analyses is created from all firms in the Compustat database with the necessary data, as described in the previous section. The final number of firm-years in the sample is 27,414. Table 5 shows summary statistics and the composition of the samples for both temporary and permanent differences.

TABLE 5											
Descriptive Statistics for Temporary and Permanent Difference Subsamples											
Descriptive Statistics for Subsamples separated by Temporary Book-Tax Difference Behavior						Descriptive Statistics for Subsamples separated by Permanent Book-Tax Difference Behavior					
Variable	No Large Temporary Difference					Variable	No Large Permanent Difference				
	N	Mean	Median	25th Pctl	75th Pctl		N	Mean	Median	25th Pctl	75th Pctl
PTBI _{t+1}	22077	0.132	0.087	0.047	0.154	PTBI _{t+1}	22287	0.112	0.087	0.047	0.151
PTBI	22077	0.135	0.087	0.047	0.158	PTBI	22287	0.116	0.089	0.047	0.157
IBEI _{t+1}	22077	0.096	0.058	0.032	0.102	IBEI _{t+1}	22287	0.071	0.055	0.031	0.096
IBEI	22077	0.099	0.059	0.033	0.106	IBEI	22287	0.072	0.055	0.031	0.097
DTE	22077	-0.010	0.000	-0.015	0.006	DTE	22287	0.003	0.000	-0.011	0.017
AvgTotAssets	22077	5093.0	336.6	79.3	1513.4	AvgTotAssets	22287	5504.4	386.8	98.6	1689.3
Variable	Large Temporary Differences					Variable	Large Permanent Differences				
	N	Mean	Median	25th Pctl	75th Pctl		N	Mean	Median	25th Pctl	75th Pctl
PTBI _{t+1}	4693	0.122	0.097	0.057	0.159	PTBI _{t+1}	3919	0.132	0.097	0.056	0.166
PTBI	4693	0.136	0.111	0.069	0.170	PTBI	3919	0.149	0.104	0.064	0.173
IBEI _{t+1}	4693	0.077	0.061	0.035	0.101	IBEI _{t+1}	3919	0.104	0.075	0.043	0.128
IBEI	4693	0.086	0.069	0.042	0.107	IBEI	3919	0.128	0.088	0.055	0.145
DTE	4693	0.052	0.040	0.028	0.061	DTE	3919	-0.001	0.000	-0.006	0.026
AvgTotAssets	4693	3642.4	334.3	85.9	1478.3	AvgTotAssets	3919	2078.1	156.2	34.0	876.9
Variable	Large Stable Temporary Differences					Variable	Large Stable Permanent Differences				
	N	Mean	Median	25th Pctl	75th Pctl		N	Mean	Median	25th Pctl	75th Pctl
PTBI _{t+1}	644	0.124	0.103	0.053	0.161	PTBI _{t+1}	1208	0.464	0.110	0.064	0.236
PTBI	644	0.136	0.117	0.065	0.172	PTBI	1208	0.463	0.126	0.074	0.249
IBEI _{t+1}	644	0.076	0.061	0.033	0.101	IBEI _{t+1}	1208	0.446	0.092	0.056	0.188
IBEI	644	0.083	0.069	0.040	0.105	IBEI	1208	0.447	0.103	0.067	0.208
DTE	644	0.055	0.043	0.028	0.068	DTE	1208	0.005	0.000	0.000	0.005
AvgTotAssets	644	6023.8	678.7	158.8	2492.2	AvgTotAssets	1208	2144.4	272.0	36.4	1177.8
Variable Definitions											
PTBI _{t+1}	Pre-tax book income in year t+1										
PTBI	Pre-tax book income in year t						All variables are scaled by average total assets,				
IBEI _{t+1}	Income before extraordinary items in year t+1						with the exception of average total assets				
IBEI	Income before extraordinary items in year t										
DTE	Deferred tax expense scaled by average total assets										
AvgTotAssets	Average total assets										

Table 6 shows Pearson correlations for selected variables tested in the hypotheses.

	AT	Temporary Differences	Permanent Differences	Earnings Before EI	Pre-Tax Book Income	Prior 3 yr PTBI Growth	Prior 3 yr EBEI Growth	Variance PTBI Prior 3 years	Variance EBEI Prior 3 years
Assets	1	0.004 0.5471	-0.009 0.1548	-0.027* <.0001	-0.035* <.0001	-0.004 0.6785	-0.002 0.7939	-0.008 0.2846	-0.007 0.3345
Temporary Differences	0.004 0.5471	1	-0.056* <.0001	-0.032* <.0001	0.002 0.7121	-0.004 0.6244	-0.001 0.9042	-0.003 0.6586	-0.003 0.681
Permanent Differences	-0.009 0.1548	-0.056* <.0001	1	0.880* <.0001	0.846* <.0001	0.004 0.5823	0.012 0.1665	0.785* <.0001	0.788* <.0001
Earnings Before EI	-0.027* <.0001	-0.032* <.0001	0.880* <.0001	1	0.990* <.0001	0.003 0.6869	0.012 0.1567	0.738* <.0001	0.738* <.0001
Pre-Tax Book Income	-0.035* <.0001	0.002 0.7121	0.846* <.0001	0.990* <.0001	1	0.004 0.6416	0.015 0.0785	0.726* <.0001	0.726* <.0001
Prior 3 yr PTBI Growth	-0.004 0.6785	-0.004 0.6244	0.004 0.5823	0.003 0.6869	0.004 0.6416	1	0.205 <.0001	0.005 0.5949	0.004 0.6056
Prior 3 yr EBEI Growth	-0.002 0.7939	-0.001 0.9042	0.012 0.1665	0.012 0.1567	0.015 0.0785	0.205 <.0001	1	0.011 0.1894	0.011 0.2128
Variance PTBI Prior 3 years	-0.008 0.2846	-0.003 0.6586	0.785* <.0001	0.738* <.0001	0.726* <.0001	0.005 0.5949	0.011 0.1894	1	0.997* <.0001
Variance EBEI Prior 3 years	-0.007 0.3345	-0.003 0.681	0.788* <.0001	0.738* <.0001	0.726* <.0001	0.004 0.6056	0.011 0.2128	0.997* <.0001	1

* denotes statistical significance at 5% or better level

Table 7 shows that 644 of the firm years with large temporary differences had large stable differences and 4,693 firm years had large temporary differences that are not considered stable. This equates to 12% of the observations with large temporary differences having large stable temporary differences. For large permanent differences 1,208 firm years had large stable differences, while 3,919 firm-years had large differences, equating to 23.6% of the large permanent differences being stable.

There is not a great deal of overlap between the observations that have large temporary differences and those that have large permanent differences with only 1,192 observations having both large temporary and large permanent differences. Table 7 shows the breakdown of observations. Of the 27,414 observations, 18,142 (66%) have neither large temporary nor large permanent differences.

TABLE 7 Overlap of Temporary and Permanent Difference Groups					
		Permanent Difference Groups			Row Sums
		Not Large	Large & Not Stable	Large & Stable	
T e m p o r a r y D i f f e r e n c e G r o u p s	Not Large	18142 66.18%	2913 10.63%	1022 3.73%	22077 80.53%
	Large & Not Stable	3639 13.27%	946 3.45%	108 0.39%	4693 17.12%
	Large & Stable	506 1.85%	60 0.22%	78 0.28%	644 2.35%
Column Sums		22287 81.30%	3919 14.30%	1208 4.41%	27414

Regression results for equation 1, testing hypothesis 1a, can be found below in Table 8:

Table 8 Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences				
$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargeTempDiff_t + \beta_4 \cdot StableTempDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StableTempDiff_{t-2 \rightarrow t}$				
Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.02062	17.82	<.0001	0.7135
β_1	0.01812	4.82	<.0001	
β_2	0.82561	259.2	<.0001	
β_3	-0.21789	-10.82	<.0001	
β_4	-0.01903	-1.72	0.0861	
β_5	0.15656	2.41	0.0159	

Hypothesis 1 is supported, as β_5 is positive and significant, indicating that pre-tax earnings persistence is higher for firms with large stable temporary differences compared to firms with

large temporary differences that are not in the large stable group. The persistence of the large temporary differences group (β_3) is lower than other firms as found in prior research, while the persistence of all firms is similar in magnitude as well (Hanlon 2005).

Hypothesis 2 is tested using the regression model in equation 2, the results of this regression model are presented in table 9:

TABLE 9				
Results of OLS Regression of After-Tax Earnings Persistence and Temporary Book-Tax Differences				
$IBEI_{t+1} = \alpha + \beta_1 \cdot LargeTempDiff_t + \beta_2 \cdot IBEI_t + \beta_3 \cdot IBEI_t * LargeTempDiff_t + \beta_4 \cdot StableTempDiff_{t-2 \rightarrow t} + \beta_5 \cdot IBEI_t * StableTempDiff_{t-2 \rightarrow t}$				
Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.01377	12.73	<.0001	0.7215
β_1	0.01374	3.86	0.0001	
β_2	0.82948	265.54	<.0001	
β_3	-0.25759	-8.72	<.0001	
β_4	-0.01305	-1.23	0.2175	
β_5	0.16887	1.69	0.0915	

The estimate for the coefficient for β_5 is positive, but only significant at the 10% level.

Hypothesis 1a is supported, while hypothesis 1b is not supported at the 5% level. Since the first model tests pre-tax earnings persistence and the second model tests after-tax earnings, a reasonable explanation for the difference is the change in tax expense. Firms with large temporary differences have increased tax expense relative to firms with large stable temporary differences.

Hypotheses 3 and 4 examine earnings persistence for firms with large permanent book-tax differences. Hypothesis 3 predicts higher pre-tax earnings persistence for firms with large stable permanent differences when compared to firms with large differences. The results of the regression model testing hypothesis 3 using equation 3 are in Table 10 below:

TABLE 10
Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePerm_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StablePerm_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.02829	18.98	<.0001	0.756
β_1	0.06763	21.85	<.0001	
β_2	0.72481	74.88	<.0001	
β_3	-0.48339	-36.43	<.0001	
β_4	-0.04713	-8.96	<.0001	
β_5	0.65477	67.72	<.0001	

The results of the regression indicate support for hypothesis 3. Additionally, the results indicate that earnings persistence for firms with large stable permanent differences is greater than the remaining sample of firms, as $\beta_5 + \beta_3 > 0$. The finding that pre-tax earnings persistence is lower for firms with large differences that are not stable ($\beta_3 < 0$) contrasts with the findings of Jackson (2009), who finds that permanent book-tax differences are related only with after-tax earnings through tax expense. Running the regression model with large permanent differences but without the distinction between stable and other differences produces the results shown in table 11 below:

TABLE 11
Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences
Stable book-tax differences included in Permanent group but not separately in model

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \varepsilon$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.02829	17.5	<.0001	0.7132
β_1	-0.00265	-0.93	0.3524	
β_2	0.72481	69.06	<.0001	
β_3	0.10281	9.34	<.0001	

Comparing the results from Table 11 to the results from Table 10, it is apparent that a different conclusion is reached when large stable differences are not included in the model (except as part of the large differences group). In this model, pre-tax book income persistence is higher for firms

with large permanent differences. This provides strong evidence that the stable group is important when considering book-tax differences and earnings persistence.

Hypothesis 4 predicts that after-tax earnings persistence is higher for firms with large stable permanent differences, compared to firms with large differences which are not large and stable. Table 12 presents the results of the regression for equation 5.

TABLE 12				
Results of OLS Regression of After-Tax Earnings Persistence and Permanent Book-Tax Differences				
$IBEI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot IBEI_t + \beta_3 \cdot IBEI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot IBEI_t * StablePermDiff_{t-2 \rightarrow t}$				
Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.01985	13.89	<.0001	0.7682
β_1	0.0565	19.53	<.0001	
β_2	0.71076	47.43	<.0001	
β_3	-0.49743	-28.57	<.0001	
β_4	-0.03132	-6.3	<.0001	
β_5	0.68408	72.65	<.0001	

Hypothesis 4 is supported by the results of the regression model presented in Table 13, as $\beta_5 > 0$ and statistically significant. Again, the results show that not only do firms with large stable book-tax have higher earnings persistence than firms with large differences that are not stable; they have higher average persistence than the sample.¹³

From the results of testing hypotheses 1 and 2, it is clear that not all book-tax differences have the same implications for earnings persistence. Hypotheses three through six predict differences in past earnings for firms with large book-tax differences. Hypothesis three predicts that firms with large temporary book-tax differences have different prior earnings growth than

¹³ This sample has some characteristics which make comparisons with other studies more challenging. Loss firms are generally excluded in year t in other studies, however they are excluded in years t, t-1, and t-2 in this study. This makes direct comparisons difficult and suggests the possibility that results in prior studies are partially driven by firms with losses in prior years. Hayn (1995) shows that firms with prior losses are significantly more likely to have future losses. Losses are also significant to book-tax research as they generate tax deductions increasing book-tax differences. Loss firms are excluded in this study to avoid potential confounds with loss firm behavior. This limits the generalizations that can be made from this study in favor of internal validity.

firms that do not have large temporary book-tax differences. Figure 2 shows the earnings growth for the different classifications of temporary book-tax differences.

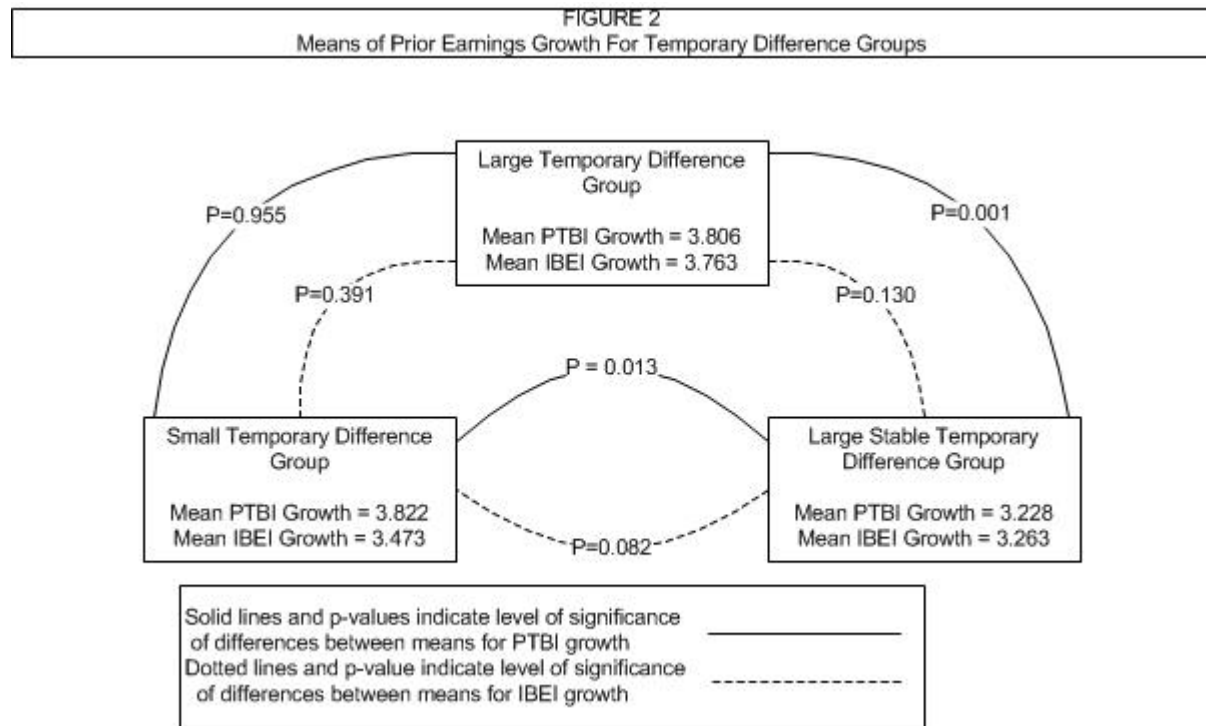
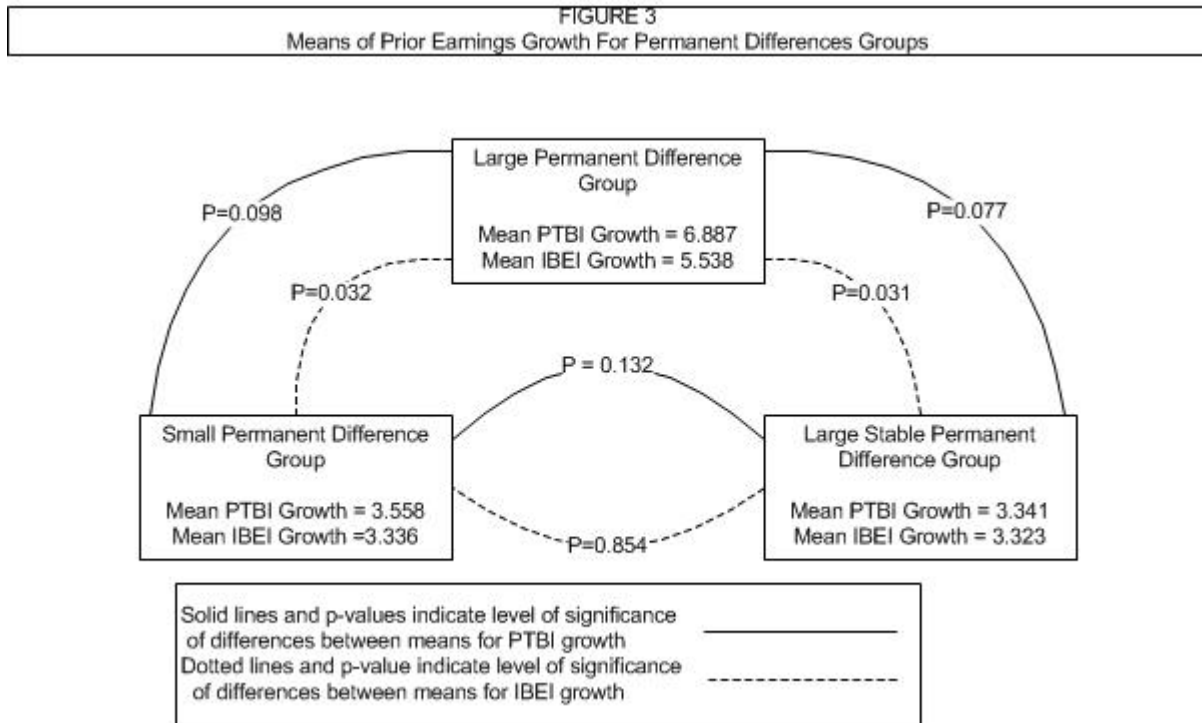


Figure 2 shows that the earnings growth measured either as pre-tax (PTBI) or after-tax (IBEI) earnings are significantly different only for the large stable group. This does not support either lower or higher prior earnings growth as a factor in the lower persistence of firms with book-tax differences. The large stable group does have lower earnings growth; however, it does not have lower earnings persistence which suggests that prior earnings may play a role in the relationship between book-tax differences and earnings persistence if prior earnings growth and persistence is negatively correlated. This is what is found, which is shown in the following results. H5 is supported, as the large stable temporary difference group has lower prior earnings. Earnings growth does not appear to be a driving factor in the relationship between large permanent differences and lower earnings persistence, but may explain why the group with large stable

temporary difference has higher earnings persistence than other firms with large temporary differences.

The comparison for firms with permanent differences yields different results, as the large permanent group is the group with different prior earnings growth. Figure 3 shows the prior earnings growth for the groups of firms with large permanent differences.



The firms with large permanent differences (but not in the stable group) prior earnings growth is larger than the small permanent difference group and large stable permanent differences group. This supports hypothesis 4 and provides evidence that prior earnings may be a factor in lower earnings persistence for firms with large permanent differences.

Further investigation of the relationship between prior earnings growth and earnings persistence shows that firms with the highest prior earnings growth have the lowest earnings persistence. Both earnings growth and persistence are extremely non-linear, suffering from small denominator issues and distribution that is highly skewed with a large degree of kurtosis making

spearman rank correlations appropriate. Table 13 shows spearman correlations for earnings persistence and prior earnings growth.

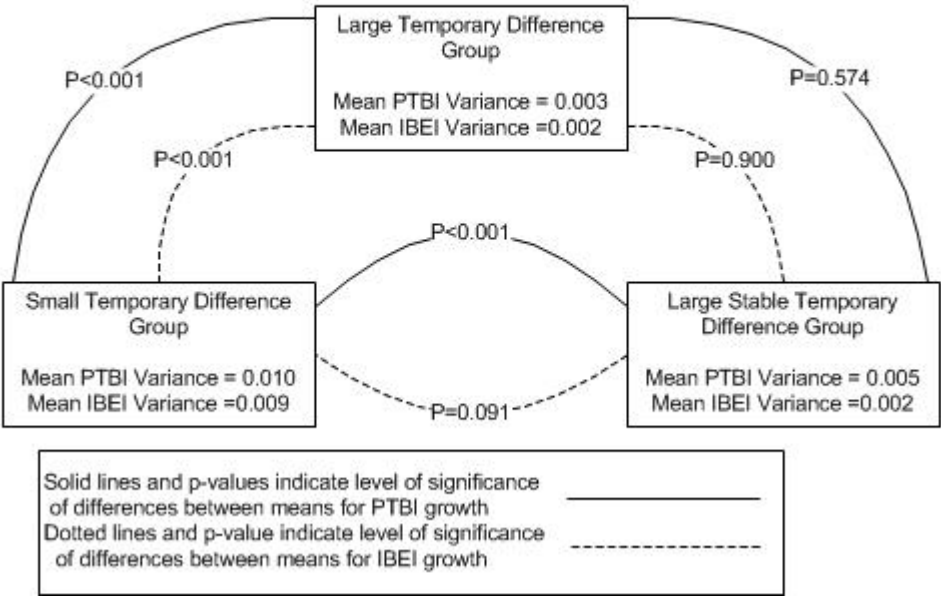
TABLE 13				
Spearman Correlations between Prior Earnings Growth and Persistence				
	Prior 3 yr Pre-tax Earnings growth	Pre-tax earnings Persistence	Prior 3 yr After-tax Earnings growth	After-tax earning Persistence
Prior 3 yr Pre-tax Earnings growth	1	-0.12438	0.93958	-0.11141
Pre-tax earnings Persistence		1	-0.12718	0.91423
Prior 3 yr After-tax Earnings growth			1	-0.11616
After-tax earning Persistence				1
All values significant at 1% of greater level				

Table 13 shows that prior earnings growth is negatively related to earnings persistence, both for after-tax and pre-tax measures of growth and persistence, the bold numbers in the table show the negative correlation between pre-tax earnings growth and pre-tax income persistence and between after-tax earnings growth and after-tax earnings persistence.¹⁴ Firms with permanent differences have higher levels of prior earnings growth and lower earnings persistence, suggesting that for permanent differences prior earnings are a driving factor for the relationship between large permanent differences and lower earnings persistence.

Hypotheses 7 and 8 predict that firms with large book-tax differences have different variability in prior earnings. Figure 4 shows the means of the variance of earnings for the prior three years for the three temporary difference groups.

¹⁴ The table presents the correlations for the sample. The correlations for each of the permanent difference groups are similar in sign, magnitude, and statistical significance. In each case, the firms with larger prior earnings growth have lower earnings persistence, indicating that even within book-tax difference groups the relationship between prior earnings growth and persistence is significant.

FIGURE 4
Means of Prior Earnings Variance for Temporary Difference Groups



Hypothesis 7 is supported as both the large temporary difference group and the large stable temporary difference groups have significantly lower prior earnings variance than the small temporary difference group. The large difference group and large stable difference groups do not exhibit significant differences in variance of prior earnings, however the large stable difference group does exhibit higher earnings persistence. There is no clear link between variance of prior earnings and persistence based on the comparison of means.¹⁵

Hypothesis 8 predicts differences between the variance of prior earnings for permanent difference groups. Figure 5 shows the means of the variance of earnings for the prior three years for the three permanent difference groups.

¹⁵ Additional analysis shows that there is no significant correlation between variance of prior earnings and persistence.

FIGURE 5
Means of Prior Earnings Variance for Permanent Difference Groups

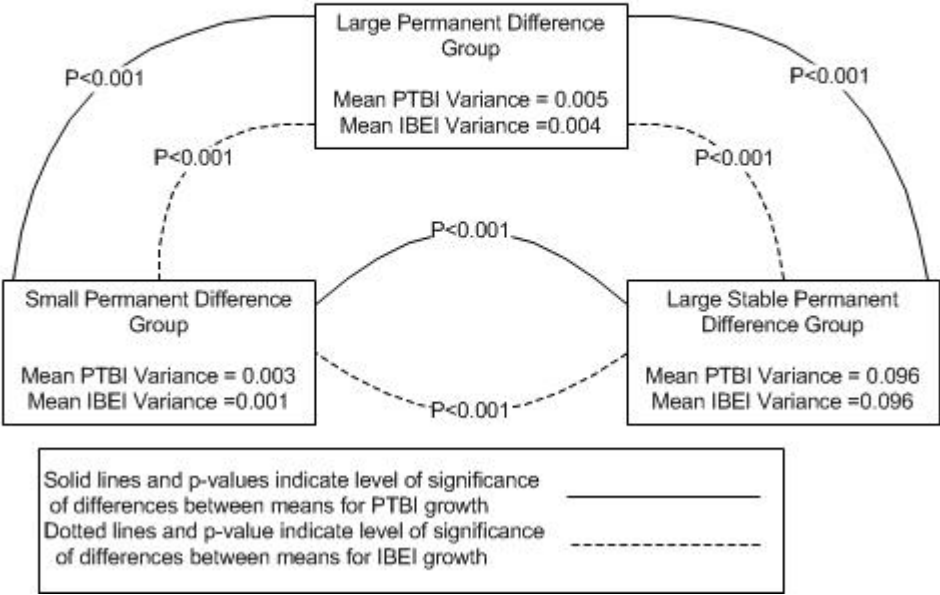


Figure 5 shows that the variances of the permanent difference groups are significantly different, with the large permanent difference groups having higher variance than the small permanent difference group. The large stable difference group has the highest variance of the three groups.

Despite differences in prior earnings variance, it can be concluded that the relationship between book-tax differences and earnings persistence is not driven by book-tax differences reflecting differences in prior earnings variability as no significant relationship between variance of prior earnings and earnings persistence. Both large permanent differences and large temporary differences have lower earnings persistence, however, those firm-years in the large permanent group have higher variance of prior earnings, while those in the large temporary difference group have lower variance of prior earnings. This is also significant to the research design as the stable difference groups do not have more stable prior earnings, eliminating the possibility that the

distinction between firms with large differences and large stable differences is merely a function of more stable prior earnings.

Prior earnings growth is found to be a significant factor and may be the more fruitful avenue to explore when looking for factors driving the relationship between book-tax differences and earnings persistence. However, even when controlling for prior earnings growth, some book-tax differences are negatively related to earnings persistence. Adding earnings growth into models of earnings persistence for temporary book-tax differences causes the large stable temporary difference group to lose significance, suggesting that the reason the large stable temporary differences group is different from the large difference group is lower prior earnings. Adding earnings growth into models of earnings persistence for permanent book-tax differences causes the large permanent group to lose significance, leading to the conclusion that the relationship between permanent book-tax differences is driven by higher earnings growth among firms with large permanent differences.

CONCLUSION

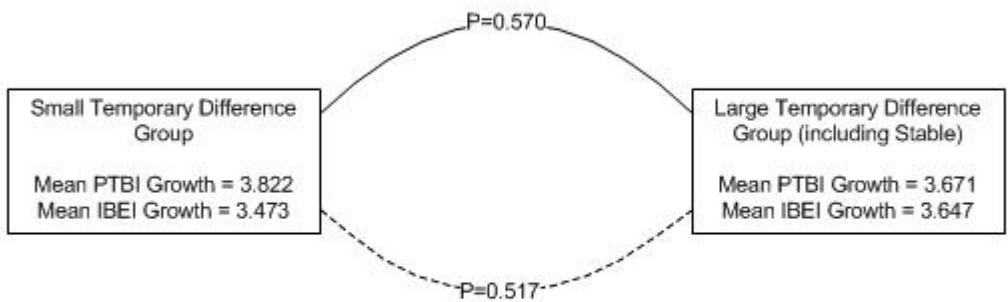
This research makes three contributions to knowledge about the relationship between book-tax differences and earnings persistence. The first contribution is that large stable book-tax differences have different implications for earnings persistence than large non-stable differences. While firms with large book-tax differences have lower earnings persistence than other firms in the sample, those firms with large stable book-tax differences have higher earnings persistence than those firms with large differences that are not stable.¹⁶ While variance of prior earnings is shown to be different among the difference book-tax groups, it is not significantly related to earnings persistence and no evidence can be found that it is a factor in the book-tax earnings persistence relationship. Additionally, the stable book-tax difference groups either have similar or higher prior earnings variance than the other large difference groups, suggesting that stable book-tax differences is not merely a proxy for stability of prior earnings.

Second, this study shows a relationship between pre-tax earnings persistence and permanent differences. Prior research has found a relationship between total differences and after-tax earnings, temporary differences and pre-tax earnings, and that permanent differences relate to after tax earnings through tax expense changes. Using a model which includes stable differences separate from other differences, this study finds that firms with large permanent difference have lower pre-tax earnings persistence than firms which do not have large permanent differences. It is also shown that models not accounting for stable differences would reach different conclusions.

¹⁶ To the extent that some measures of tax aggressiveness use long term measures (such as cash effective tax rates measured over 5 years) this is consistent with the idea that tax aggressive firms do not have lower earnings persistence (Blaylock et al. 2009).

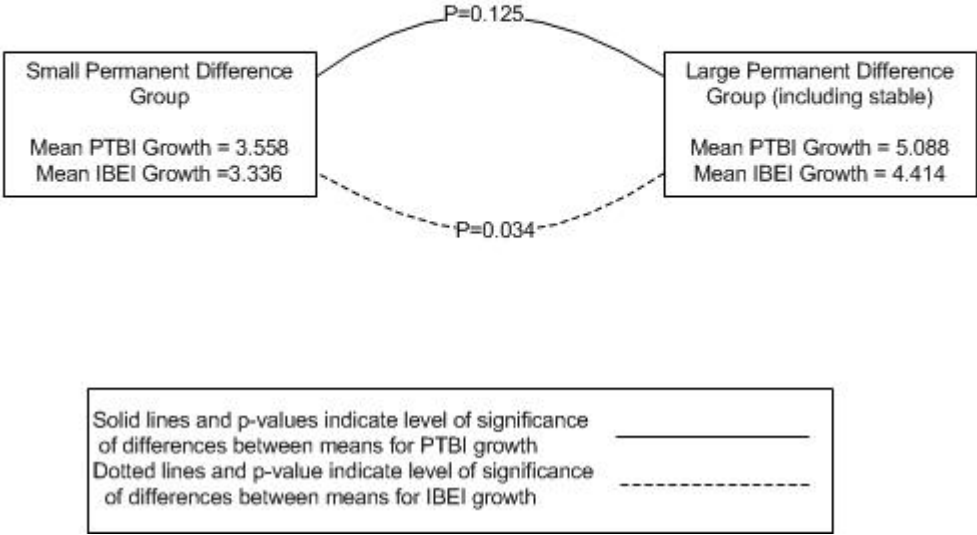
Finally, this study shows that prior earnings growth is a significant factor driving the relationship between book-tax differences and earnings persistence. The stable temporary differences group has lower prior earnings growth and higher persistence, while the large permanent difference group (not including large stable differences) has higher prior earnings growth and lower persistence. When prior earnings growth is put into models, the relationship between earnings persistence and these groups becomes insignificant. Overall, the relationship between permanent differences and earnings persistence can be explained largely by prior earnings growth, while the differences between the large temporary difference group and the large stable temporary difference group can also be explained by prior earnings growth. The separate consideration of stable differences is significant in the search for prior earnings growth as a factor in the relationship between book-tax differences and earnings persistence. Figure 6 and 7 show tests of differences in means between firms with large differences of each type and those with small differences.

FIGURE 6
Means of Prior Earnings Growth For Temporary Difference Groups (stable not separated)



Solid lines and p-values indicate level of significance of differences between means for PTBI growth
 Dotted lines and p-value indicate level of significance of differences between means for IBEI growth

FIGURE 7
Means of Prior Earnings Growth For Permanent Differences Groups



Significant differences in prior earnings growth among groups can be found when stable differences are a separate group, the differences in prior earnings growth are much weaker when stable differences are not considered separately. Future research into book-tax differences and earnings should consider prior earnings growth as an explanatory factor and control for stable book-tax differences. On a macro-economic level prior research shows that increasing earnings increases book-tax differences (McClelland and Mills 2007), and this study shows that prior earnings is negatively related with earnings persistence, suggesting that in addition to tax aggressiveness, earnings management, and fraud; prior earnings growth should be considered a contributing factor to the relationship between book-tax differences and future earnings and considered as part of future models. Those firms with above average prior earnings growth tend to have both large book-tax differences, as well as lower future earnings as the earnings pattern exhibits reversion to the mean.

One limitation of this study includes the exclusion of loss firms. Other studies also exclude firms with losses, since losses are related to book-tax differences through operating loss deductions, and future earnings since loss firms are more likely to have losses in the future (Hayn 1995). This study excludes more firms, since firms cannot have losses in two prior periods, or a loss carryover from three years back. This leads to the inability to apply these findings to a broader population; however losses are all but eliminated as a potentially confounding factor.¹⁷

The findings of this study lead to potential questions for future research. One interesting avenue is a detailed study of the financial statements for firms with large earnings growth and book-tax differences. It would be interesting to determine whether increasing earnings and large book-tax differences can be linked to certain financial statement accounts.¹⁸ Such research might help refine when one might suspect book-tax differences arise from earnings management and when other factors such as tax aggressiveness or prior earnings growth should be considered as the primary factor. Another interesting question is whether changes in book-tax differences might also lead to a more refined model of book-tax differences and future earnings or book-tax differences and fraud. A sudden increase in differences (in the absence of a large increase in earnings) may be more predictive of earnings management or fraud than a large difference.

This study has several important findings. One, that permanent differences are related to both pre-tax and after-tax earnings persistence, not only after-tax earnings through changes in tax expense. Two, that prior earnings growth is a significant factor in the relationship between book-

¹⁷ Not excluding loss firms does not change the sign of any regression results. Statistical significance is negatively affected by the extreme variance in earnings persistence when earnings are negative. Prior studies include firms with losses in year t , but generally have not excluded losses in prior years or future years.

¹⁸ Examples may include depreciable property which creates temporary book-tax differences, or permanently reinvested foreign earnings which create permanent differences.

tax differences and earnings persistence. Three, that large stable differences have different implications for future earnings. These findings help clarify prior findings, improve the methodology for investigating book-tax differences, and suggest interesting avenues for future research.

APPENDIX A

TIME SERIES PROPERTIES OF BOOK-TAX DIFFERENCES

This appendix presents data on the time series properties of book-tax differences. Of particular interest is the question of how likely it is that firms with a large difference (either temporary or permanent) will have a large difference in one or more future years and how that likelihood changes over time. As in the main body of the paper, a firm is considered to have a large book-tax difference if it is within the highest 20% within its industry in a given year. Both temporary differences and permanent differences are examined.

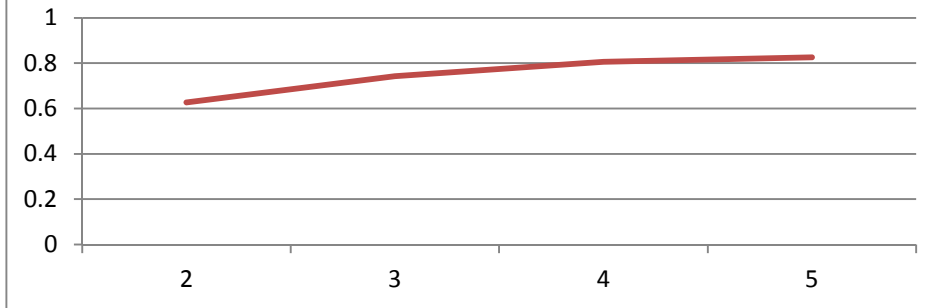
Table A1 shows the duration of firms staying in the top 20% within industry and year for each type of difference.

Table A1 Duration of Firms Maintaining Large Differences		
Duration	Permanent Differences	Temporary Differences
1 or more years	17.70%	17.93%
2 or more years	11.12%	7.63%
3 or more years	8.27%	4.02%
4 or more years	6.67%	2.37%
5 or more years	5.51%	1.59%

It is clear that permanent differences tend to persist more than temporary differences. Almost three times as many firms are able to maintain large permanent differences as are able to maintain large temporary differences for five or more years.

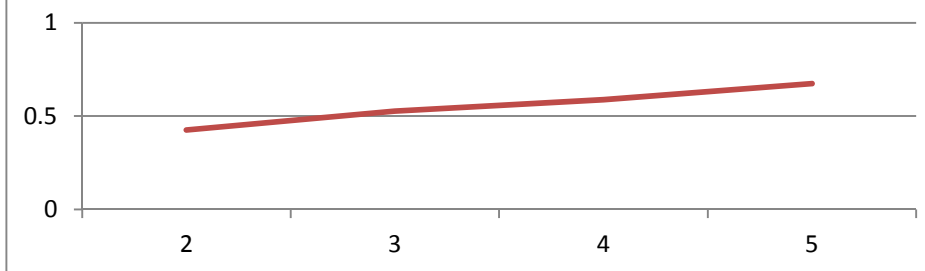
Figures A1 and A2 show the percentage of firms maintaining large differences from one year to the next.

Figure A1
Percentage of Large Permanent Differences remaining Large from prior Year



For permanent differences 62% of the firms with a large differences in year 1 still have a large difference in year 2, and 82% of firms with a large difference in year 4 still have a large difference in year 5.

Figure A2
Percentage of Large Temporary Differences remaining Large from prior Year



For temporary differences, fewer firms maintain large differences with only 43% of firms with large temporary differences in year 1 maintaining large differences in year 2, increasing to 67% of firms with large differences in year 4 still having large differences in year 5.

APPENDIX B
ADDITIONAL ANALYSIS

TABLE B1

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences
 For year t = 1996

$$PTBI_{i,t+1} = \alpha + \beta_1 \cdot LargeTempD_{i,t} + \beta_2 \cdot PTBI_{i,t} + \beta_3 \cdot PTBI_{i,t} * LargeTempD_{i,t} + \beta_4 \cdot StableTemp_{i,t} + \beta_5 \cdot PTBI_{i,t} * StableTemp_{i,t} + \text{Diff}_{i-2 \rightarrow t}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	0.027	13.47	<.0001	0.6826
β_1	0.7658	74.45	<.0001	
β_2	0.01402	2.28	0.0227	
β_3	-0.03955	-2.39	0.0169	
β_4	-0.16553	-4.5	<.0001	
β_5	0.30234	2.47	0.0136	

Table B2

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 1997

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StableTemp_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.02657	14.63	<.0001	0.7579
β_1	0.71105	86.73	<.0001	
β_2	0.01796	3.11	0.0019	
β_3	-0.03894	-2.39	0.017	
β_4	-0.17825	-5.35	<.0001	
β_5	0.30635	2.63	0.0086	

TABLE B3

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 1998

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_{t-1} + \beta_3 \cdot PTBI_{t-1} * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_{t-1} * StableTemp_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.03819	18.41	<.0001	0.6566
β_1	0.67091	62.58	<.0001	
β_2	-0.01142	-1.79	0.0736	
β_3	-0.0176	-1.14	0.2559	
β_4	-0.01062	-0.28	0.7824	
β_5	0.15382	1.63	0.1032	

Table B4

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 1999

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_{t-1} + \beta_3 \cdot PTBI_{t-1} * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_{t-1} * StableTemp_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.05918	9.54	<.0001	0.2252
β_1	0.59512	23.24	<.0001	
β_2	-0.03395	-1.7	0.0894	
β_3	-0.03314	-0.66	0.5072	
β_4	0.1599	1.45	0.1461	
β_5	0.20335	0.63	0.5319	

TABLE B5

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2000

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StableTemp_{Diff_{t-2 \rightarrow t}}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	-0.02711	-9.35	<.0001	0.8932
β_1	1.06103	118.15	<.0001	
β_2	0.06844	6.96	<.0001	
β_3	-0.0449	-1.96	0.0503	
β_4	-0.57081	-10.82	<.0001	
β_5	0.30605	2.41	0.0162	

TABLE B6

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2001

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_{t-1} + \beta_3 \cdot PTBI_{t-1} * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_{t-1} * StableTemp_{Diff_{t-2 \rightarrow t}}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	0.04195	15.49	<.0001	0.8101
β_1	0.59892	78.49	<.0001	
β_2	-0.02161	-2.24	0.0255	
β_3	0.02736	1.17	0.2417	
β_4	0.21186	3.68	0.0002	
β_5	-0.23057	-1.59	0.1114	

TABLE B7

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2002

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_{t-1} + \beta_3 \cdot PTBI_{t-1} * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_{t-1} * StableTemp_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	-0.01478	-3.72	0.0002	0.8153
β_1	1.2311	79.53	<.0001	
β_2	0.04189	3.28	0.0011	
β_3	-0.01268	-0.34	0.7325	
β_4	-0.47557	-6.75	<.0001	
β_5	0.11304	0.46	0.6487	

TABLE B8

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2003

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_{t-1} + \beta_3 \cdot PTBI_{t-1} * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_{t-1} * StableTemp_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	-0.01003	-3.47	0.0005	0.9271
β_1	1.20503	136.5	<.0001	
β_2	0.06086	8.32	<.0001	
β_3	-0.02547	-0.89	0.3748	
β_4	-0.61541	-24	<.0001	
β_5	0.31933	1.91	0.0559	

TABLE B9

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2004

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StableTemp_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.04891	5.75	<.0001	0.5483
β_1	0.68425	42.76	<.0001	
β_2	0.01048	0.41	0.6845	
β_3	-0.0222	-0.27	0.7844	
β_4	-0.164	-1.5	0.1345	
β_5	0.1959	0.42	0.6723	

Table B10

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2005

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff,t} + \beta_2 \cdot PTBI_{t-1} + \beta_3 \cdot PTBI_{t-1} * LargeTempD_{iff,t} + \beta_4 \cdot StableTemp_{Diff,t-2 \rightarrow t} + \beta_5 \cdot PTBI_{t-1} * StableTemp_{Diff,t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	-0.00093	-0.26	0.7943	0.9279
β_1	1.00531	137.44	<.0001	
β_2	0.04285	3.28	0.0011	
β_3	0.01412	0.51	0.6083	
β_4	-0.35817	-4.56	<.0001	
β_5	-0.09997	-0.78	0.4351	

TABLE B11

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2006

$$PTBI_{i,t+1} = \alpha + \beta_1 \cdot LargeTempD_{i,t} + \beta_2 \cdot PTBI_{i,t} + \beta_3 \cdot PTBI_{i,t} * LargeTempD_{i,t} + \beta_4 \cdot StableTemp_{i,t} + \beta_5 \cdot PTBI_{i,t} * StableTemp_{i,t} + Diff_{i,t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.000157	0.05	0.958	0.9549
β_1	0.95671	168.55	<.0001	
β_2	0.07785	8.04	<.0001	
β_3	-0.07566	-2.71	0.0068	
β_4	-0.72255	-14.83	<.0001	
β_5	0.70235	5.26	<.0001	

TABLE B12

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2007

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StableTemp_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	-0.0683	-14.49	<.0001	0.9705
β_1	1.45412	188.28	<.0001	
β_2	0.08548	4.43	<.0001	
β_3	-0.02536	-0.53	0.5985	
β_4	-0.7444	-6.6	<.0001	
β_5	0.33432	1.15	0.2495	

TABLE B13

Results of OLS Regression of Pre-Tax Earnings Persistence and Temporary Book-Tax Differences

For year t = 2008

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_{t-1} + \beta_3 \cdot PTBI_{t-1} * LargeTempD_{iff_t} + \beta_4 \cdot StableTemp_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_{t-1} * StableTemp_{Diff_{t-2 \rightarrow t}}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	0.05155	11.43	<.0001	0.8967
β_1	0.43221	90.79	<.0001	
β_2	-0.02295	-1.55	0.1213	
β_3	0.00099	0.02	0.9805	
β_4	0.23779	3.23	0.0013	
β_5	-0.1709	-0.81	0.4194	

TABLE B14

Summary of Annual Persistence Regressions - Pre-tax Persistence / Temporary Differences

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargeTempD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargeTempD_{iff_t} + \beta_4 \cdot StableTempDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StableTempDiff_{t-2 \rightarrow t}$$

Year (t)	β_2	β_4	β_5	Adj R ²
	Persistence	Persistence Large Temporary Differences	Persistence Large Stable Temporary Differences	
1996	0.01402	-0.16553	0.30234	0.6826
1997	0.01796	-0.17825	0.30635	0.7579
1998	-0.01142	-0.01062	0.15382	0.6566
1999	-0.03395	0.1599	0.20335	0.2252
2000	0.06844	-0.57081	0.30605	0.8932
2001	-0.02161	0.21186	-0.23057	0.8101
2002	0.04189	-0.47557	0.11304	0.8153
2003	0.06086	-0.61541	0.31933	0.9271
2004	0.01048	-0.164	0.1959	0.5483
2005	0.04285	-0.35817	-0.09997	0.9279
2006	0.07785	-0.72255	0.70235	0.9549
2007	0.08548	-0.7444	0.33432	0.9705
2008	-0.02295	0.23779	-0.1709	0.8967

TABLE B15

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 1996

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePerm_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StablePerm_{Diff_{t-2 \rightarrow t}}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.03623	15.49	<.0001	0.7014
β_1	0.66881	43.95	<.0001	
β_2	0.01662	2.9	0.0038	
β_3	-0.02132	-2.46	0.014	
β_4	-0.14046	-4.53	<.0001	
β_5	0.3441	11.27	<.0001	

TABLE B16

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences
 For year t = 1997

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermDiff_t + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	0.02781	12.03	<.0001	0.7635
β_1	0.69661	47.14	<.0001	
β_2	0.03402	5.68	<.0001	
β_3	-0.04652	-5.58	<.0001	
β_4	-0.25839	-7.9	<.0001	
β_5	0.29716	9.63	<.0001	

TABLE B17

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 1998

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermDiff_t + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.029	11.63	<.0001	0.6577
β_1	0.71918	43.84	<.0001	
β_2	0.01879	2.73	0.0063	
β_3	0.00661	0.7	0.4827	
β_4	-0.12114	-2.89	0.0039	
β_5	0.03968	0.97	0.3345	

TABLE B18

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 1999

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermDiff_t + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.02735	5.42	<.0001	0.7038
β_1	0.74423	22.91	<.0001	
β_2	0.10999	10.86	<.0001	
β_3	-0.29837	-17.69	<.0001	
β_4	-0.69085	-18.2	<.0001	
β_5	2.44776	55.27	<.0001	

TABLE B19

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2000

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.02092	6.23	<.0001	0.9233
β_1	0.64743	30.58	<.0001	
β_2	0.05328	5.88	<.0001	
β_3	-0.10853	-8.93	<.0001	
β_4	-0.45594	-9.21	<.0001	
β_5	0.93697	20.56	<.0001	

TABLE B20

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2001

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.01989	5.27	<.0001	0.8173
β_1	0.83583	29.36	<.0001	
β_2	0.03256	3.4	0.0007	
β_3	-0.01789	-1.33	0.1837	
β_4	-0.29485	-5.24	<.0001	
β_5	0.04836	0.98	0.3256	

TABLE B21

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2002

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermDiff_t + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	0.0238	5.05	<.0001	0.8496
β_1	0.79946	23.63	<.0001	
β_2	0.02779	2.33	0.0201	
β_3	-0.01774	-1.02	0.3087	
β_4	-0.24623	-3.82	0.0001	
β_5	0.76563	13.39	<.0001	

TABLE B22

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2003

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermDiff_t + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.04082	12.72	<.0001	0.9335
β_1	0.68964	36.49	<.0001	
β_2	0.01335	1.24	0.2144	
β_3	-0.07932	-5.14	<.0001	
β_4	-0.17349	-2.69	0.0072	
β_5	0.72395	11.62	<.0001	

TABLE B23

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2004

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.03011	6.04	<.0001	0.916
β_1	0.75482	23.31	<.0001	
β_2	0.08974	8.95	<.0001	
β_3	-0.1316	-7.51	<.0001	
β_4	-0.67221	-19.81	<.0001	
β_5	1.136	78.72	<.0001	

TABLE B24

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2005

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePerm_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StablePerm_{Diff_{t-2 \rightarrow t}}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	0.02113	4.38	<.0001	0.9305
β_1	0.83772	27.47	<.0001	
β_2	0.03155	2.42	0.0157	
β_3	-0.11701	-6.1	<.0001	
β_4	-0.23976	-3.62	0.0003	
β_5	0.4291	7.22	<.0001	

TABLE B25

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2006

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.03403	8.58	<.0001	0.9576
β_1	0.65808	27.97	<.0001	
β_2	0.02903	2.83	0.0048	
β_3	-0.04126	-2.71	0.0069	
β_4	-0.29964	-5.56	<.0001	
β_5	0.60926	12.48	<.0001	

TABLE B26

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2007

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePerm_{Diff_{t-2 \rightarrow t}} + \beta_5 \cdot PTBI_t * StablePerm_{Diff_{t-2 \rightarrow t}}$$

<u>Variables</u>	<u>Estimate</u>	<u>T-Stat</u>	<u>Prob(T)</u>	<u>Adj R²</u>
α	0.02017	3.46	0.0006	0.9792
β_1	0.71939	20.31	<.0001	
β_2	0.00891	0.53	0.5962	
β_3	-0.10252	-4.81	<.0001	
β_4	-0.04419	-0.45	0.6522	
β_5	0.80447	8.78	<.0001	

TABLE B27

Results of OLS Regression of Pre-Tax Earnings Persistence and Permanent Book-Tax Differences

For year t = 2008

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermD_{iff_t} + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermD_{iff_t} + \beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Variables	Estimate	T-Stat	Prob(T)	Adj R ²
α	0.02342	3.74	0.0002	0.9011
β_1	0.71767	17.77	<.0001	
β_2	0.01808	0.97	0.3332	
β_3	-0.0182	-0.77	0.44	
β_4	-0.2197	-2.41	0.0162	
β_5	-0.0657	-0.8	0.4231	

TABLE B28

Summary of Annual Persistence Regressions - Pre-tax Persistence / Permanent Differences

$$PTBI_{t+1} = \alpha + \beta_1 \cdot LargePermDiff_t + \beta_2 \cdot PTBI_t + \beta_3 \cdot PTBI_t * LargePermDiff_t +$$

$$\beta_4 \cdot StablePermDiff_{t-2 \rightarrow t} + \beta_5 \cdot PTBI_t * StablePermDiff_{t-2 \rightarrow t}$$

Year (t)	β_2	β_4	β_5	Adj R ²
	Persistence	Persistence	Persistence Large	
		Large Permanent	Stable Permanent	
		Differences	Differences	
1996	0.01662	-0.14046	0.3441	0.7014
1997	0.03402	-0.25839	0.29716	0.7635
1998	0.01879	-0.12114	0.03968	0.6577
1999	0.10999	-0.69085	2.44776	0.7038
2000	0.05328	-0.45594	0.93697	0.9233
2001	0.03256	-0.29485	0.04836	0.8173
2002	0.02779	-0.24623	0.76563	0.8496
2003	0.01335	-0.17349	0.72395	0.9335
2004	0.08974	-0.67221	1.136	0.916
2005	0.03155	-0.23976	0.4291	0.9305
2006	0.02903	-0.29964	0.60926	0.9576
2007	0.00891	-0.04419	0.80447	0.9792
2008	0.01808	-0.2197	-0.0657	0.9011

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