

Choosing recognition versus disclosure of fair values under IFRS

**Evidence from the European real estate industry
on the determinants and earnings informativeness
consequences**

Thorsten Sellhorn

WHU – Otto Beisheim School of Management

Maximilian Müller
Tilburg University

INTACCT workshop, Varna, 4 March 2010

Agenda

- Objective
- Background
- Choice determinants
- Informativeness consequences: In progress

Objective / Motivation

- What are we studying?
 - **Examine the causes and consequences of recognized vs. disclosed investment property fair values (IP FV)**
- Why are we studying this?
 - Exploit differences in the accounting for real estate assets within the EU post-IFRS
 - Substantial increase in the use of FV
 - Substantial debate regarding merits of FV versus HC
 - Unique setting to study recognition vs. disclosure

Prior Literature/Contribution

- Determinants of accounting choice
 - e.g. Fields, Lys and Vincent 2001, Muller 1999, Avallone and Quagli 2009
- Fair value estimates for non-financial assets
 - Easton, Eddey and Harris 1993 Barth and Clinch 1998
 - Danbolt and Rees 2008 Muller, Riedl, Sellhorn 2009
 - Dietrich, Harris and Muller 2001 Muller and Riedl 2002
 - Christensen and Nikolaev 2009 Lourenco and Curto 2008
- International differences in IFRS implementation
 - e.g. Joos and Lang 1994, Cuijpers and Buijink 2005
- Recognition versus disclosure
 - e.g. Ahmed, Kilic and Lobo 2006, Blacconiere et al. 2010

Background:



European Investment Property Industry

- Business Model
 - Firms invest in properties for rental streams and capital appreciation
 - Real estate is not “trading” asset for these firms
- Size of real estate investment property industry
 - 193 publicly-traded firms across Europe
 - Market Cap €150 billion December 31 2005
 - UK is most developed country; vastly different from others
- EPRA (European Public Real Estate Association)
 - Primary professional real estate organization
 - Provides (among other things) input on best practice
 - Philosophy of transparency

Background: Accounting for Investment Property



Pre-IFRS

- Revaluation model
 - Cost model

Post-IFRS

- Fair value model
 - Cost model

	Balance Sheet	Income Statement
Cost Model (IAS 40; e.g. former German GAAP)	Depreciated Cost	Depreciation/ Impairment
Revaluation Model (former UK GAAP)	Fair Value	Impairment (below HC); all other revaluations reported directly in equity
Fair Value Model (IAS 40)	Fair Value	All changes in Fair Value

Background:



IFRS for Investment Property

- IFRS adoption in the EU: Main effect on real estate industry: *IAS 40, Investment Properties*
- Under IAS 40, firms must choose between
 - fair value option – recognize properties at **fair value**
 - cost model option – recognize properties at depreciated cost, with **required footnote disclosure of fair values**
- The first time FV model is applied broadly to non-financial assets

Choice Determinants

- The probability of the firm choosing the FV model ...
- H1 ... increases where domestic GAAP required or allowed investment property fair values on the face of the financial statements.
- H2 ... increases in the liquidity of the real estate markets in which it operates.
- H3 ... decreases in the proportion of its shares held by insiders.
- H4 ... increases in the proportion of its international operations.
- H5 ... increases in the intensity of its commitment to transparent reporting.
- H6 ... increases in the fair value gain (decreases in the fair value loss) the firm can report under IAS 40.
- Also, planned to include: Existence of bank debt (Christensen/Lee/Walker 2007)

Sample Selection

	Less	Remain
Firms traded on European Economic Area (EEA) stock exchanges that are classified as real estate firms in Thomson Financial Worldscope		741
Less firms:		
becoming inactive before December 15, 2006	-324	417
not reporting under IFRS in "IFRS year" (2005 or 2005/2006)	-160	257
not operating in the investment property business	-55	202
that are subsidiaries	-9	193
for which no annual reports were found	-4	189
for which the cost versus fair value model decision for the "IFRS year" (2005 or 2005/2006) could not be obtained	-3	186
for which the fair value of investment property in the "IFRS year" (2005 or 2005/2006) could not be obtained	-8	178
for which the fair value of investment property in the "IFRS year" (2005 or 2005/2006) is less than 10% of total assets	-21	157
for which necessary data is unavailable	-24	133
Final Sample		133

By country, model choice, and pre-GAAP

Country	Total Firms		Model choice under IAS 40				Pre-GAAP treatment of IP	
			Cost		Fair Value		Cost Model	Reval Model
			#	%	#	%		
Austria	8	6.0	1	3.7	7	6.6	X	
Belgium	9	6.8	0	0.0	9	8.5	X	X
Denmark	3	2.3	0	0.0	3	2.8		X
Finland	4	3.0	0	0.0	4	3.8	X	
France	18	13.5	9	33.3	9	8.5	X	
Germany	18	13.5	10	37.0	8	7.5	X	
Greece	3	2.3	0	0.0	3	2.8		X
Italy	4	3.0	2	7.4	2	1.9	X	
Netherlands	6	4.5	1	3.7	5	4.7	X	X
Norway	1	0.8	0	0.0	1	0.9	X	
Poland	2	1.5	0	0.0	2	1.9	X	X
Spain	5	3.8	4	14.8	1	0.9	X	
Sweden	9	6.8	0	0.0	9	8.5	X	X
Switzerland	6	4.5	0	0.0	6	5.7	X	X
UK	37	27.8	0	0.0	37	34.9		X
Total	133	100.0	27	100.0	106	100.0		

Results

			Sample 1 (all)	Sample 2 (ex-UK)	Sample 3 (mixed)
<i>Intercept</i>	?		3.840 (0.86)	3.904 (0.89)	0.777 (0.03)
Experimental					
<i>PRE_GAAP</i>	H1	+	3.915 (9.01) ***	3.494 (6.05) ***	1.436 (0.60)
<i>MKT_LIQ</i>	H2	+	0.024 (0.09)	0.013 (0.02)	-0.013 (0.01)
<i>CLOSEHELD</i>	H3	-	-3.920 (6.52) ***	-3.836 (6.29) ***	-2.878 (2.52) **
<i>INTL_REV</i>	H4	+	-0.202 (0.01)	-0.276 (0.02)	-0.215 (0.01)
<i>VOL_ADOPT</i>	H5	+	1.014 (0.81)	1.038 (0.85)	1.956 (1.68) *
<i>EXT_APPR</i>	H5	+	3.007 (7.03) ***	2.856 (6.28) ***	3.424 (4.55) **
<i>FV_GN_LS</i>	H6	+	6.312 (2.97) **	6.242 (2.85) **	7.345 (3.11) **
Control Variables					
<i>SIZE</i>		+/-	-0.237 (1.58)	-0.229 (1.47)	-0.156 (0.51)
<i>DEBT_MCAP</i>		+/-	0.290 (0.59)	0.282 (0.57)	0.380 (0.70)
<i>CFO_MCAP</i>		+/-	-6.452 (1.20)	-6.369 (1.15)	-6.971 (0.99)
<i>N</i>			133	96	59
Log Likelihood			61.47 ***	41.85 ***	30.70 ***
% Concordant (disc.)			92% (8%)	88% (12%)	88% (12%)

Conclusions from causes analysis

- National accounting traditions evolve endogenously, forming a framework for the implementation decisions managers make – even under IFRS.
- Fair value model in higher demand where fair values are more reliable.
- Ownership by insiders decreases the demand for the fair value model.
- Firms choose fair value accounting to signal their commitment to a transparent financial reporting strategy.
- Where IFRS offer choices and discretion, the standard setter must be aware that international comparability may be difficult to achieve.
- Discussion: Trade-off: Reduce sample to those firms that effectively had a choice?

Consequence:



Informativeness of Recognition vs. Disclosure

- EMH: Recognition or disclosure is not sufficiently important.
- Experimental research (Harper/Mister/Strawser 1991; Bloomfield /Libby 1996) as well as early evidence from IFRS adoption for bid-ask-spreads (Muller/Riedl/Sellhorn 2009) and the value relevance of investment property fair values (Lourenco/Curto 2008) suggest a potential difference.
 - Problem: May be either due to
 - incomplete processing of disclosed items, or
 - a greater emphasis placed on recognized items because they are viewed as more relevant and/or reliable
- Setting special: recognition and disclosure of fair value information at the same time with the nature of the information being held constant
 - Problem: Self-selection

Hypothesis Development

- Following Holthausen and Verrecchia (1988) and Hanlon/Maydew/Shevlin (2008) **simple** theoretical model:

X_t : *reported earnings*

x_t : *economic earnings*

$$X_t - x_t = e_t$$

$e_t = \text{noise}, (0; \sigma_e)$, *no bias for reasons of simplicity*

Basic regression : $R_t = a + bX_t + u_t$

$R_t = x_t$, *for reasons of simplicity*

Therefore, $b = \frac{\sigma_x^2}{\sigma_x^2 + \sigma_e^2}$, *if* $\text{Corr}(x_t, e_t) = 0$

- Less noise implies higher ERC (higher informativeness)
- Informativeness: Ability of financial statement information to capture or summarize information (Francis/Schipper 1999)

Hypothesis Development (cont'd)

- Under the EMH, the market is provided with the fair value information both for firms using the fair value model and the cost model and processes the information completely.
- Usually, the fair value of an investment property is determined by discounting cash flow projections based on reliable estimates of future cash flows.
- Therefore, recognizing and measuring investment property at fair value, should be less noisy compared to earnings determined on a cost basis, as, under the EMH, a gain in fair value recognized in earnings should correspond to a gain in market value more closely as opposed to not recognizing a gain in fair value in earnings

H1: ERC for fair value earnings > cost earnings

Hypothesis Development (cont'd)

- The difference in noise components that results from fair value gains on investment property not being included in earnings may be eliminated by adjusting earnings determined on a cost basis.
- We have developed the following adjustment formula:

$$E_{FV,t} = E_{C,t} + BV_{C,t-1} - BV_{C,t} + FV_t - FV_{t-1} - ((FV_t - BV_t) * \tau)$$

E_{FV} = *Earnings as if investment property were recognized at fair value*

E_C = *Earnings from annual report*

BV_C = *Book value of investment property from annual report*

FV = *Fair value of investment property as disclosed in annual report*

τ = *average tax rate*

$(FV_t - BV_t) * \tau$: *corrects for deferred taxes*

H2: ERC for fair value earnings = ERC for adjusted cost earnings

Research Design

- Test earnings informativeness by examining the slope coefficients from Fama-Macbeth and pooled regressions of annual returns on annual earnings (2006-2009).
- Following Easton/Harris (1991) and Francis/Schipper/Vincent (2005), report tests for both the level of, and the level and change in, earnings.

$$R_{j,t} = \alpha_0 + \alpha_1 FV_{j,t} + \alpha_2 X_{j,t} + \alpha_3 X_{j,t} FV_{j,t} + \varepsilon_{j,t} \quad (1)$$

$$R_{j,t} = \alpha_0 + \alpha_1 FV_{j,t} + \alpha_2 X_{j,t} + \alpha_3 X_{j,t} FV_{j,t} + \alpha_4 \Delta X_{j,t} + \alpha_5 \Delta X_{j,t} FV_{j,t} + \varepsilon_{j,t} \quad (2)$$

$R_{j,t}$: firm j 's 12-month cumulative raw return for fiscal year t

$FV_{j,t}$: indicator, = 1 if investment property is measured at fair value

$X_{j,t}$: firm j 's comprehensive income for fiscal year t , scaled by $MVEquity_{t-1}$

$\Delta X_{j,t}$: change in –

- For (1), if $\alpha_3 > 0$: fair value model is more informative
- For (2), if $\alpha_3 + \alpha_5 > 0$: fair value model is more informative

Self-selection

- Recognition results from exercise of managerial discretion and firms self-select into recognizers and disclosers.
- We plan to eliminate this bias by employing a Heckman two-stage estimation procedure using the findings from our causes model for the first stage and adding IMR from causes model to post-IFRS informativeness regressions.
- Need a reasonable instrument that influences the choice to use the fair value model but does not influence the earnings response coefficient (Francis/Lennox 2008): Use PRE-GAAP?
- Some IVs arguably endogenous.
- Small sample size seems to disqualify propensity score matching.
- Try to consult recent empirical literature, Imbens/Wooldridge (2009)
- Any suggestions are greatly appreciated!

Sensitivity Analyses

- Fixed year effects pooled regressions
- Additional control variables interacted with explanatory variables in (1) and (2) to mitigate correlated omitted variables bias:
 - SIZE (natural log of total assets)
 - B/M (book-to-market ratio)
 - ROA (return on assets)
 - LEVERAGE
 - SALES GROWTH

Discussion

- After adjusting, if there is still a statistically significant differential earnings informativeness:
 - What could this be attributed to?
 - Greater emphasis placed on recognized items because they are viewed as more relevant and/or reliable
 - However, as indicated above, a potential difference has also been shown in experimental research:
 - Question the EMH, i.e. incomplete processing of disclosed items?
 - Include variable whether fair value has been determined by an external appraiser?
 - Other measurement error?

Thank you for your attention!

- As mentioned earlier, any comments or suggestions are greatly appreciated.

Domestic GAAP treatment

Country	Cost Model	Reval Model	as PP&E	Notes
Austria	X		X	
Belgium	X	X	X	Revaluations allowed under certain circumstances.
Denmark		X		Revaluation required if IP is the firm's main activity.
Finland	X			
France	X		X	Revaluation permitted, but rare in practice: surpluses taxed.
Germany	X		X	
Greece		X		Applies a variant of the revaluation model.
Italy	X			While depreciation is not mandatory; fair value is prohibited.
Netherlands	X	X		Disclosure of fair value is required.
Norway	X		X	
Poland	X	X	X	
Spain	X		X	
Sweden	X	X		Disclosure of fair value is required.
Switzerland	X	X	X	
UK		X		

Variable measurement

PRE_GAAP	(H ₁ /+)	Equal to 1 if FV on the BS allowed for investment property under pre-IFRS domestic GAAP of the firm's country
MKT_LIQ	(H ₂ /+)	Turnover of the property markets in which the firm operates
CLOSEHELD	(H ₃ /-)	Percentage of firm's stock held by insiders
INTL_REV	(H ₄ /+)	Percentage of firm's revenue generated from operations outside of its country of domicile
VOL_ADOPT	(H ₅ /+)	Equal to 1 if firm adopts IFRS voluntarily prior to the mandatory adoption effective 2005; 0 otherwise
EXT_APPR	(H ₅ /+)	Equal to 1 if firm uses external appraisers to generate fair value estimates; 0 otherwise
FV_GN_LS	(H ₆ /+)	Firm's fair value gain/loss on investment property in the IFRS adoption year
SIZE		Log of firm's market capitalization
DEBT_MCAP		Firm's debt divided by market capitalization
CFO_MCAP		Firm's cash flow from operations divided by market cap.

Correlations

	<i>FV_CHOICE</i>	<i>PRE_GAAP</i>	<i>MKT_LIQ</i>	<i>CLOSE_HELD</i>	<i>INTL_REV</i>	<i>VOL_ADOPT</i>	<i>EPRA</i>	<i>BIG4</i>	<i>SIZE</i>	<i>DEBT_TA</i>	<i>NI_SALES</i>
<i>FV_CHOICE</i>		0.486	0.112	-0.312	0.112	0.111	0.170	0.302	0.122	-0.034	0.349
<i>PRE_GAAP</i>	0.486		0.163	-0.356	0.087	-0.006	0.262	0.191	0.094	-0.103	0.348
<i>MKT_LIQ</i>	0.119	0.011		-0.176	0.044	-0.243	0.163	0.081	0.071	-0.321	0.147
<i>CLOSEHELD</i>	-0.318	-0.358	-0.147		-0.079	-0.187	-0.480	-0.323	-0.440	-0.050	-0.181
<i>INTL_REV</i>	0.134	0.057	0.054	-0.111		0.112	0.096	0.127	0.084	0.002	-0.029
<i>VOL_ADOPT</i>	0.111	-0.006	-0.265	-0.185	0.163		-0.113	0.101	-0.017	0.178	-0.072
<i>EPRA</i>	0.170	0.262	0.132	-0.481	0.191	-0.113		0.282	0.600	0.020	0.113
<i>BIG4</i>	0.302	0.191	0.082	-0.321	0.193	0.101	0.282		0.369	-0.050	0.194
<i>SIZE</i>	0.136	0.136	0.093	-0.430	0.194	-0.032	0.635	0.366		-0.073	0.255
<i>DEBT_TA</i>	-0.068	-0.128	-0.346	-0.012	0.032	0.174	-0.031	-0.061	-0.104		-0.267
<i>NI_SALES</i>	0.470	0.371	0.151	-0.208	-0.018	-0.099	0.167	0.252	0.327	-0.364	