

# 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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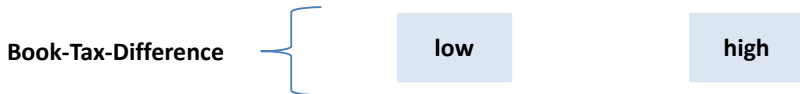
- traditionally high alignment of Tax and Local GAAP
- IFRS less conservative
- ⇒ Differences between theoretical and actual tax expenses:  
Book-Tax-Difference

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- $\Rightarrow$  Differences between theoretical and actual tax expenses:  
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## 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

<b>Tax reconciliation</b> € million	2007
<b>Income from continuing operations before tax</b>	<b>5,233</b>
<b>Theoretical tax expense</b>	<b>2,062</b>
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
<b>Effective tax expense</b>	<b>2,076</b>
Effective tax rate in %	39.7

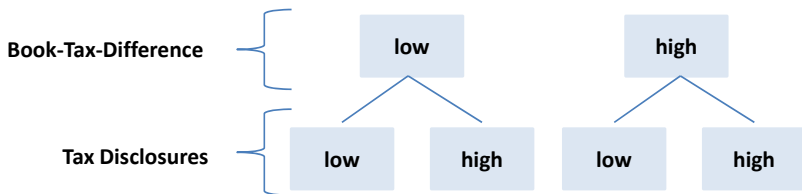
## Annual Report RWE 2007

## IAS 12.81 tax reconciliation

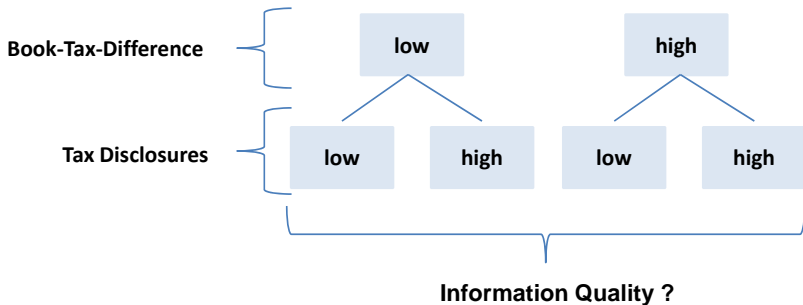
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# Research Question



# 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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## 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.

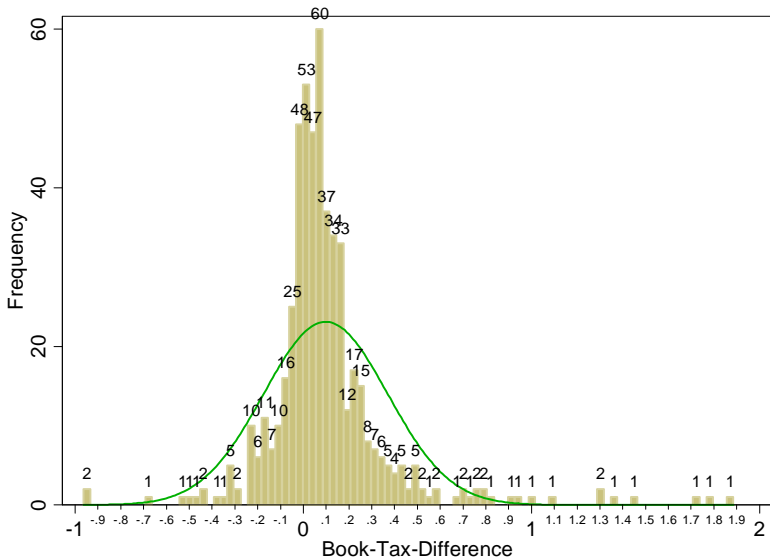
# Data

- 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	
<hr/>		
Missing Annual Reports	-24	
IPO/Merger/Delisting	-130	
Analyzed Annual Reports	942	
Missing Compustat Information	-10	
Total No. of Observations	932	
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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	
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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	
<i>BTD</i>	0.021	0.018	0.231	0.169	(0.0016)
<i>LI</i>	4.872	5.000	5.740	6.000	(0.0055)
<i>EffTR</i>	0.369	0.372	0.159	0.221	(0.0017)
<i>R</i>	0.270	0.198	0.095	0.036	(0.0036)
$\Delta E$	0.017	0.012	0.017	0.014	(0.8179)
<i>E/MVE</i>	0.089	0.067	0.052	0.071	(0.0203)
<i>MVE</i>	4,968.453	1,679.471	8,708.836	2,997.690	(0.0236)
<i>TA</i>	22,173.360	2,150.223	101,305.300	7,973.900	(0.0001)
<i>B/M</i>	0.615	0.432	0.787	0.725	(0.0016)
<i>LEV</i>	0.193	0.171	0.202	0.163	(0.3892)
<i>LOSS</i>	0.021	0.000	0.205	0.000	(0.0000)
<i>DIV</i>	0.039	0.013	0.012	0.009	(0.3335)
<i>ADR</i>	0.170	0.000	0.192	0.000	(0.5415)
<i>ANALYST</i>	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,  $\Delta E$  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.

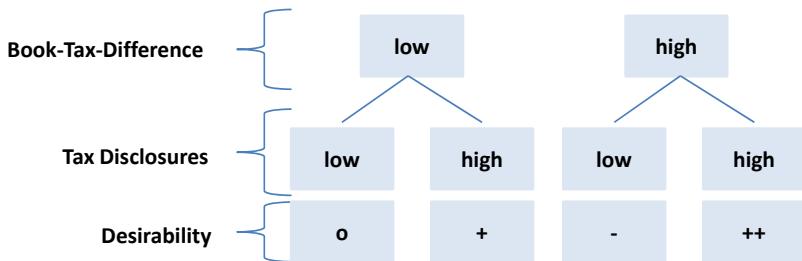
	HIBTC-HD n= 116		LOBTC-HD n = 111		
	Mean	Median	Mean	Median	
<i>BTD</i>	0.022 (0.4929)	0.039	0.251 (0.8473)	0.166	(0.0049) (0.0000)
<i>LI</i>	8.500 (0.0000)	8.000	9.234 (0.0000)	9.000	(0.7780) (0.6999)
<i>EffTR</i>	0.368 (0.5843)	0.350	0.137 (0.8255)	0.223	(0.0047) (0.0000)
<i>R</i>	0.213 (0.6472)	0.192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

## Earnings Response Coefficient Tests

		Predicted Sign	$R_t$	$R_t$
<i>Intercept</i>	$\alpha$		0.295*** (0.039)	0.293*** (0.042)
$dBTD_{abs}$	$\beta_1$	-	-0.102** (0.043)	-0.129** (0.054)
$dLI$	$\beta_2$			-0.010 (0.058)
$\Delta E$	$\beta_3$	+	0.159 (0.436)	0.465 (0.642)
$dBTD_{abs} \times \Delta E$	$\beta_4$	?	0.657 (0.446)	0.095 (0.086)
$dBTD_{abs} \times dLI$	$\beta_5$	+		-0.506 (0.672)
$\Delta E \times dLI$	$\beta_6$			-0.889 (0.681)
$dBTD_{abs} \times \Delta E \times dLI$	$\beta_7$	+		2.033*** (0.732)
<i>N</i>			514	514
<i>adjR</i> <sup>2</sup>			0.074	0.104
hiBTC-LD	$\beta_3$			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,  $\delta E$  is the change in net income between t-1 and t.

# Tests of Coefficient Differences



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

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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.