Informativeness of Earnings and Tax Reconciliation

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Motivation

IFRS Framework

The objective is to provide information about the financial position, performance and changes in financial position of an entity that is useful to a wide range of users in making economic decisions.

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- $\Rightarrow$ Differences between theoretical and actual tax expenses: Book-Tax-Difference

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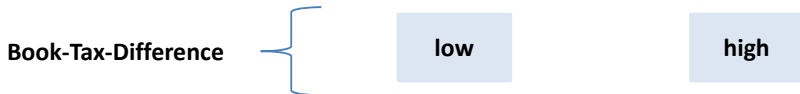
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Book-Tax-Difference

low	high

IAS 12.81 tax reconciliation

„The following should be disclosed [...]

a numerical reconciliation between tax expense (income) and the product of accounting profit multiplied by the applicable tax rate [...]."

Example Tax Reconciliation

| Tax reconciliation € million	2007
Income from continuing operations before tax	**5,233**
Theoretical tax expense	**2,062**
Differences from foreign tax rates	-377
Tax effects on	
Tax-free domestic dividend income	-118
Tax-free foreign dividend income	-24
Other tax-free income	-26
Expenses not deductible for tax purposes	150
Impairment losses on goodwill from capital consolidation	
Accounting for associates using the equity method (including impairment losses on associates' goodwill)	-57
Unutilizable loss carryforwards and/or utilization of unrecognized loss carryforwards and write-downs on loss carryforwards	34
Income on the disposal of investments	-185
Changes in domestic tax rates	256
Changes in foreign tax rates	-66
Other	427
Effective tax expense	**2,076**
Effective tax rate in %	39.7

Annual Report RWE 2007

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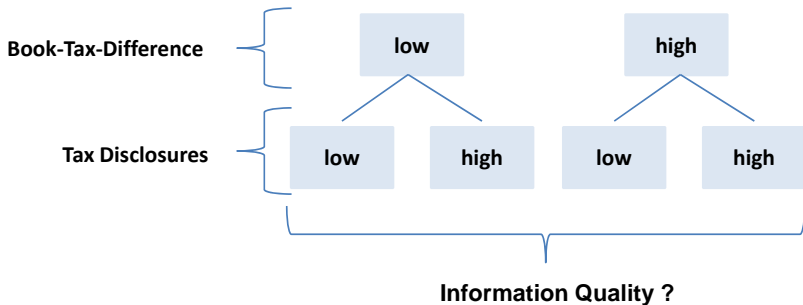
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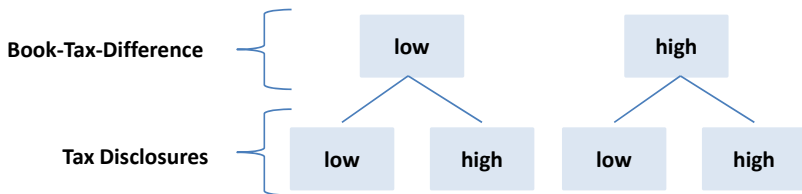
Research Question

Literature

Conformity decreases earnings informativeness

Guenther et al. (1997), Ali and Hwang (2000), Hanlon and Shevlin (2005), Hanlon et al. (2005), Hanlon et al. (2008), Atwood et al. (2009)

Conformity increases earnings informativeness

Desai (2005), Hanlon (2005)

Hypotheses & Model

H1: In the absence of other information earnings of companies with higher BTD are more informative.

H2: Earnings of companies with high BTD are more informative when a detailed tax reconciliation is disclosed.

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H2: Earnings of companies with high BTD are more informative when a detailed tax reconciliation is disclosed.

Difference-in-Difference ERC - Francis et al. 2005

$R_t = \alpha + \beta_1 dBTD_{abs} + \beta_2 dLI + \beta_3 \Delta E + \beta_4 dBTD_{abs} \times \Delta E + \beta_5 dBTD_{abs} \times dLI + \beta_6 \Delta E \times dLI + \beta_7 dBTD_{abs} \times \Delta E \times dLI + \epsilon$

where R_t is the stock return, $dBTD_{abs}$ is an indicator variable for the expected tax rate minus the effective tax rate, dLI is an indicator variable of the number of line items in the tax reconciliation.

Data

- Annual reports - notes
- Compustat Global Industrial and Financial
- Compustat Securities
- I/B/E/S
- Years 2000 - 2007

Sample Selection

No. of DAX-Companies	38	
No. of MDAX-Companies	113	
therof also DAX-Companies	-11	
Total	140	
Missing Companies due to default/merger	-3	
Theoretical No. of Observations	1096	
Missing Annual Reports	-24	
IPO/Merger/Delisting	-130	
Analyzed Annual Reports	942	
Missing Compustat Information	-10	
Total No. of Observations	932	
without Tax Reconciliation	216	
with Tax Reconciliation	716	
HGB		23
US-GAAP		140
IFRS		553
Final Sample without HGB and US-GAAP	553	
Missing Data of Test Variables	-39	
Total Sample	514	
HIBTC-LD		141
HIBTC-HD		116
LOBTC-LD		146
LOBTC-HD		111

Frequency Book-Tax-Differences
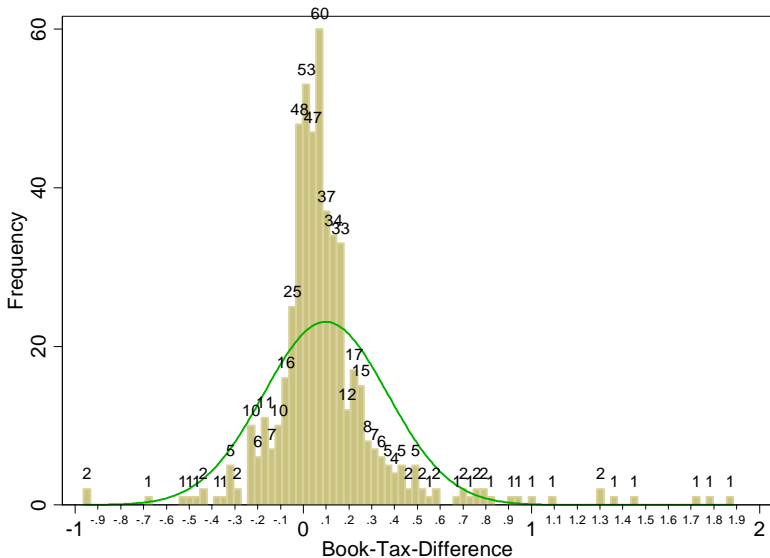
Number of Line Items in Tax Reconciliation Table

LI	Freq.	Percent	Cum.
2	7	1.36	1.36
3	18	3.5	4.85
4	47	9.13	13.98
5	69	13.4	27.38
6	98	19.03	46.41
7	89	17.28	63.69
8	67	13.01	76.7
9	54	10.49	87.18
10	37	7.18	94.37
11	13	2.52	96.89
12	14	2.72	99.61
14	2	0.39	100
Total	514		

Main Items Tax Reconciliation

	N	Mean	Median	positive Values		negative Values	
				N	Mean	N	Mean
Tax Rate Differences	461	-5.8%	-2.9%	105	5.8%	351	-9.3%
Other	475	1.3%	0.0%	237	9.5%	223	-7.5%
Tax-free Income	304	-12.8%	-4.7%	35	19.3%	260	-17.5%
Non-deductible Expenses	326	7.4%	2.7%	287	10.5%	36	-16.7%
Non-taxable Inc. & Exp.	108	-12.0%	0.0%	51	11.8%	55	-34.5%
Permanent Differences	83	3.6%	0.9%	54	13.7%	21	-21.0%
Aperiodic Effects	345	-2.8%	0.0%	173	3.8%	162	-10.0%
Change Tax Rate/Law	233	5.4%	0.0%	75	33.0%	115	-10.7%
Goodwill	186	1.9%	0.4%	109	8.7%	40	-14.7%
Equity Investments	108	-3.6%	-0.3%	36	3.9%	20	-11.6%
Subsidiaries	50	-3.1%	0.0%	21	3.6%	20	-11.6%
(De-)Consolidation	58	-8.1%	0.0%	20	6.5%	29	-20.7%
Valuation Allowance	162	3.0%	0.0%	76	25.6%	78	-18.7%
Unrecognized Deferred Tax	93	-0.7%	2.2%	61	12.9%	30	-28.6%
Loss/ Loss Carryforward	229	-1.6%	0.0%	107	9.1%	112	-12.0%
Provisions	29	1.7%	0.0%	15	5.3%	7	-4.2%
Tax Credits	41	-8.5%	-3.1%	5	7.4%	30	-12.9%
Other Income Tax	71	0.7%	0.9%	59	1.6%	11	-3.7%
Domestic Trade Tax	97	2.5%	1.0%	59	8.0%	35	-6.7%
Dividend Distribution	61	-1.4%	0.0%	7	4.7%	28	-4.2%

Descriptive Statistics by Group

	High Book-Tax Conformity (n= 257) HIBTC-LD n = 141		Low Book-Tax Conformity (n= 257) LOBTC-LD n = 146		
	Mean	Median	Mean	Median	
BTD	0.021	0.018	0.231	0.169	(0.0016)
LI	4.872	5.000	5.740	6.000	(0.0055)
EffTR	0.369	0.372	0.159	0.221	(0.0017)
R	0.270	0.198	0.095	0.036	(0.0036)
∆E	0.017	0.012	0.017	0.014	(0.8179)
E/MVE	0.089	0.067	0.052	0.071	(0.0203)
MVE	4,968.453	1,679.471	8,708.836	2,997.690	(0.0236)
TA	22,173.360	2,150.223	101,305.300	7,973.900	(0.0001)
B/M	0.615	0.432	0.787	0.725	(0.0016)
LEV	0.193	0.171	0.202	0.163	(0.3892)
LOSS	0.021	0.000	0.205	0.000	(0.0000)
DIV	0.039	0.013	0.012	0.009	(0.3335)
ADR	0.170	0.000	0.192	0.000	(0.5415)
ANALYST	18.377	17.750	17.239	15.250	(0.1535)

BTD is the expected tax rate minus the effective tax rate, LI is the number of line items in the tax reconciliation, R is the 12 months return starting in the 4th month after the end of fiscal year t-1, ΔE is the change in net income between t-1 and t, MVE is the market capitalization, TA are total assets, E/MVE_t is the current earnings to price ratio, B/M is the book-to-market-value, LEV is the total debt scaled by total assets in t, $EffTR$ is the effective tax rate, $LOSS$ is an indicator variable for earnings <0, DIV are dividends scaled by total assets t, ADR is an indicator variable for listing in the US, $ANALYST$ is the number of analysts following.

Descriptive Statistics by Group ctd.

	HIBTC-HD n= 116			LOBTC-HD n = 111		
	Mean	Median		Mean	Median	
BTD	0.022	0.039		0.251	0.166	(0.0049)
	(0.4929)			(0.8473)		(0.0000)
LI	8.500	8.000		9.234	9.000	(0.7780)
	(0.0000)			(0.0000)		(0.6999)
EffTR	0.368	0.350		0.137	0.223	(0.0047)
	(0.5843)			(0.8255)		(0.0000)
R	0.213	0.192		0.223	0.128	(0.9950)
	(0.6472)			(0.0620)		(0.5974)
∆E	0.022	0.016		0.036	0.011	(0.6045)
	(0.8017)			(0.5278)		(0.3398)
E/Pt-1	0.070	0.072		0.105	0.070	(0.2699)
	(0.2455)			(0.0488)		(0.6244)
MVE	8,251.149	2,995.441		9,452.285	2,054.342	(0.7088)
	(0.0209)			(0.7132)		(0.9342)
TA	36,364.320	3,968.280		78,880.180	4,414.400	(0.0994)
	(0.5706)			(0.4306)		(0.0588)
B/M	0.625	0.508		0.771	0.626	(0.1772)
	(0.7105)			(0.8256)		(0.0807)
LEV	0.202	0.188		0.245	0.251	(0.2995)
	(0.1330)			(0.0354)		(0.2112)
LOSS	0.052	0.000		0.144	0.000	(0.0965)
	(0.0827)			(0.2054)		(0.0964)
DIV	0.0157	0.012		0.011	0.010	(0.0086)
	(0.5454)			(0.7370)		(0.0157)
ADR	0.1810	0.000		0.225	0.000	(0.6503)
	(0.5445)			(0.5134)		(0.6491)
ANALYST	19.341	19.545		17.616	15.508	(0.4192)
	(0.9170)			(0.7719)		(0.4145)

Earnings Response Coefficient Tests

		Predicted Sign	R_t	R_t
Intercept	α		0.295***	0.293***
			(0.039)	(0.042)
$dBTD_{abs}$	β_1	-	-0.102**	-0.129**
			(0.043)	(0.054)
dLI	β_2			-0.010
				(0.058)
ΔE	β_3	+	0.159	0.465
			(0.436)	(0.642)
$dBTD_{abs} \times \Delta E$	β_4	?	0.657	0.095
			(0.446)	(0.086)
$dBTD_{abs} \times dLI$	β_5	+		-0.506
				(0.672)
$\Delta E \times dLI$	β_6			-0.889
				(0.681)
$dBTD_{abs} \times \Delta E \times dLI$	β_7	+		2.033***
				(0.732)
N			514	514
$adjR^2$			0.074	0.104
hiBTC-LD	β_3			0.465
loBTC-LD	$\beta_3 + \beta_4$			-0.041
hiBTC-HD	$\beta_3 + \beta_6$			-0.424
loBTC-HD	$\beta_3 + \beta_4 + \beta_6 + \beta_7$			1.704

dBTD is an indicator variable which is one if the absolute book-tax-difference is greater than the median and zero otherwise, *dLI* is an indicator variable which is one if number of line items is greater than the median and zero otherwise $ln(R)$ is the natural log of the 12 months return starting in the 4th month after the end of fiscal year t-1, δE is the change in net income between t-1 and t.

Tests of Coefficient Differences

Book-Tax-Difference		low			high	
Tax Disclosures	low	high		low		high
Desirability	o	+		-		++
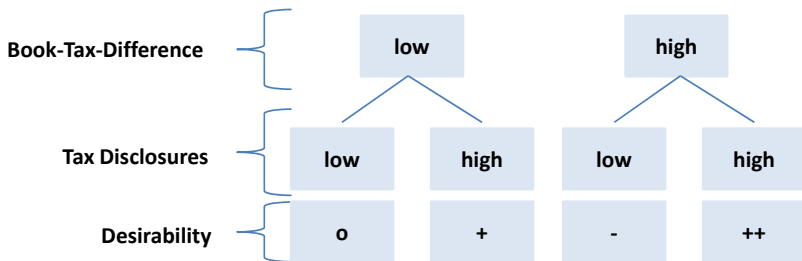
Coefficient differences between groups	Coefficients	Difference	F-statistic	p-Value
loBTC-LD vs. hiBTC-LD	(-0.041) - (0.465)	-0.506	0.57	0.453
loBTC-HD vs. loBTC-LD	(1.704) - (-0.041)	1.745	11.37	0.001
hiBTC-HD vs. hiBTC-LD	(-0.424) - (0.465)	-0.889	1.71	0.194
loBTC-HD vs. hiBTC-HD	(1.704) - (-0.424)	2.128	26.24	0.000

Conclusions

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- endogeneity bias (early vs. late adopters)

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Future Research

- Identify time series/ industry effects
- Management of effective tax rate
- International comparison

Thank you very much for your attention.

Earnings Persistence Tests

		Predicted Sign	E_{t+1}	E_{t+1}
Intercept	α		0.0490***	0.0376***
			-5.79	(-3.60)
BTD_{abs}	β_1		-0.03	-0.0280
			(-1.63)	(-1.47)
dLI	β_2			0.0290
				(1.57)
E/MVE_{t-1}	β_3	+	0.435***	0.575***
			-6.71	(7.03)
$BTD_{abs}xE/MVE_{t-1}$	β_4		-0.239	0.0160
			(-1.38)	(0.35)
$BTD_{abs}xdLI$	β_5			-0.408**
				(-2.18)
$E/MVE_{t-1}xdLI$	β_6			-0.485***
				(-3.06)
$BTD_{abs}xE/MVE_{t-1}xdLI$	β_7			1.154**
				(2.24)
N			402	402
$adjR^2$			0.146	0.158
Low BTD - few LI	β_3			0.575
High BTD - few LI	$\beta_3 + \beta_4$			0.167
Low BTD - many LI	$\beta_3 + \beta_6$			0.090
High BTD - many LI	$\beta_3 + \beta_4 + \beta_6 + \beta_7$			0.836

dBTD is an indicator variable which is one if the book-tax-difference is greater than the median and zero otherwise, *dLI* is an indicator variable which is one if number of line items is greater than the median and zero otherwise, *E* is net income before extraordinary items.

Tests of Coefficient Differences

Book-Tax-Difference	low		high	
Tax Disclosures	low	high	low	high
Desirability	o	+	-	++
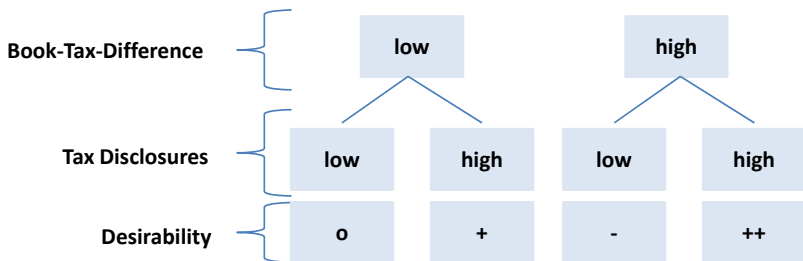
Coefficient differences between groups	Coefficients	Difference	F-statistic	p-Value
High BTD / few LI vs. Low BTD / few LI	(0.167) – (0.575)	-0.408	4.75	0.030
High BTD / many LI vs. High BTD / few LI	(0.836) – (0.167)	0.669	2.78	0.096
Low BTD / many LI vs. Low BTD / few LI	(0.09) – (0.575)	-0.485	9.38	0.002
High BTD / many LI vs. Low BTD / many LI	(0.836) – (0.09)	0.746	2.41	0.121