Internet Appendix
for
"Changes in Corporate Effective Tax Rates over the Past 25 Years"[1]

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This appendix includes additional tables as a supplement for the submitted version of the paper "Changes in Corporate Effective Tax Rates over the Past 25 Years"

Overview

Fig. IA.1: Alternative ETR measures over time
Table IA.1: Alternative ETR measures regressed on *TIME* and firm characteristics
Fig. IA.2: *CASH ETR* by industry
Fig. IA.3: Equal-weighted versus value-weighted annual *CASH ETR* over the sample period
Fig. IA.4: The effect of stock option expensing on the trend in *CASH ETRs*
Fig. IA.5: The effect of intangible assets on the trend in *CASH ETRs*
Fig. IA.6: The effect of Sarbanes Oxley on the trend in *CASH ETRs*
Fig. IA.7: The effect of temporary and permanent differences on current ETRs (full sample)
Fig. IA.8: The effect of temporary and permanent differences on current ETRs – Multinational firms
Fig. IA.9: The effect of temporary and permanent differences on current ETRs – Domestic firms
Fig. IA.10: Types of book-tax differences contributing to ETR declines for a subsample of 50 firms using hand-collected data. Full sample.
Fig. IA.11: Types of book-tax differences contributing to ETR declines for a subsample of 25 firms using hand-collected data. Multinational firms.
Fig. IA.12: Types of book-tax differences contributing to ETR declines for a subsample of 25 firms using hand-collected data. Domestic firms.
Fig. IA.13: Median percent change in ETRs by type of book-tax differences using hand-collected data. Full sample.
Fig. IA.14: Median percent change in ETRs by type of book-tax differences using hand-collected data. Multinational firms.
Fig. IA.15: Median percent change in ETRs by type of book-tax differences using hand-collected data. Domestic firms.

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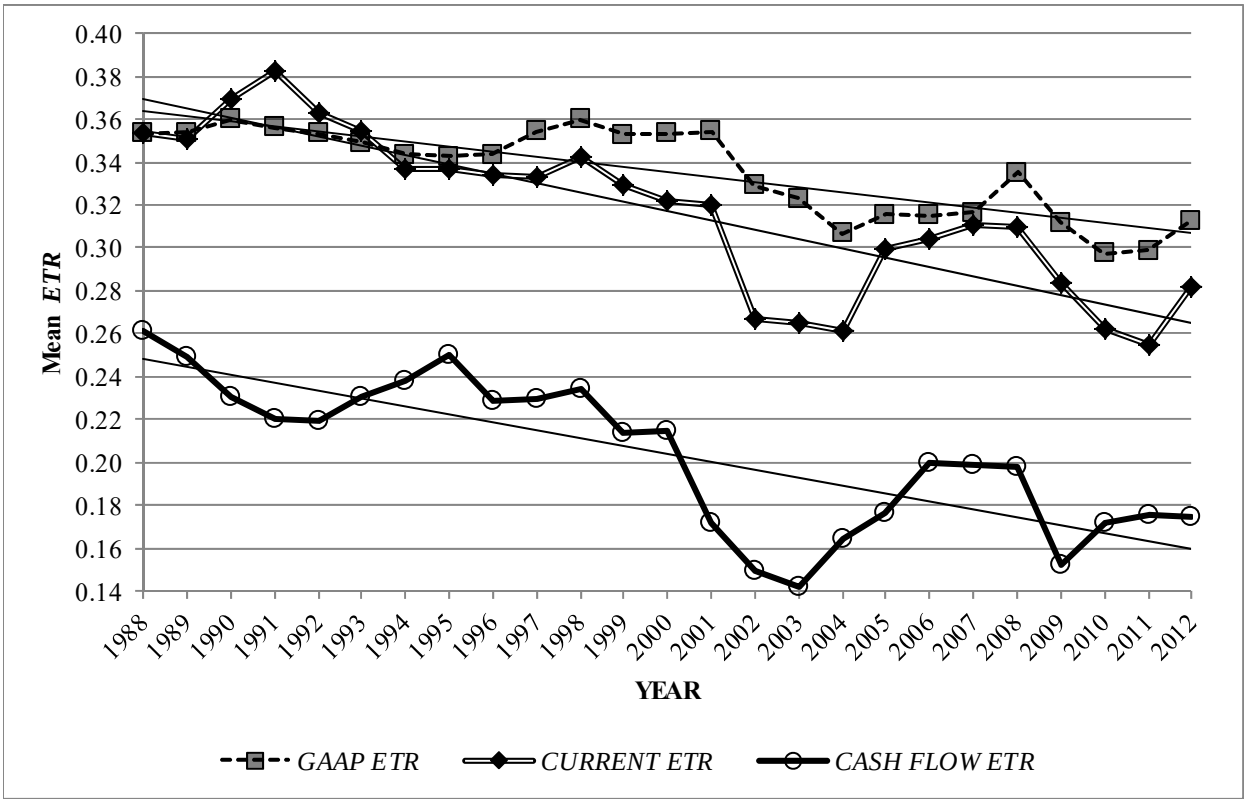
Any queries (other than missing material) should be directed to the authors of the article.

Fig. IA.1: Alternative ETR measures over time



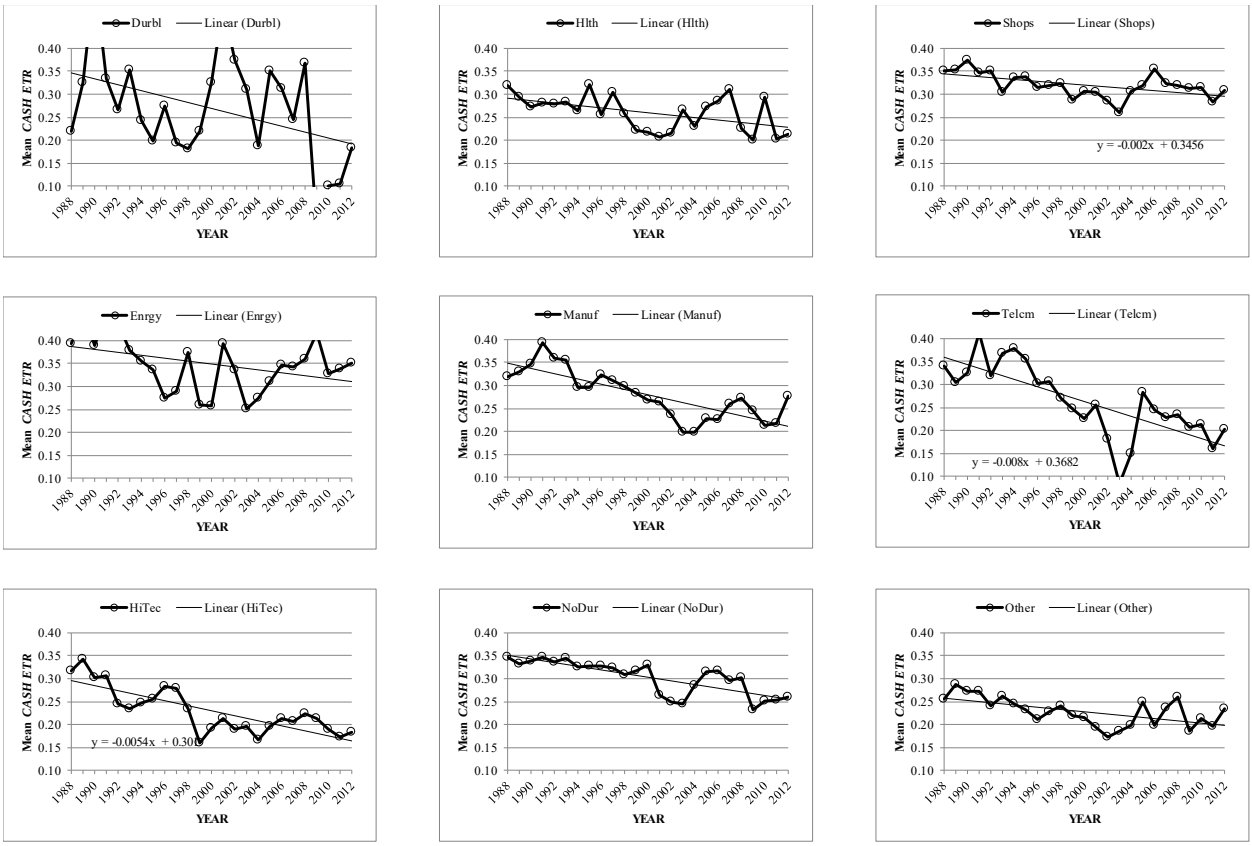
This figure plots the annual mean of several alternate effective tax rates measures over the sample period, 1988-2012. The panel plots the annual *GAAP ETR, CURRENT ETR,* and *CASH FLOW ETR*. *GAAP ETR* is total tax expense divided by pretax income. *CURRENT ETR* is current tax expense divided by pretax income. *CASH FLOW ETR* is the ratio of current-year cash taxes paid to current year pre-tax cash flow from operations. All observations are subject to the criteria described in Table 1.

Table IA.1: Alternative ETR measures regressed on *TIME* and firm characteristics

	Dependent Variable =		
	GAAP ETR	***CURRENT ETR***	***CASH FLOW ETR***
TIME	-0.287***	-0.614***	-0.486***
MNE	2.826***	2.258***	0.338
*MNE*TIME*	-0.142***	0.088*	0.051
LOG ASSETS	0.595**	0.589***	0.290*
*LOG ASSETS*TIME*	-0.025	-0.020	0.005
R&D EXPENSE	-14.105*	0.782	-48.340***
*R&D EXPENSE*TIME*	-0.702*	-0.335	-0.300
PP&E	-3.719***	-15.034***	-22.144***
*PP&E*TIME*	0.382***	0.195	0.266**
INTANGIBLE ASSETS	19.064***	0.826	-6.471**
*INTANG*TIME*	-0.547***	0.036	0.049
LEVERAGE	2.833	-1.904	-12.526***
*LEVERAGE*TIME*	-0.275**	-0.332**	0.205*
CAPITAL EXPENDITURES	1.700	-2.883	13.624***
*CAPITAL EXPENDITURES * TIME*	0.091	0.156	-0.634***
ADVERTISING EXPENSE	-0.705	-1.634	3.966
*ADVERTISING*TIME*	0.107	0.408	0.068
SPECIAL ITEMS	-92.240***	-277.631***	-4.359
*SPECIAL ITEMS*TIME*	-0.603	3.793	0.597
LAGGED SPECIAL ITEMS	16.746**	62.983***	67.608***
*LAGGED SPECIAL ITEMS*TIME*	-0.425	-2.151***	-2.011***
NOL	-4.682***	-6.138***	-9.118***
*NOL*TIME*	0.152***	0.119***	0.327***
ΔNOL	2.586	0.587	0.522
*ΔNOL*TIME*	-0.096	0.016	-0.050
INDUSTRY FIXED EFFECTS	YES	YES	YES
N	54,028	52,161	49,573
ADJRSQ	0.081	0.127	0.166

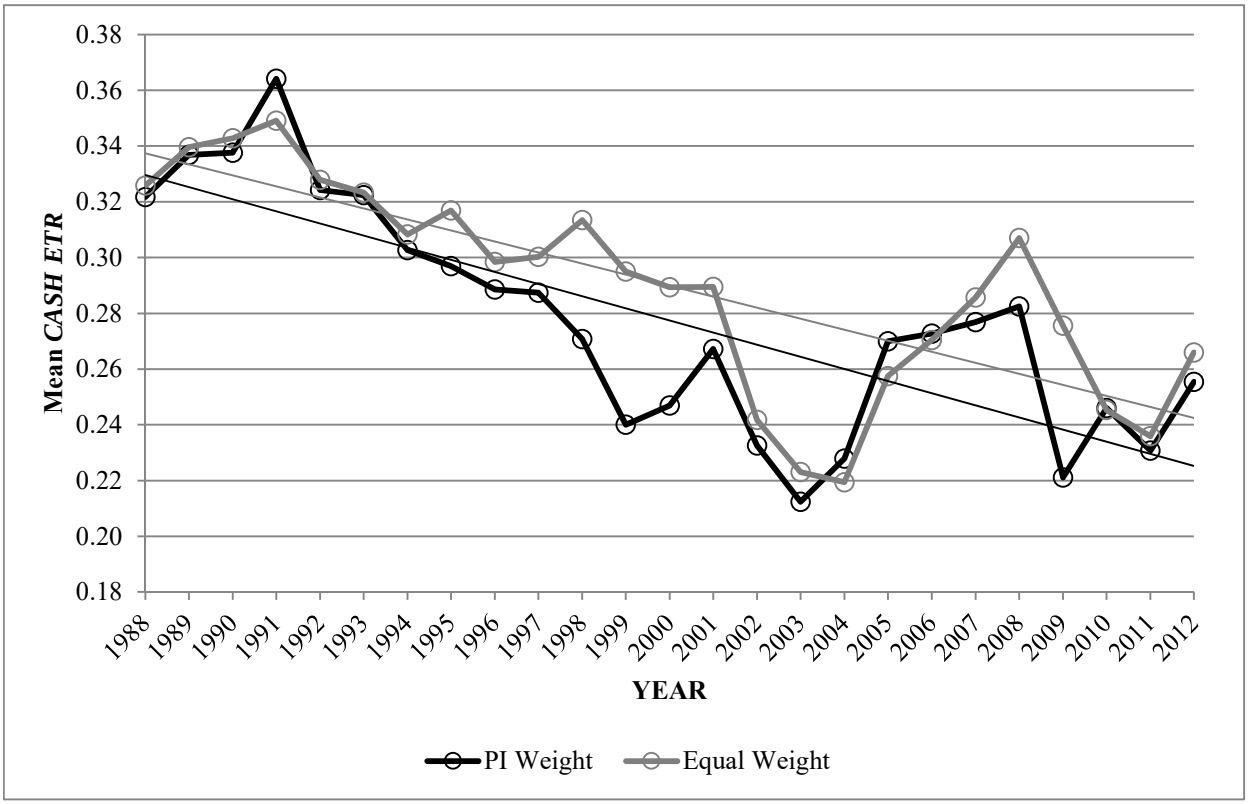
In this table, we report the results of estimating equation (3), except we change the dependent variable to *GAAP ETR*, *CURRENT ETR*, or *CASH FLOW ETR*. *GAAP ETR* is total tax expense divided by pretax income. *CURRENT ETR* is current tax expense divided by pretax income. *CASH FLOW ETR* is the ratio of current-year cash taxes paid to current year pre-tax cash flow from operations. All other variables are as defined in Table 2. The estimation includes industry fixed effects based on the Barth et al., (2005) classification schema. In all three models, standard errors are clustered by firm and year. T-statistics are omitted to save space. The superscripts ***, **, and * represent statistical significance at the one, five and ten percent levels, respectively.

Fig. IA.2: *CASH ETR* by industry



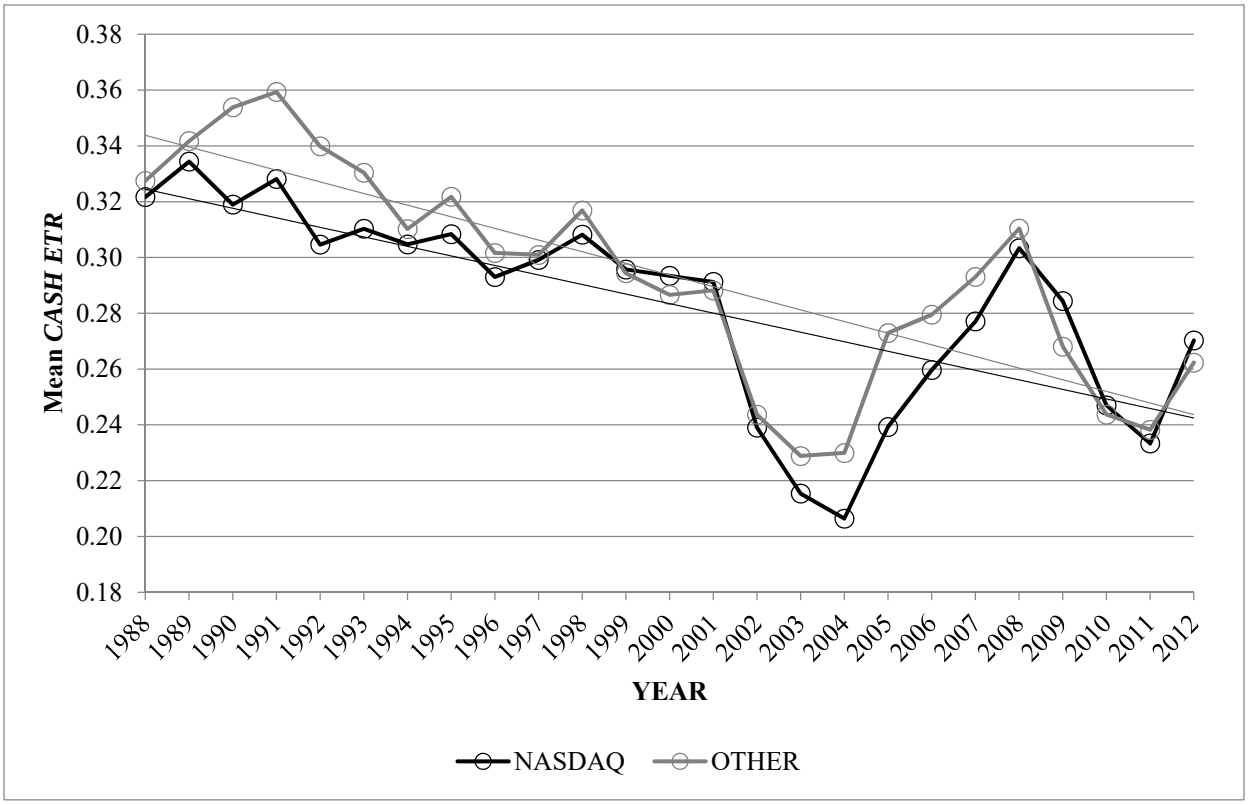
This figure plots the mean annual *CASH ETR* over the sample period, 1988-2012, for nine different industries: Durable Goods, Health Care, Shops and Retail, Energy, Manufacturing, Telecom, High Tech, Non-durable Goods, and Other, based on the Fama/French 10 classification schema. *CASH ETR* is the ratio of current-year cash taxes paid to current year pretax income. All observations are subject to the criteria described in Table 1 in the paper.

Fig. IA.3: Equal-weighted versus value-weighted annual *CASH ETR* over the sample period



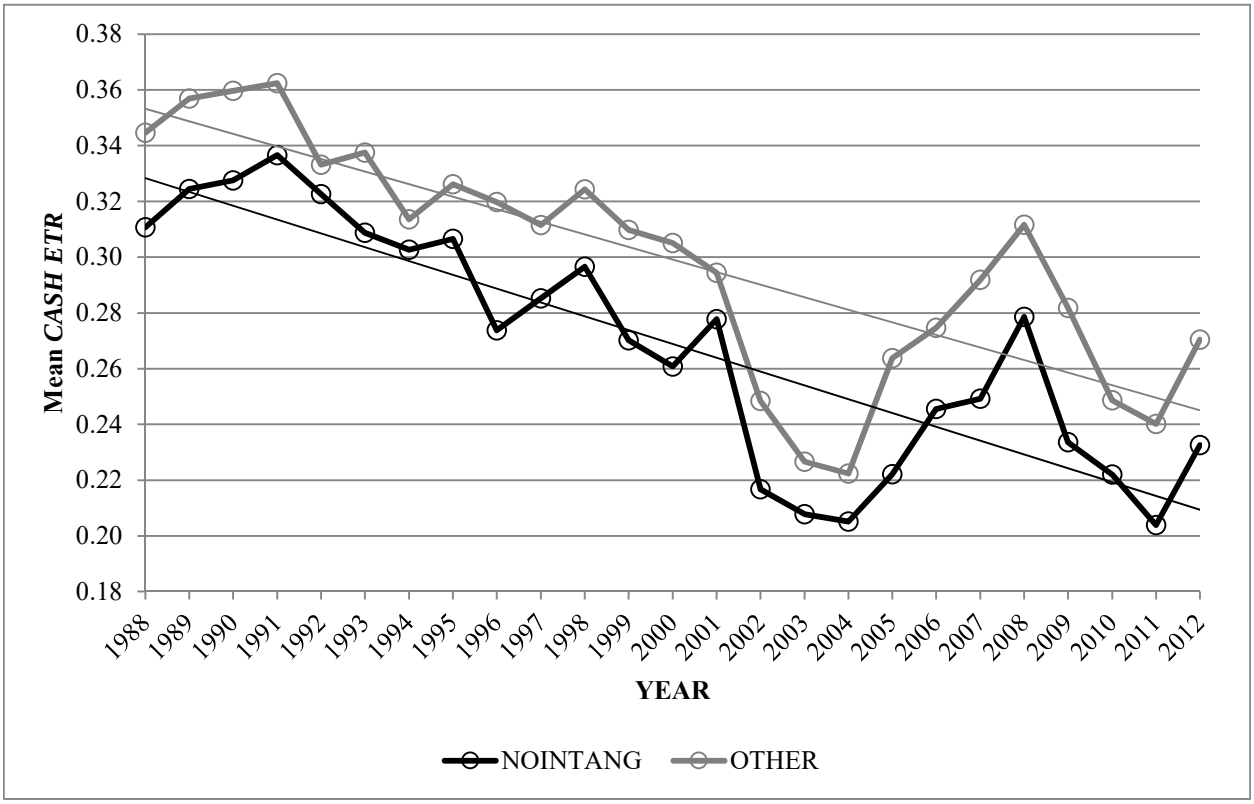
This figure plots the equal-weighted and value-weighted mean annual *CASH ETR* over the sample period, 1988-2012. In computing the value-weighted *CASH ETR*, the yearly average is weighted by the firm's annual pretax income. *CASH ETR* is the ratio of current-year cash taxes paid to current year pretax income. All observations are subject to the criteria described in Table 1 of the paper.

Fig. IA.4: The effect of stock option expensing on the trend in *CASH ETRs*



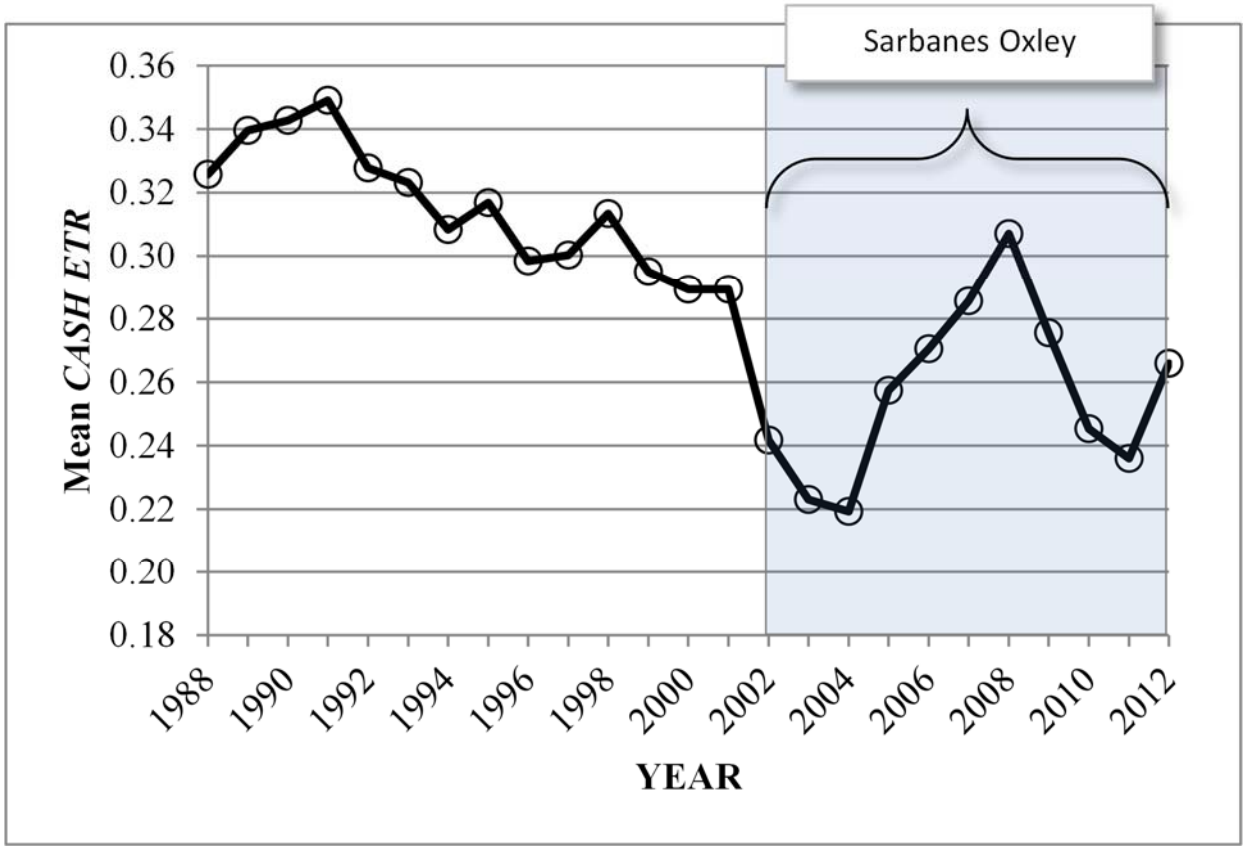
This figure plots the mean *CASH ETR* of firms in our sample that are listed on the NASDAQ and other firms in our sample. Graham, Lang, and Shackelford (2004) suggest that NASDAQ firms are heavy users of employee stock options. Because the accounting for employee stock options has changed over our sample period, it is possible that *CASH ETR* is systematically different for firms that grant substantial employee stock options relative to those that do not. The figure suggests that the accounting effect of employee stock options is not driving the downward trend in *CASH ETR*.

Fig. IA.5: The effect of intangible assets on the trend in *CASH ETRs*



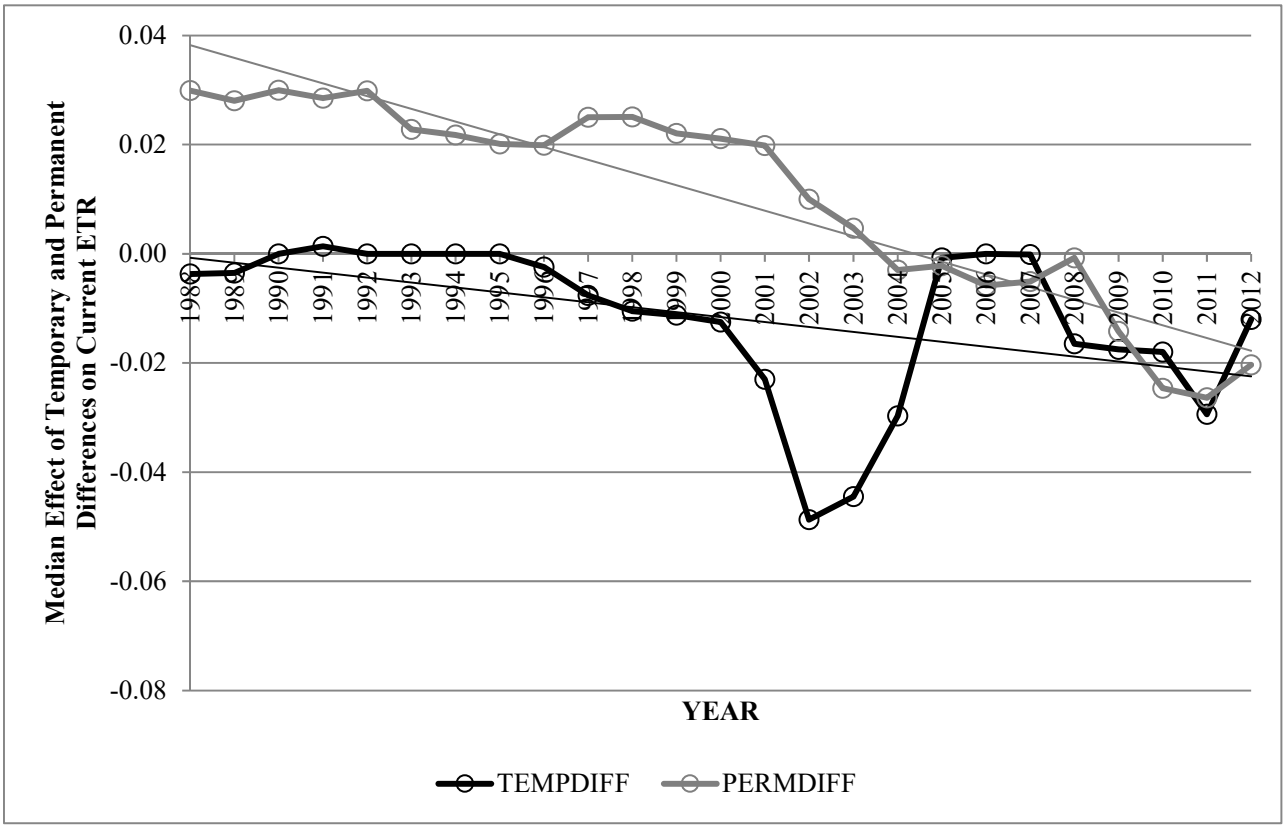
This figure plots the mean *CASH ETR* of firms in our sample that have no recorded intangible assets and other firms in our sample. Because the accounting for goodwill has changed over our sample period (i.e., was amortized over 40 years until 2002, when the rules changed to goodwill not being amortized but instead tested for impairment), it is possible that *CASH ETR* is systematically different for firms that recorded substantial intangible assets and would be subject to this accounting change relative to firms that did not record intangible assets. The figure suggests that the accounting effect of goodwill is not driving the downward trend in *CASH ETR*.

Fig. IA.6: The effect of Sarbanes Oxley on the trend in *CASH ETRs*



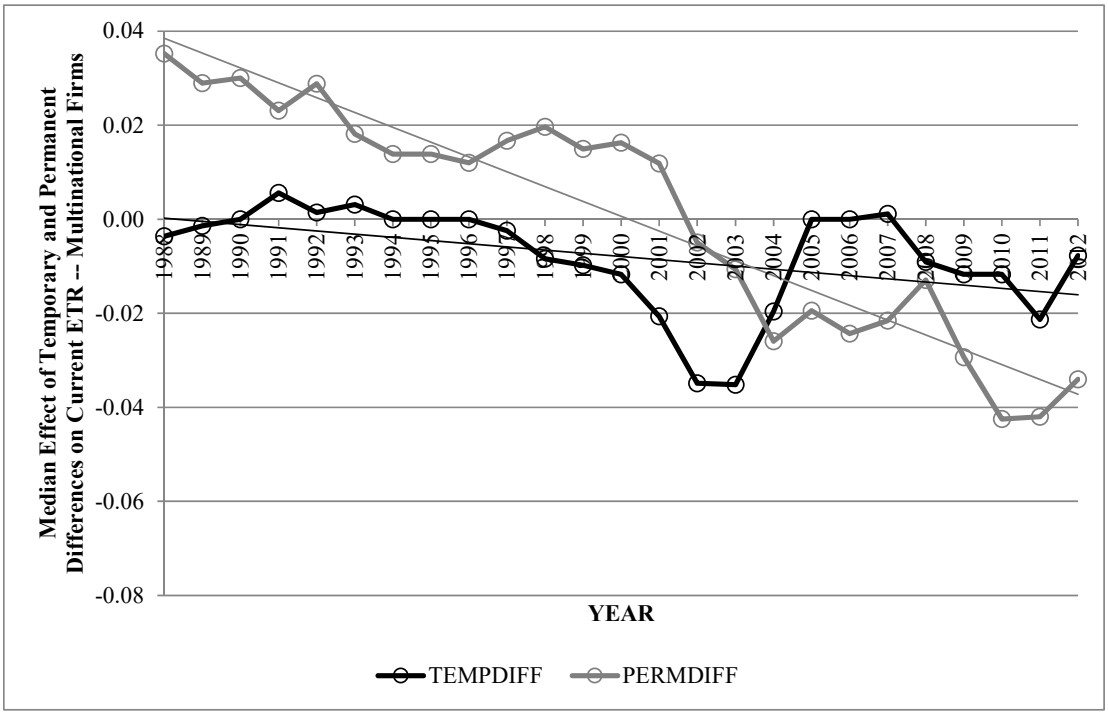
This figure plots the mean *CASH ETR* of firms in our sample over time and highlights the period after Sarbanes Oxley. As can be seen, the trend in effective tax rates during this period is not stable.

Fig. IA.7: The effect of temporary and permanent differences on current ETRs (full sample)



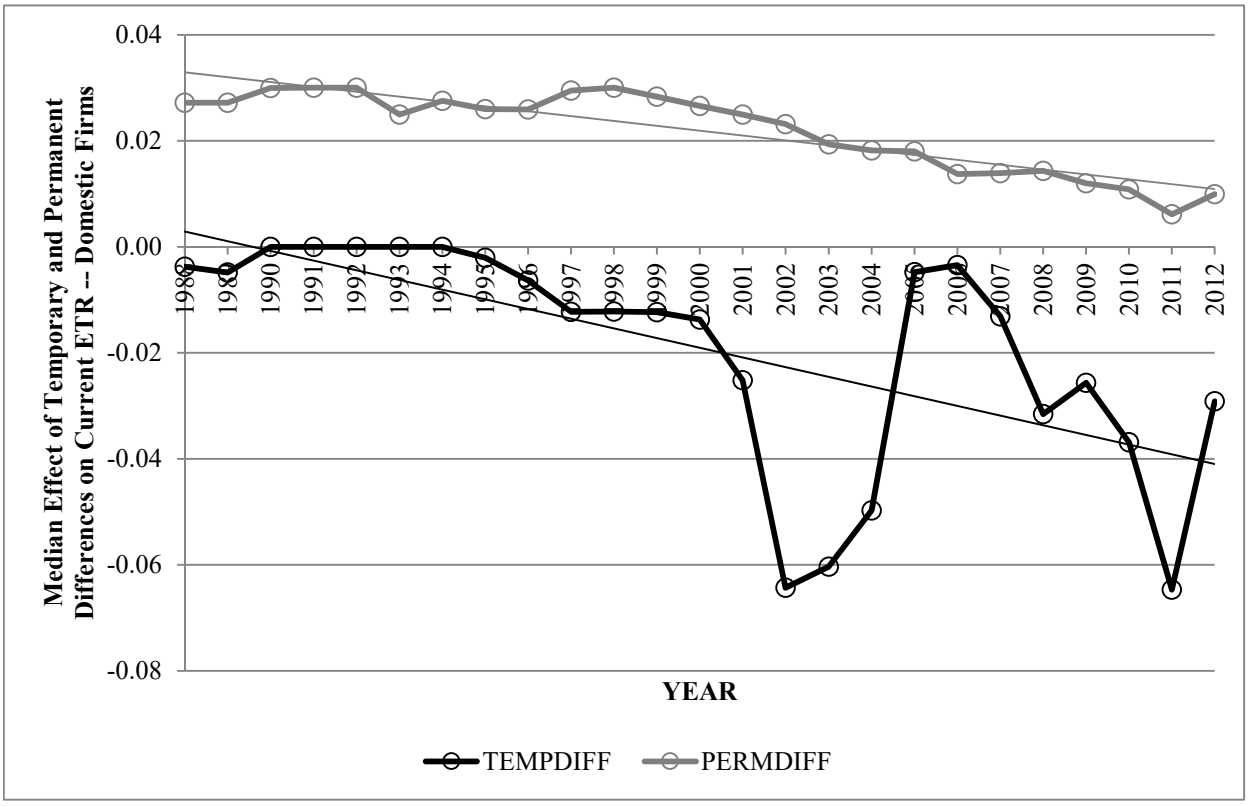
This figure plots the estimated effect of temporary and permanent book-tax differences on the current ETR over time for our entire sample of firms (multinational companies and domestic-only companies. We follow Edwards et al. (2016) in parsing book-tax differences into those that are temporary in nature (will reverse in the future, e.g., depreciation) and those that are permanent in nature (will never reverse, e.g. municipal bond interest). *PERMDIFF* equals negative one multiplied by the difference between the statutory tax rate and the ratio of total tax expense to pretax income [-1*(35% - TXT/PI]. *TEMPFIFF* equals negative one multiplied by the ratio of deferred tax expense to pretax income [-1*(TXDFED+ TXFO)/PI]. By multiplying each measure by negative one, lower values of *PERMDIFF* and *TEMPDIFF* indicate increased tax avoidance (just as lower values of *CASH ETR* indicate increased tax avoidance). For example, in 1980 temporary differences reduced the median current ETR by less than 1 percentage point and permanent differences increased the current ETR by roughly 3 percentage points. In 2012, temporary differences had the effect of reducing the current ETR by roughly 1 percentage point and permanent differences reduced the median current ETR by roughly 2 percentage points. We present the median effects to avoid the influence of outliers. Note that these effects are with respect to the current ETR, because the *CASH ETR* is not reconciled in the financial statements.

Fig. IA.8: The effect of temporary and permanent differences on current ETRs – Multinational firms



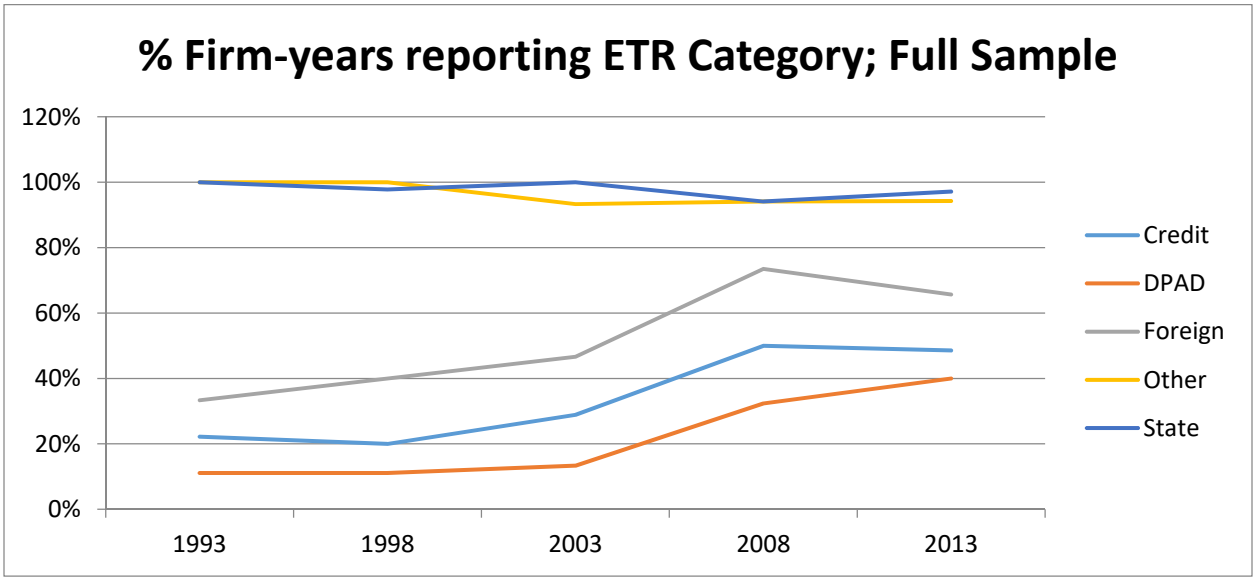
This figure is the same as Fig. IA.7, but for the subsample of multinational firms.

Fig. IA.9: The effect of temporary and permanent differences on current ETRs – Domestic firms



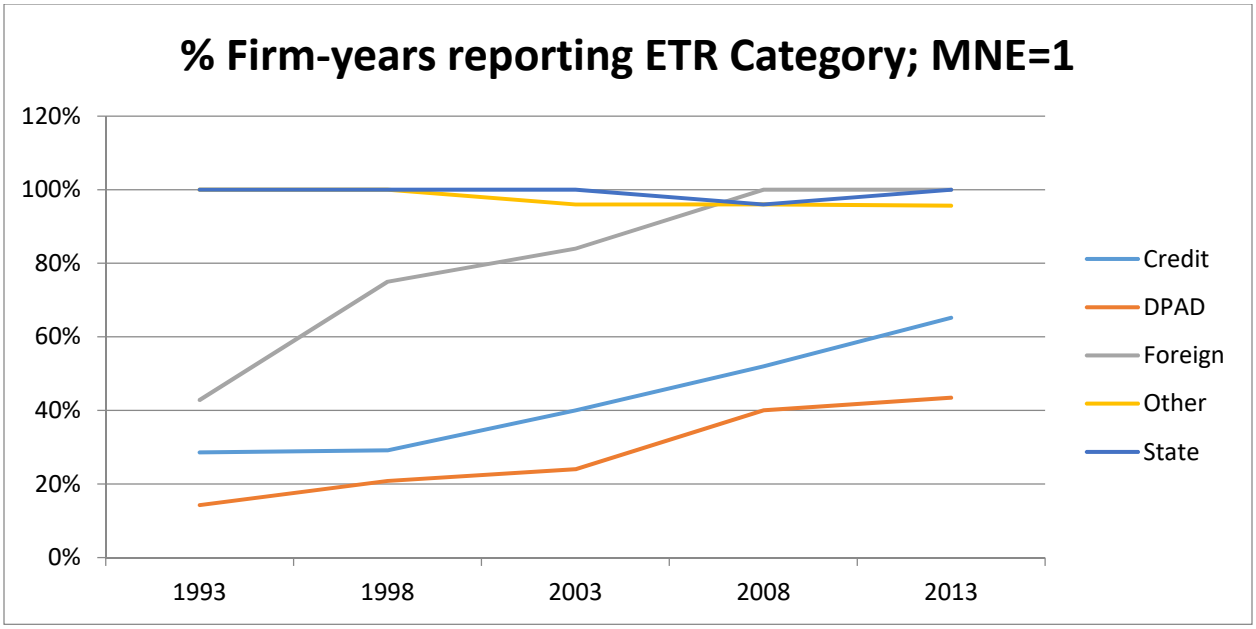
This figure is the same as Fig. IA.7, but for the subsample of domestic-only firms.

Fig. IA.10: Types of book-tax differences contributing to ETR declines for a subsample of 50 firms using hand-collected data. Data plotted are the percent of firm years that report the permanent-type book-tax difference category listed (N=50)



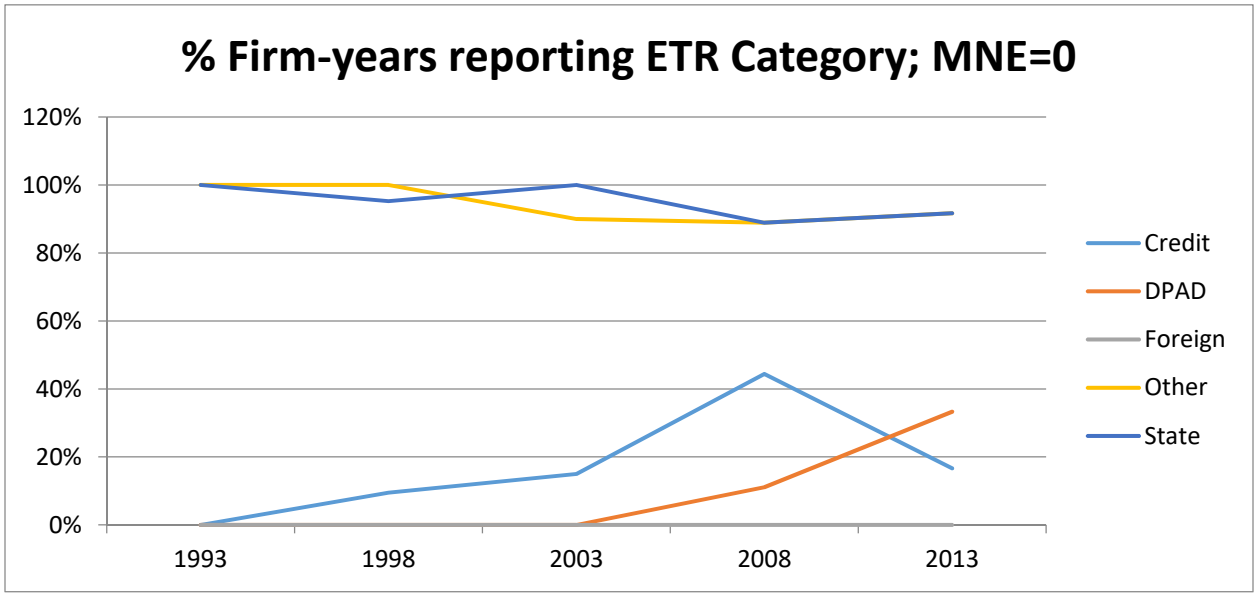
This figure presents data obtained via hand-collection from the 10-Ks of 50 firms in our sample (25 multinational firms and 25 domestic firms). The permanent-type book-tax differences are obtained from the rate reconciliation in the tax note to the financial statements. This figure presents the percent of firm-years in the hand-collected sample that report each type of difference. There are five general categories of permanent book tax differences in the rate reconciliation: Credit, DPAD, Foreign, State, and Other. Credit includes permanent differences related to tax credits, tax credit carryforwards and AMT credits. DPAD represents the disclosure of the Domestic Production Activities Deduction as well as deductions similar to it in spirit that were in place prior to IRC Section 199 (e.g., Foreign Sales Corporation). Foreign represents the disclosure of a permanent differences for foreign rates being lower than the U.S. rate as well as effects of the foreign tax credit. This item would require the firm to have designated the earnings as indefinitely reinvested in the foreign jurisdiction to then not be required to accrue the U.S. tax on the unremitted foreign earnings (ASC 740). State represents state tax rate effects (that generally increase the firm's taxes above the statutory 35% Federal rate). Other include all other items firm disclose (e.g., municipal bond interest, tax authority settlements, differences from M&A, tax exempt income, nondeductible expenses, etc.).

Fig. IA.11: Types of book-tax differences contributing to ETR declines for a subsample of 25 firms using hand-collected data. Data plotted are the percent of firm years that report the permanent-type book-tax difference category listed. Multinational firms only (N=25)



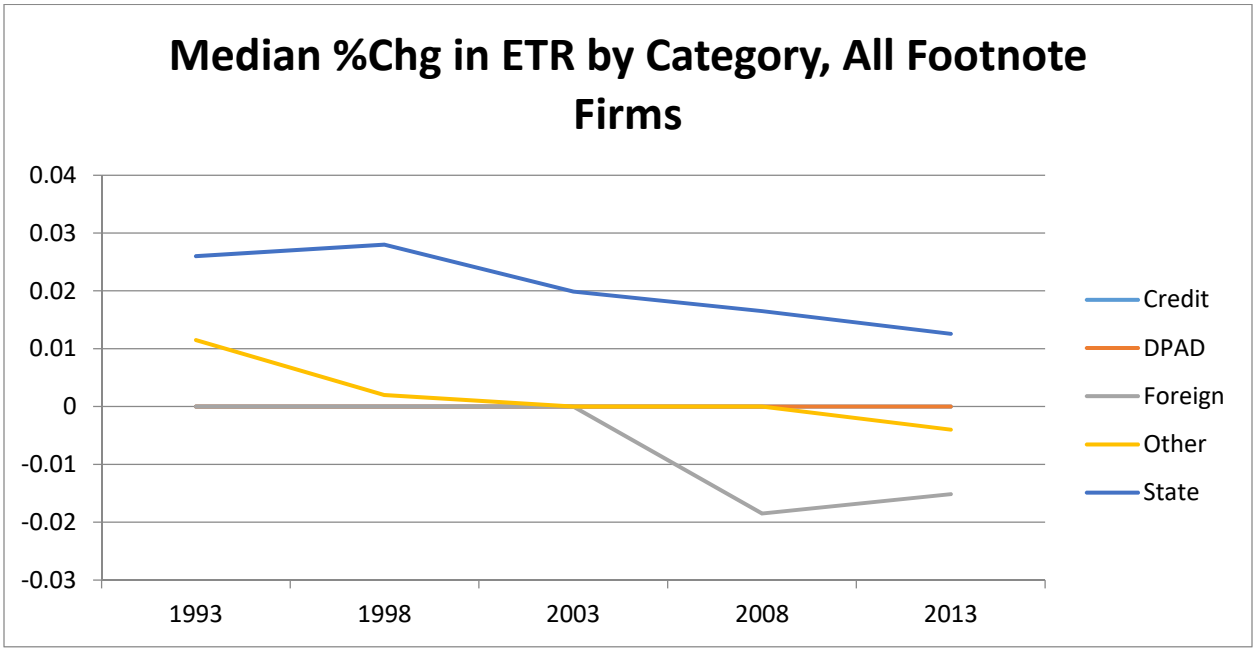
This figure is the same as Fig. IA.10, but includes only the multinational firm observations.

Fig. IA.12: Types of book-tax differences contributing to ETR declines for a subsample of 25 firms using hand-collected data. Data plotted are the percent of firm years that report the permanent-type book-tax difference category listed. Domestic-only firms (N=25)



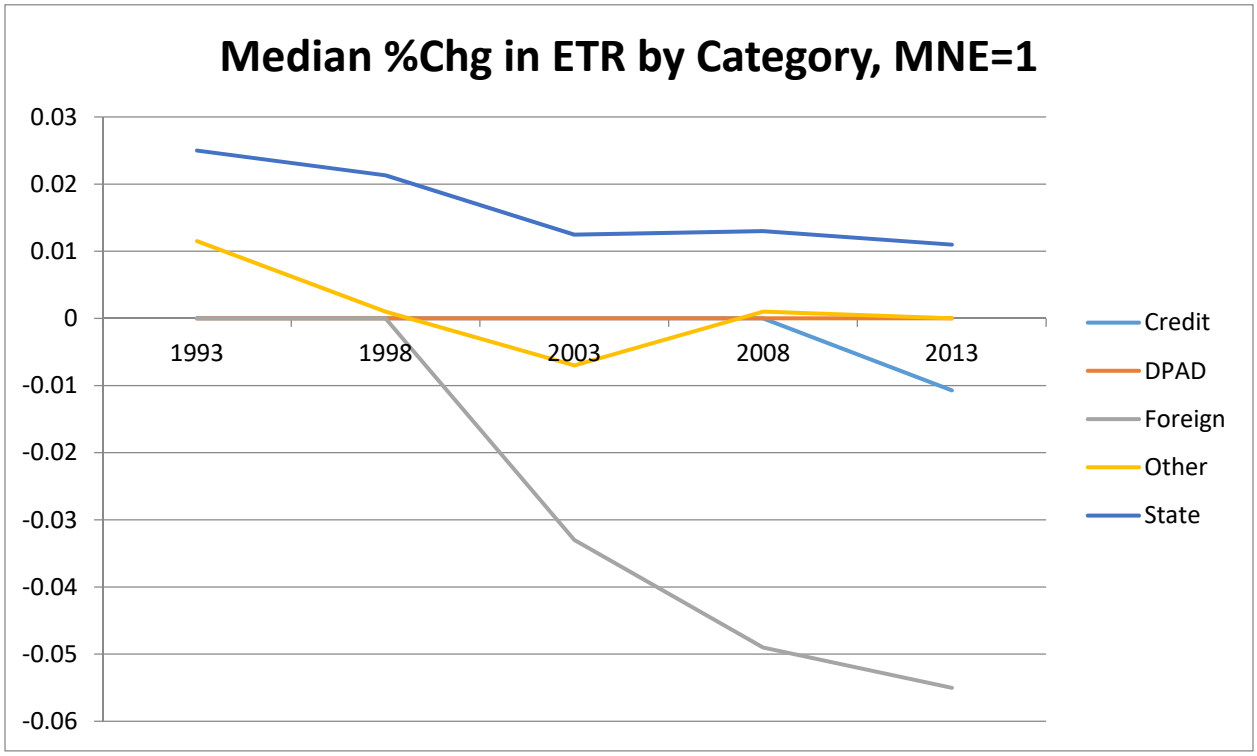
This figure is the same as Fig. IA.10, but includes only the domestic-only firm observations.

Fig. IA.13: Types of book-tax differences contributing to ETR declines for a subsample of 50 firms using hand-collected data. Data plotted are the median percent change of the permanent-type book-tax difference categories listed (N=50)



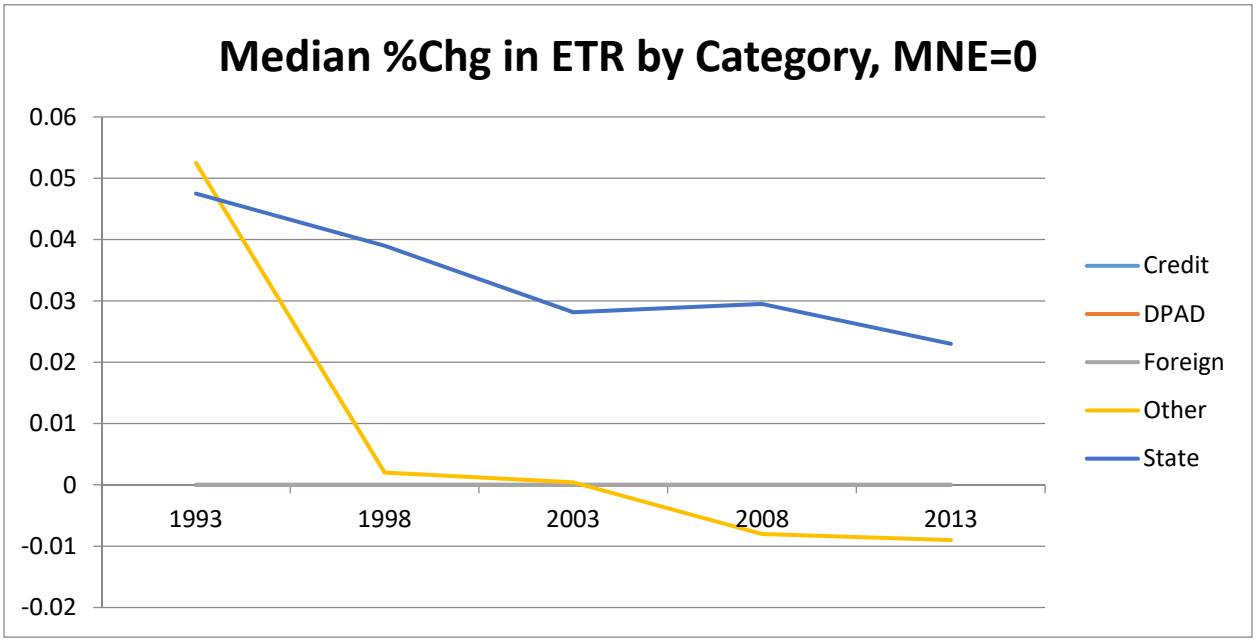
This figure is the same as Fig. IA.10, but presents the median percent change for each measure rather than the percent of firm years.

Fig. IA.14: Types of book-tax differences contributing to ETR declines for a subsample of 50 firms using hand-collected data. Data plotted are the median percent change of the permanent-type book-tax difference categories listed. Multinational firms only (N=25)



This figure is the same as Fig. IA.13, but includes only the multinational firm observations.

Fig. IA.15: Types of book-tax differences contributing to ETR declines for a subsample of 50 firms using hand-collected data. Data plotted are the median percent change of the permanent-type book-tax difference categories listed. Domestic-only firms (N=25)



This figure is the same as Fig. IA.13, but includes only the domestic-only firm observations.