May 2013

Higher School of Economics
Research seminar

The earnings manipulation in the passage from historical cost accounting system to IFRS

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Motivations and research question

Context	• Under IFRS systems the utility of the accounting information is assumed to increase
Effects	• The passage from historical cost accounting systems to IFRS regime influences the manipulation tecniques and behaviours
RQ	• How does the predictivity of accounting frauds change after the adoption of IFRS systems?

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Literature and research hipothesys

Context	• IFRS accounting systems are less conservative than historical-cost accouting regime (Soderstroma-Sun, 2007)
Effects	• There is higher discretionality in the accounting valuations under IFRS and it can open the door to higher earnings manipulation (Soderstroma-Sun, 2007)
RH	• The prediction of accounting frauds is more difficult under IFRS systems in comparison with historical-cost regime

The *earnings manipulation*

The adoption of illegal (out of GAAP rules) practices to overestimate the earnings
(es. false invoice, stock overestimation)

Methods based on accounting variations
- Differences on trends in EBIT and Net Income (Chia-hui, 2006)

Bayesian method
- The probability of frauds is calculated based on risk levels and controls on three factors (Srivastava-Mock-Turner, 2009):
  - Incentives ("I")
  - Attitudes ("A")
  - Opportunities ("O")

Regression methods
- Two groups of companies are examined (manipulators and non-manipulators) to calculate the probability of the fraud. This calculation is based on accounting ratios that are assumed to be more influenced by manipulations (Beneish, 1999)

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Research contribution

***Under a theoretical perspective*: we want to enrich the debate on different views of accounting systems (conservative vs liberal)**

***For standard setters*: wa can help different regulation approaches to accounting choises and valuation criteria**

***For the market*: we want to highlight the risks of valuations based on different accounting settings**

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Research design

We focus on Italy, due to its highly conservative accounting system

We select two groups of companies (manipulators and non-manipulators) for the IFRS sample and for the national standard sample

We use Beneish model

We analyze the different frauds predictive power of the two samples (IFRS vs national standard)

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Database

We select the manipulators by scritinizing the frauds news (sole24ore, bloomberg, Consob, etc.) from 2005 to 2011 (23 IFRS companies and 28 national standard companies)

We build two control groups with the same a priori probability (0,28) used by Beneish. This matching procedure respects certain criteria (industry; dimension; etc.). (828 IFRS companies and 1008 national standard companies)

For each manipulator we download the annual report of the fraud's year and the year before. For the same years we download all the annual reports of the control groups

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Model

1. Days Sales in Receivables Index (DSRI) $\frac{\frac{Receivables_t}{Sales_t}}{\frac{Receivables_{t-1}}{Sales_{t-1}}}$

2. Gross Margin Index (GMI) $\frac{\frac{Sales_{t-1}-Costs\ of\ Goods\ Sold_{t-1}}{Sales_{t-1}}}{\frac{Sales_t-Costs\ of\ Goods\ Sold_t}{Sales_t}}$

3. Asset Quality Index (AQI) $\frac{\left(1-\frac{Current\ Assets_t+PPE_t}{Total\ Assets_t}\right)}{\left(1-\frac{Current\ Assets_{t-1}+PPE_{t-1}}{Total\ Assets_{t-1}}\right)}$

4. Sales Growth Index (SGI) $\frac{Sales_t}{Sales_{t-1}}$

5. Depreciation Index (DEPI) $\frac{\frac{Depreciation_{t-1}}{Depreciation_{t-1}+PPE_{t-1}}}{\frac{Depreciation_t}{Depreciation_t+PPE_t}}$

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Modello

6. Sales General and Administrative Expenses Index (SGAI) $\frac{\frac{SGA\ Expense_t}{Sales_t}}{\frac{SGA\ Expense_{t-1}}{Sales_{t-1}}}$

7. Leverage Index (LVGI) $\frac{\frac{LTD+Current\ Liabilities_t}{Total\ Assets_t}}{\frac{LTD+Current\ Liabilities_{t-1}}{Total\ Assets_{t-1}}}$

8. Total Accruals to Total Assets (TATA)

$$\frac{(\Delta Current\ Assets_t - \Delta Cash_t) - (\Delta Current Liabilites_t - \Delta Current\ Maturities\ of\ LTD_t - \Delta Income\ Tax\ Payable_t) - Depreciation\ and\ Amortization_t}{Total\ Assets_t}$$

$$M = \beta_0 + \beta_1 * DSRI + \beta_2 * GMI + \beta_3 * AQI + \beta_4 * SGI + \beta_5 * DEPI + \beta_6 * SGAI + \beta_7 * LVGI + \beta_8 * TATA$$

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First results: national standard sample

Variable	Coefficient	p-value	
Intercetta	-6,31110	0,00001	***
DSRI	0,46100	0,00008	***
GMI	0,18476	0,00003	***
AQI	0,19423	0,00139	**
SGI	0,04538	0,65541	
DEPI	0,26173	0,02740	*
LVGI	0,68335	0,03802	*
TATA	0,79144	0,33654	

R^2 = 0,335

Where: "." for p-value from 0,05 to 0,1; "*" for p-value from 0,01 e 0,05; "**" for p-value from 0,001 e 0,01 ; "***" for p-value lower than 0,001.

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First results: IFRS sample

Variabile	Coefficiente	p-value	
Intercetta	-3,5591694	0,001	***
DSRI	0,0002781	0,996	
GMI	-0,0146818	0,812	
AQI	-0,1719584	0,557	
SGI	0,0053732	0,853	
DEPI	0,0405704	0,335	
LVGI	0,1464134	0,583	
TATA	1,1942574	0,392	

R^2: 0,11

Where: "." for p-value from 0,05 to 0,1; "*" for p-value from 0,01 e 0,05; "**" for p-value from 0,001 e 0,01 ; "***" for p-value lower than 0,001.

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Limitations

- USA model applied in Italy
- The same model is used for IFRS and non-IFRS samples

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