[1]DO ECONOMIC AND FINANCIAL FIRM'S SITUATION AFFECT THE QUALITY IF FINANCIAL REPORTS?

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Abstract

We investigate whether firms' economic and financial situation influence the Quality of their Financial Reports (FRQ). FRQ is fundamental for investors and it affects the international capital movements [Bradshaw et al. (2004)] and Gelos and Wei (2005)]. Following Schipper and Vicent (2003) we use two issues to access earnings quality: abnormal accruals and earnings persistence. For seventeen European countries, we find evidence that the economic performance affects FRQ. Big firms and those with high current earnings exhibit better financial information. These results are robust since they don't depend on FRQ proxy and we have the same evidence when we estimate regression with economical and financial factors separately or together. About financial situation, it seems not to affect FRQ. However, in high leveraged firms, the capital structure becomes determinant.

JEL classification: L25 and G32.

Key words: Financial Report Quality; Firm Performance; Capital Structure; Abnormal Accruals.

Introduction

We analyse whether firm's economic and financial performance affect Quality of their Financial Reports (FRQ).

Financial Reports are used by several economic agents in their decision-making processes. Investors decide whether to purchase a firm's capital by analysing its financial reports as Fields *et al.* (2001) wrote since the capital market is not efficient in a strong way. Even in international capital movements, the financial reports are crucial [Bradshow *et al.* (2004) and Gelos and Wey (2005)].

Creditors decide to lend or not and they establish contractual conditions, namely interest rates, considering accounting numbers, as shown by Gopalakrishan (1994) and Betty and Weber (2003).

Schipper and Vicent (2003) also emphasised the usefulness of financial reporting and underlined that Financial Accounting Standards Board (FASB) Conceptual Framework has included it in Concepts Statement no. 1, para.34 and following.

The selection of financial techniques is a very important question since it determines the income statement, the balance sheet, the cash flow map and appendixes. Accounting choice may not be neutral since Financial Techniques can be selected in a way that increases/decreases firm income.

In literature, several methodologies have been developed to investigate earnings quality: a) **accounting choice** followed by Bradshow *et al.* (2004) and Astami and Tower (2006). This consists of creating a ratio from the manager's accounting choice in a way that allows conformity with the Generally Accepted Accounting Principles (GAAP) to be analysed; b) **income increasing/ decreasing** using a binary dependent variable and a *logit* model as Christy and Zimmerman (1994) and Betty and Weber (2003) did; c) **abnormal accruals** are the residuals from a regression of total accruals depending on investments and sales. This methodology was introduced by Jones (1991) and modified Jones by Dechow et al. (1995); d) **accruals map cash** from Dechow and Dichev (2002)

and Schipper and Vicent (2003). The assumption is that a high quality accrual is eventually realised as cash flow. Abnormal Accrual driven from errors in estimation or earning management will not turn into cash; e) and finally **earnings persistence** referred to by Shipper and Vicent (2003) and Dermerjian *et al.* (2006). This approach consists of estimating a regression of earnings as a function of past earnings.

In this work, we use abnormal accruals methodology for two reasons: a) data collection reasons, since we do not have the accounting choice database and because some countries in the sample did not issue cash flows in the period considered; b) abnormal accruals have been intensively used for a time which means this methodology is preferable to others.

In addition, FRQ is also estimated by earnings persistence methodology. Again it was chosen because it was possible to obtain data from Worldscope. With this second regression, we aim to test the robustness of results. In other words, we want to examine whether results are not driven by the quality of the estimative used for FRQ.

Intensive research has been done to investigate what factors affect earnings quality as Fields *et al.* (2001) wrote. Financial information quality will be more accurate if we understand the managers' motivations and their influence on firm performance. These authors emphasise the importance of regulating managers' behaviour, but notice the impossibility of eliminating the existence of accounting choices. Thus, many studies have been developed and there is one consensual question - there are several factors that influence manager behaviour.

This work's contributions consist of analysing whether economic and financial factors are relevant to FRQ for a large sample of European countries (seventeen) and industries (forty) and it also includes a long period of seventeen years. Second, we investigate whether those factors are significant, or not, regardless of the way FRQ is estimated. For that purpose, we use two issues: abnormal accruals and earnings persistence. Finally, we investigate whether making a time series or cross sectional analysis changes the relation between these two sets of variables and FRQ.

The remainder of this study proceeds as follows. In the first section, we have the definition of the hypotheses to test. We identify the data and methodology used in the empirical work. Several statistics are included and the econometric models are defined. In the second section, we show the evidence found in the empirical tests, which are then analysed. Some tests are done to verify the robustness of the results in order to assure that they are not driven by some statistical problems. In the last section, some conclusions are drawn from the results obtained.

Section 1: Methodology, Sample and Descriptive Statistics

In this section, three null hypotheses are defined which are going to be tested in section 2. Then we have the models used and their variables definitions. Finally, there is the sample characterization, namely some statistics are analysed.

1.1. Methodology

1.1.1. Hypotheses to test

We want to analyse whether the economic situation of firms affects FRQ. Big firms have social pressures and higher taxes to pay [Watts and Zimmerman (1978)]. Thus, these firms make the accounting procedures definitions in such a way as to reduce those pressures. Gopalakrishnan (1994) found that to avoid political costs firms above a certain size (measured by the log of sales) made income-decreasing choices. More recent works found that huge firms and those with good performances are pressured to improve their FRQ [Demerjian *et al.* (2006) and Bradshaw *et al.* (2004)]. Big firms have the best accounting service, audited by a BIG4 and controlled by the most developed financial market when they issue an ADR list. However, Astami and Tower (2006) found evidence that size was not significant in accounting choice in some Asian Countries. These contradictions motivated us to test the following hypothesis with equations (1) and (2):

H0.1: Financial Report Quality does not depend on the firm's economic conditions.

$$AAA_{it} = \alpha_1 + \alpha_2 \left(economical\ factors_{it} \right) \tag{1}$$

$$FE_{it} = \beta_1 + \beta_2 Earn_{it} + \beta_3 \left(economical\ factors_{it} \right) \tag{2}$$

Where, AA means abnormal accruals and FE is future earnings. They are used to assess FRQ.

In terms of financial structure, Astami and Tower (2006) found that firms with lower leverage are more likely to choose income- increase accounting techniques. This is not consistent with the literature since firms exhibiting high leverage tend to increase income. Betty and Weber (2003) analysed the effects of debt contracts details and found that debt contracting is an important consideration in managers' decisions to change accounting methods. Managers are more likely to make income-increasing accounting choices when debt contracting calculations are affected. Gopalakrishnan's (1994) results suggest that even when firms do not have long- term debt, in order to avoid debt covenant constraints, managers will choose straight- line depreciation methods and they will choose FIFO as the inventory method. Therefore, we expect that firms with higher debt to equity ratio have incentives to increase earnings reported, meaning that they exhibit poor FRQ.

We also consider ADR as a financial factor because it represented to obtain investments issuing stocks in a developed market. Its relation with FRQ is positive since this market has a monitoring effect under financial information [Bradshaw *et al.* (2004) and Mitton (2002)].

Then we have the second null hypothesis using equations (3) and (4).

H0.2: The Financial Report Quality does not depend on firm financial conditions.

$$AAA_{it} = \alpha_1 + \alpha 3 \left(financial\ factors_{it} \right) \tag{3}$$

$$FE_{it} = \beta_1 + \beta_2 Earn_{it} + \beta_3 \left(financial\ factors_{it} \right) \tag{4}$$

In a third hypothesis, we investigate the robustness of our results since the economic and financial factors produce opposite effects on earnings: economic is positively related and financial is negatively. In both cases we have less FRQ. Considering these factors together, we analyse whether there is any significant change.

In addition, we include some control variables. La Porta *et al.* (2000) draw attention to the theory of external investors' protection, namely in terms of the quality of financial information. They referred to the relevance of the existing law in each country to assure better Financial Reports and contribute not only to more valuable firms (higher Q-Tobin) but also to more developed financial markets. Mitton (2002) investigated the relation between some East Asian firm's performance and their corporate governance. This author stated that higher financial quality can be assessed by the existence of an ADR and the existence of one of the BIG6[2] audit firms. Bradshaw et al. (2004) also noticed that the quality of Financial Reports is an important question and showed that American institutional investors preferred firms placed in countries in which accounting standards were closer to the Generally Accepted Accounting Principles (GAAP). Their results also showed that investors apply higher amounts in firms with an ADR list and issue for a longer time; they prefer firms with higher ROE and leverage and those audited by a BIG5.

We have the third hypothesis and equations (5) and (6):

H0.3: The Financial Report Quality does not depend on firm economical nor financial conditions.

$$AA_{it} = \alpha_1 + \alpha_2\left(economical\ factors_{it}\right) + \alpha_3\left(financial\ factors_{it}\right) + \alpha_4\left(corporate\ governance_{it}\right) \quad (5)$$

$$FE_{it+1} = \beta_1 + \beta_2 Earn_{it} + \beta_3\left(economical\ factors_{it}\right) + \beta_4\left(financial\ factors_{it}\right) + \beta_5\left(corporate\ governance_{it}\right) \quad (6)$$

1.1.2. Econometric models and variables definitions

The FRQ determinants are estimated using two models: in the first one we estimate Abnormal Accruals (AA) and in the second we have earnings persistence as dependent variable.

Model A

$$AAA_{it} = \alpha_1 + \alpha_2 Size_{it} + \alpha_3 ROA_{it} + \alpha_4 SG_{it} + \alpha_5 SL_{it} + \alpha_6 DE_{it} + \alpha_7 ADR_{it} + \alpha_8 Big4_{it} + \alpha_9 Law_{it} + \varepsilon_{it}$$

Where:

AAA_{it}: Absolute Value of Abnormal Accruals;

$Size_{it}$: Log of total assets of firm i at year t (total assets-key item-

2 The six international audit firms are: Arthur Andersen, Deloitte & Touche, Ernst & Young, KPMG, Pricewaterhouse and Coopers & Lybrand. Then after a market consolidation they become five and now they are four: Deloitte & Touche, Ernest & Young, KPMG, and Pricewaterhousecoopers.

wc02999);

ROA_{it} : Return on assets (wc08326);

SG_{it} : Sales growth of firm i from year t-1 to t (growth of net sales or revenues-wc01001);

SL_{it} : Sales per employee (wc01001 and wc07011);

DE_{it} : Total debt to common equity (wc08231);

ADR_{it} : Dummy=1 when firm i issues the American Depository Receipt at year t and 0 otherwise (wc06110);

$Big4_{it}$: Dummy=1 when firm i is audited by one of the biggest and international auditing firms at year t and 0 otherwise (wc07800);

Law_{it} : Dummy=1 when firm i has common legal origin;

ε_{it} : Error term for firm i at year t.

In this model, as in prior research, the Absolute Value of Abnormal Accruals (AAA) is a proxy of earnings quality [e.g. Larcker and Richardson (2004) and Warfield *et al.* (1995)], which are estimated by total accruals using the cross-sectional modified Jones indicated by Dechow (1995).

We first computed Total Accrual (TA) by balance sheet approach since some countries do not disclose cash flow for all the period considered using equation (7):

$$TA = \Delta Rec + \Delta Inv + \Delta OCA - \Delta AP - Dep \quad (7)$$

Where:

Δ Rec: Change in receivables (wc02051);

Δ Inv: Change in inventories (wc02101);

Δ OCA: Change in other current assets (wc02149);

Δ AP: Change in accounts payables (wc03040);

Dep: Depreciation and amortization (wc01151).

We estimate the equation (8) to get the Abnormal Accruals (AA) by residuals. We have 400 regressions (40 industries in a 10/year period). The number of observations is different per industry but with a minimum of 9 observations (firms per year). This approach assumes that AA is homogeneous in each industry as referred by Larcker and Richardson (2004).

The AA is the part that is not explained by the regression (8):

$$TA_{it} = \alpha_1 + \alpha_2(\Delta Sal_{it} - \Delta Rec_{it}) + \alpha_3 PPE_{it} + u_{it} \quad (8)$$

Where:

TA_{it} Total Accruals computed by equation (7);

ΔSal_{it} : Change in sales for firm i between year t and t-1 (wc01001);

ΔRec_{it} : Change in receivables for firm i between year t and t-1 (wc02051);

PPE_{it} : Property, plant and equipment- gross for firm i at year t (wc02301);

u_{it} : Error term for firm i at year t.

Therefore, in this model it is assumed that changes in revenues less changes in receivables, as well as capital intensity create normal accruals. The credit sales are supposed to be abnormal.

All variables are scaled by mean of total assets in the end of the current year and in the end of the previous year. This is to reduce heteroskedasticity problems since the sample includes firms with very different sizes.

Nevertheless the improvements, accruals are still incomplete since subsists imprecision associated to classification of normal and abnormal accruals as Phillips et al. (2003), Larcker and Richardson (2004) wrote. Several developments introduce more variables into Total Accruals regression to explain the accruals that emerge from the normal activity of firms such as cash flow and return on assets. However, the model suggested by Dechow (1995) is still the most accurate.

An important issue is that the abnormal accruals are analysed by their absolute value. We don't aim to analyse abnormal accruals sign (positive or negative) but its total amount. The highest absolute value of AA is the less quality Financial Information has.

Model B

$$FE_{it+1} = \beta_1 + \beta_2 ET_{it} + \beta_{3t} Size_{it} + \beta_4 ROA_{it} + \beta_5 SG_{it} + \beta_6 SL_{it} + \beta_7 DE_{it} + \beta_8 ADR_{it} + \beta_9 Big4_{it} + \beta_{10} Law_{it} + \varepsilon_t$$

In this model, Earning Persistence (EP) is a proxy of earnings quality (e.g. Shipper and Vicent (2003) and Dermerjian *et al.* (2006).

EP is estimated by the parameter of earnings before extra items in current year (ET- wc01551). If this is statistically significant, Future Earnings (FE), which is earnings before extra items at year t+1, depends on ET.

The other variables definitions are the same as model A.

For all countries, these variables were in Euros. Therefore we could not use local currency for five countries: Denmark, Norway, Sweden, Switzerland and the United Kingdom.

1.2. Sample and Descriptive Statistics

1.2.1. Sample

Our sample has got 1,406 firms and 9 years this means a total of 12,654 firms-years observations. We only consider firms that have accounting information available in Worldscope for seventeen European countries and for all years considered, that is, from 1997 to 2006. We use cross- sectional approach. First we have 1,490 firms with 14,900 firms-years observations.

However, firms with SIC code 6000 to 6999 were excluded since Financial Institutions have specific regulations. It reduces the sample to 1,477 firms.

We also excluded firms in industries with fewer than 9 firms. That reduces our sample to 1,406 firms and 40 industries.

We collected data for 2006 but we miss this year to obtain Earnings Persistence, since we must have earnings in the next year.

1.2.2. Descriptive statistics

The United Kingdom (UK) is the most represented on the sample, with nearly 31% of the total sample. This is the only country that has firms in all industries considered except in two- digits SIC code no. 16 (Building- Heavy). France has the second and Germany the third highest number of firms. Together they represent nearly 26% of the total firms considered.

The least represented is Luxembourg with just four firms, followed by Portugal with less than 1% of total sample firms (with 13 firms).

In our sample, the number of firms located on countries from code law origin is bigger than the number of firms from common law (68% from the 17 countries considered less UK and Ireland).

The industry with more firms is SIC code 35 (Industrial) with 6.7% of total. But there are several industries around 6% as SIC code 73 (Business Services), 28 (Chemicals) and 20 (Food).

The industries with fewest firms are SIC code 29 (Petroleum) with the minimum to be considered (nine firms) and SIC code 39 (Manufacturing) with 10 firms.

We can get this information form table 1.

Table 1:
Number of firms per country and industries in cross- sectional sample

SIC2	Austria	Belgium	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Luxemb.	NL	Norway	Portugal	Spain	Sweden	Swiss	UK	Total Industry	% of total
13	0	0	0	0	4	0	0	1	0	0	0	1	0	1	0	0	9	16	1.1
15	5	1	1	2	3	3	0	2	0	0	2	0	3	0	1	0	20	43	3.1
16	0	0	2	0	4	3	5	3	0	0	3	0	0	7	1	0	0	28	2.0
17	1	0	0	1	2	1	0	0	0	0	1	0	0	1	1	0	7	15	1.1
20	4	7	5	6	15	12	5	4	0	2	6	0	1	2	1	7	15	92	6.5
22	1	0	1	0	3	1	1	0	10	0	1	0	0	0	0	0	5	23	1.6
23	0	0	0	2	1	9	1	0	1	0	1	0	0	0	0	0	4	19	1.4
25	0	0	1	0	1	1	2	0	0	0	3	1	0	0	0	0	2	11	0.8
26	2	0	1	9	2	2	0	0	3	0	1	2	2	1	6	1	3	35	2.5
27	0	0	1	2	1	1	0	2	6	0	5	2	0	0	1	3	12	36	2.6
28	1	2	5	1	13	19	2	1	5	0	4	0	0	2	0	6	31	92	6.5
29	1	0	0	0	1	0	0	0	2	0	1	1	0	1	0	0	2	9	0.6
30	1	4	0	2	4	3	0	0	0	0	0	0	0	1	1	0	6	22	1.6
32	4	0	5	0	5	13	2	3	4	0	1	0	1	2	0	2	11	53	3.8
33	2	3	0	1	2	1	6	0	2	0	2	2	0	2	1	5	8	37	2.6
34	0	0	0	3	6	2	2	1	1	0	2	0	0	0	3	4	13	37	2.6
35	0	1	1	4	8	26	1	0	3	0	4	2	0	0	9	16	19	94	6.7
36	1	2	3	4	14	14	0	0	5	0	3	1	0	2	4	7	24	84	6.0
37	1	2	0	0	8	12	0	0	11	0	1	0	0	3	7	1	9	55	3.9
38	0	0	2	1	5	5	0	0	5	0	1	1	0	0	3	6	19	48	3.4
39	0	0	0	1	2	2	0	0	1	0	0	0	0	0	0	0	6	12	0.9
42	0	0	1	0	3	1	0	0	0	0	2	0	0	0	0	0	3	10	0.7
44	0	1	1	3	0	2	1	1	0	0	0	3	0	0	1	1	4	18	1.3
45	2	0	1	1	1	3	0	0	0	0	0	0	0	1	0	0	5	14	1.0
47	0	0	1	0	1	2	1	0	3	0	0	0	0	2	0	1	4	15	1.1
48	0	2	1	0	6	1	1	0	4	1	2	0	1	2	4	2	7	34	2.4
49	2	2	0	2	7	6	0	0	2	1	0	2	1	5	0	5	14	49	3.5
50	0	1	6	3	11	7	5	1	0	0	5	1	0	2	5	6	27	80	5.7
51	2	1	3	1	14	15	3	2	1	0	2	2	0	3	0	4	6	59	4.2
53	0	0	0	2	3	0	0	0	0	0	0	0	0	0	0	2	5	12	0.9
54	0	2	0	2	3	0	0		0	0	3	0	2	0	0	1	3	16	1.1
55	0	0	1	0	0	0	0	0	0	0	1	0	0	0	3	0	5	10	0.7
56	0	0	0	0	1	0	0	0	0	0	0	0	0	1	3	1	8	14	1.0
58	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	3	10	15	1.1
59	0	1	0	0	3	3	0	1	1	0	0	0	0	0	0	0	7	16	1.1
70	0	0	0	0	4	1	1	0	2	0	0	0	0	2	0	1	7	18	1.3
73	0	1	2	0	9	7	1	0	3	0	6	1	0	1	9	6	46	92	6.5
79	0	0	0	0	5	0	0	0	1	0	0	0	2	0	0	1	8	17	1.2
80	0	0	0	0	1	5	1	0	0	0	0	0	0	0	0	0	4	11	0.8
87	0	0	4	0	3	1	0	0	0	0	5	1	0	0	2	0	29	45	3.2
Total Country	30	33	49	53	181	184	41	22	76	4	68	23	13	44	66	92	427	1406	100.0
% of total	2.1	2.3	3.5	3.8	12.9	13.1	2.9	1.6	5.4	0.3	4.8	1.6	0.9	3.1	4.7	6.5	30.4	100	

In table 2, we have the two-digit SIC code industries and the mean absolute value of AA per industry. Buildings have highest average amount of AA in the average total assets, over 8%.

The first and second most represented industries (SIC code 35- Engineering, Accounting and Management and 73- Business Services) have high levels of Absolute Abnormal Value of Accruals, with close to 6.7% and 8% of Total Assets respectively, in mean.

The industries with fewest AA are air and water transport, with about 2%.

Table 2:
Industry denomination and each absolute value of Abnormal Accruals (AAA)

SIC2	Industry	AAA
13	Oil & Gas	0.048364655
15	Building- Light	0.084022459
16	Building- Heavy	0.074996399
17	Construction	0.053132166
20	Food	0.049722951
22	Textile mill	0.041374786
23	Apparel	0.049965843
25	Furniture	0.061007529
26	Paper	0.03154976
27	Printing	0.033504601
28	Chemicals	0.045037408
29	Petroleum	0.022230844
30	Rubber	0.037141488
32	Stone	0.042937747
33	Metal Work- Basic	0.049609058
34	Metal Work- Fabrication	0.039247411
35	Industrial	0.066969671
36	Electrical	0.065500408
37	Transport Equipment	0.049874877
38	Instruments	0.04653678
39	Misc. Manufacturing	0.049078812
42	Motor Freight	0.040155187
44	Water Transport	0.027941279
45	Air Transport	0.022271353
47	Transport Services	0.050448316
48	Communications	0.050084184
49	Utilities	0.033087356
50	Durables- Wholesale	0.062722744
51	Non Durables- Wholesale	0.053159494
53	General Stores	0.029425799
54	Food Stores	0.025833165
55	Auto Dealers	0.049041197
56	Apparel Retail	0.054097932
58	Eating	0.023159576
59	Misc. Retail	0.045700191
70	Hotels	0.037618876
73	Business Services	0.079249074
79	Amusement & Recreation Services	0.048993939
80	Health Services	0.04029709
87	Engineering, Accounting &Management Services	0.07194476

As expected, the mean of the Abnormal Accruals (AA) is close to zero. As we use the absolute value of AA (AAA), it represents 5.24% of the average total assets, as we can see in table 3.

The mean of earnings before extra items is 3.2% of the average total assets and firms' size is about €520,528.00. The mean of sales growth is about 27% and the sales of each employee is close to €241.00. But there is a high standard deviation, therefore firms' productivity changes dramatically within firms. In mean, debt is 72% of common equity. But the highest standard deviation can be seen in debt to equity. This can indicate that there are some highly leveraged firms and others that are not. Moreover, there are some firms with a negative equity.

Table 3:
Descriptive statistics

	AA	AAA	FE	ET	SIZE	ROA	SG	SL	DE
Mean	0.0000	0.0524	0.0323	0.0330	13.1626	5.8814	0.2705	240.8234	72.1958
Median	0.0007	0.0337	0.0411	0.0413	12.9674	5.9000	0.0570	167.9758	55.5700
Maximum	0.9291	0.9877	0.7880	0.7880	19.4289	996.2900	1162.2390	5837.3000	37501.9200
Minimum	-0.9877	0.0000	-3.8462	-3.8462	4.5539	-1251.1800	-1.0000	0,2011	-93200.0000
Std. Dev.	0.0820	0.0631	0.1312	0.1310	2.0056	29.3649	10.9803	309.6058	1492.8010
Obs.	12,654	12,654	12,456	12,455	12,456	12,598	12,639	12,345	12,651

Variables definitions: AAA is the absolute value of AA and this is abnormal accruals and consists of residuals of regression estimation: $TA_i = \alpha_1 + \alpha_2(\Delta sales - \Delta receivables) + \alpha_3 PPE + u_i$. TA is Total Accruals and is obtained by changes in receivables (wc02051) plus change in inventories (wc02101) and change in other current assets (wc02149) less changes in accounts payables (wc03040) and less depreciation (wc01151). All variables from this model are scaled by the average of total assets (wc02999). FE is earnings in the next year. ET is earnings before extraordinary items at year t (wc01551). Both variables are scaled by average of total assets (wc02999). Size is the natural logarithm of total assets (wc02999). ROA is returns on assets (wc08326). SG is sales growth computed by sales of current year to sales of previous year (wc01001). SL is labour productivity and consists of ratio between sales and number of employees (wc01001 and wc07011). Finally, DE is Debt to Equity and is defined as total debt to common equity (wc08231).

The correlations between dependent and independent variables are low. The exception is the correlation between FE and ET which is close to 60%. The correlations between economic variables and FRQ proxies are stronger than the correlations between financial variables and FRQ.

There is a strong correlation between control variables BIG4/Size and Law/Size with 26% and 23%, respectively. The strongest correlation is between ADR and Size, almost 50%. These can be confirmed in tables 4 and 5.

Table 4:
Correlation with AAA dependent variable

	AAA	SIZE	ROA	SG	SL	DE	ADR	BIG4	LAW
AAA	1.0000								
SIZE	-0.1738	1.0000							
ROA	-0.0588	0.0690	1.0000						
SG	-0.0044	-0.0078	-0.0007	1.0000					
SL	0.0272	0.1266	0.0302	0.0081	1.0000				
DE	0.0085	0.0150	0.0860	0.0003	0.0056	1.0000			
ADR	-0.0833	0.4891	0.0230	-0.0048	0.0677	0.0152	1.0000		
BIG4	-0.0748	0.2629	0.0602	0.0082	0.0234	0.0010	0.1426	1.0000	
LAW	-0.0226	0.2332	0.0236	0.0027	0.0497	0.0053	-0.0238	-0.0751	1.0000

Variables definitions are in Table 3.

Table 5:
Correlation with EP dependent variable

	FE	ET	SIZE	ROA	SG	SL	DE	ADR	BIG4	LAW
FE	1.0000									
ET	0.5957	1.0000								
SIZE	0.1009	0.1115	1.0000							
ROA	0.2954	0.5188	0.0693	1.0000						
SL	-0.0263	-0.0198	-0.0078	-0.0007	1.0000					
SG	0.0706	0.0742	0.1267	0.0301	0.0081	1.0000				
DE	-0.0068	-0.0050	0.0150	0.0861	0.0003	0.0056	1.0000			
ADR	0.0069	0.0011	0.4892	0.0229	-0.0048	0.0677	0.0152	1.0000		
BIG4	0.0821	0.0806	0.2628	0.0604	0.0082	0.0234	0.0010	0.1426	1.0000	
LAW	0.0689	0.0577	0.2332	0.0238	0.0027	0.0497	0.0053	-0.0238	-0.0752	1.0000

Variables definitions are in Table 4.

Section 2: Empirical results

In the models estimations, we use unbalanced data panel. This enables us to consider differences by including several years and firms. This technique substitutes the missing variables and increases the efficiency of estimated coefficients (Soares and Stark, 2008).

Data panel is unbalanced because some variables do not have values in certain years. Panel data is estimated with cross-section and period fixed effects, i.e. with dummy variables for firms and years. When we introduce dummies to ADR, BIG4 and Law, we can have just period fixed effects. Therefore, in order to test the second hypothesis, the panel data is estimated with just period fixed effects, because dummy variables for firms and dummy for ADR list produce the problem of a singular matrix. The same problem arises in third hypothesis.

2.1. Two models to test FRQ determinants

As it was explained on section 1, we use two proxies to access earning quality: AAA (absolute value of Abnormal Accruals) and EP (Earnings Persistence). In both cases, we test the three hypotheses defined above.

R-squared adjusted in EP (Model B) is higher than in AAA (Model A) for the three hypotheses. Model B more readily explains FRQ because the independent variable of earnings before extraordinary items in the current year is statistically significant and its sign is positive, as expected, for all hypotheses.

For the first hypothesis (impact of economical factors on FRQ), in model A, the economic variable Size is statistically significant and its sign is in accordance with the sign expected because big firms are expected to use less AA (see table 6). We have the same results when we include several factors such as financial and control (see table 8). In model B, Size is also statistically significant (at 1% level) but it has opposite sign when we test just the economic factors and it is in accordance with the sign expected when we estimated with all factors. Big firms are expected to report all the earnings obtained (see table 6 and 8).

The sign of ROA is negative and it is as expected, less in model B when all factors are included. It is statistically significant at 1% level in all estimations, except for economic factors in model B.

For sales growth, we have evidence that it is not significant and sign is irregular in both models. Labour productivity is significant and its effect on AAA is positive thus it is opposite from the predicted one since firms with higher performance tend to use less abnormal Accruals (AA). In EP, Labour productivity is significant and its sign is positive as predicted (see tables 6 and 8). Nevertheless, these two variables produce a very little effect on the dependent variable (coefficient close to zero).

Table 6:
H01- Economic determinants of FRQ using AAA (absolute value of Abnormal Accruals) and EP (Earning Persistence) as dependent variable

	Model A (AAA)			Model B (EP)		
Independent Variables	**Predicted Sign**	**Coefficient (OLS t-statistic)**	Prob.	**Predicted Sign**	**Coefficient (OLS t-statistic)**	Prob.
Intercept		0.1609	*		0.3847	*
		(7.9626)			(12.0998)	
ET		..		+	0.2857	*
					(27.6784)	
Size	-	-0.0084	*	+	-0.0277	*
		(-5.5001)			(-11.4548)	
ROA	-	-5.05E-05	*	+	0.0000	
		(-2.5430)			(-0.2217)	
SG	-	-4.45E-05		+	-0.0001	
		(-0.9151)			(-1.2517)	
SL	-	1.15E-05	*	+	1.44E-05	*
		(3.4781)			(2.7707)	
Number of obs.		12,287			12,286	
Adj. R-squared		0.1901			0.4526	

Variables are defined as follows: ET consists of earnings before extra items in current year (wc01551); Size is the natural logarithm of a firm's total assets (wc02999); ROA is return on assets (wc08326); SG is sales growth and it is computed by sales of current year to sales of previous year -1 (wc01001); and SL is sales of current year per employee (wc01001 and wc07011).
*correlation is significant at the 0.01 level.

For the second hypothesis (impact of financial factors on FRQ), DE (debt to equity) is statistically significant at 10% level just when we consider all independent variables in model A. In other words, it has no significance in model B neither in model A with the financial factors. The sign is positive as expected in model A because higher debt means to have more AA (less information quality). The sign is negative and opposite from predicted in model B since higher debt means higher earnings to increase contractual power. The impact of this variable on FRQ is very small (coefficient close to zero). See table 7 and 8.

For the other financial factor considered the results are not consistent. The ADR variable has signs as predicted when we only consider financial variables (negative for model A and positive for model B because this market asks for high information quality). ADR is just statistically significant for model A which has got a small power to explain AAA (less than one percent as we can see on table 7). When we include all variables, ADR sign is the opposite of that expected in both models and, once again, it is just statistically significant in model A (see table 8).

Table 7:
H02- Financial determinants of FRQ using AAA and EP as dependent variable

	Model A (AAA)			Model B (EP)		
Independent Variables	**Predicted Sign**	**Coefficient (OLS t-statistic)**	Prob.	**Predicted Sign**	**Coefficient (OLS t-statistic)**	Prob.
Intercept		0.054414	*		0.0118	*
		(90.48287)			(11.5334)	
ET		..		+	0.6150	*
					(86.6672)	
DE	+	3.44E-07		+	-2.48E-07	
		(0.921652)			(-0.4037)	
ADR	-	-0.014523	*	+	0.0010	
		(-9.023772)			(0.3658)	
Number of obs.		12,651			12,452	
Adj. R-squared		0.011468			0.381772	

Variables are defined as follows: ET consists of earnings before extra items in current year (wc01551); DE is debt to Equity given by total debt to common equity (wc08231); ADR is a dummy = 1 if firm has got an ADR list and zero otherwise (wc06110).
*correlation is significant at the 0.01 level.

The specific factors included on third hypothesis are the control variables (or corporate governance) Big4 and Law.

For the two models, Big4 is statistically significant and with the predicted sign: firms audited by one Big4 have fewer AAA and they report the right earnings even if they are high, since these firms have the best audit services (see table 8).

Law has the opposite sign from the expected in model A since less AAA were expected in Common law which legal system protects more investors and then firms report the right earnings. In model B sign is positive as predicted. In both situations Law is statistically significant at 1% level (see table 8).

Table 8:
H03- Economical and Financial determinants of FRQ using AAA and EP as dependent variable

	Model A (AAA)			Model B (EP)		
Independent Variables	**Predicted Sign**	**Coefficient (OLS t-statistic)**	Prob.	**Predicted Sign**	**Coefficient (OLS t-statistic)**	Prob.
Intercept		0.1239	*		-0.0200	*
		(29.7609)			(-3.0808)	
ET		..		+	0.6098	*
					(69.6995)	
Size	-	-0.0055	*	+	0.0015	*
		(-15.7133)			(2.6947)	
ROA	-	-0.0001	*	+	-0.0001	*
		(-5.6658)			(-2.4453)	
SG	-	0.0000	**	+	-0.0002	**
		(-0.7349)			(-2.1042)	
SL	-	0.0000	*	+	0.0000	*
		(5.8401)			(3.0687)	
DE	+	3.86E-07	*	+	-1.73E-07	
		(1.6590)			(-0.3020)	
ADR	-	0.0006	*	+	-0.0037	
		(0.3188)			(-1.2741)	
Big4	-	-0.0039	*	+	0.0091	*
		(-2.8789)			(4.2677)	
Law	-	0.0020	*	+	0.0078	*
		(1.5535)			(3.9727)	
Number of obs.		12,284			12,283	
Adj. R-squared		0.040425			0.3650	

Variables are defined as follows: ET consists on earnings before extra items in current year (wc01551); Size is the natural logarithm of firm's total assets (wc02999); ROA is return on assets (wc08326); SG is sales growth and it is computed by sales of current year to sales of previous year -1 (wc01001); SL is sales of current year per employee (wc01001 and wc07011).; DE is debt to Equity given by total debt to common equity (wc008231); ADR is a dummy which is one if firm has got an ADR list and zero otherwise (wc06110); Big4 is a dummy and it is one 1 if auditing firm is one of the four biggest international and zero otherwise (wc07800); Law is a dummy which is one if the country origin is Common law and zero otherwise.
*correlation is significant at the 0.01 level.
**correlation is significant at the 0.10 level.

2.2. Two subsamples to test FRQ financial determinant

Our results show that debt to equity factor is not statistically relevant when we consider the financial variable alone or with all independent variable together (table 7 and 8). However, we have a huge standard deviation on this variable (table 3). Therefore, we decided two divided sample into two sets: high leveraged firms, which DE variable is bigger than 80% (this value is a little above of the sample average); and low leveraged firms otherwise.

Then we test the second and the third hypotheses to investigate whether capital structure affects, or not, accounting information. We still use two issues to access FRQ: Absolute Value of Abnormal Accruals (AAA) and Earnings Persistence (EP).

As we can see from table 9 to 11 DE becomes statistically significant and in a 1% level for firms with higher debt to equity than the sample mean. Just in case of testing all variables with EP model DE was not significant. However, the effects produced on FRQ are still very small since DE coefficient is close to zero in all situations (table 12).

Additionally, we find evidence that for firms with DE below 80% the capital structure was not statistically significant. This is a robust result since it doesn't depend on the proxy used to FRQ and it doesn't depend on the variables included in the models (table 9 to 12).

Table 9:
H02- Financial determinants of FRQ using AAA as dependent variable with two sub-samples (high leveraged where DE >80 and less leveraged where DE<80)

Independent Variables	**Predicted Sign**	**Coefficient (OLS t-statistic) DE<80**	Prob.	**Coefficient (OLS t-statistic) DE>80**	Prob.
Intercept		0.0558	*	0.0513	*
		(71.7431)		(53.7242)	
DE	+	-5.47E-08		2.53E-06	*
		(-0.1246)		(3.3449)	
ADR	-	-0.0119	*	-0.0174	*
		(-5.4613)		(-7.5138)	
Number of obs.		8,017		4,634	
Adj. R-squared		0.0084		0.0190	

Variables definitions are in table 7.
*correlation is significant at the 0.01 level.

Table 10:
H02- Financial determinants of FRQ using EP as dependent variable with two sub-samples (high leveraged where DE >80 and less leveraged where DE<80)

Independent Variables	**Predicted Sign**	**Coefficient (OLS t-statistic) DE<80**	Prob.	**Coefficient (OLS t-statistic) DE>80**	Prob.
Intercept		0.0115	*	0.0143	*
		(7.7818)		(12.2709)	
ET	+	0.6359	*	0.4529	*
		(73.1645)		(32.6183)	
DE	+	-1.12E-07		-1.59E-06**	
		(-0.1404)		(-1.7834)	
ADR	+	0.0001		0.0028	
		(0.0189)		(1.0137)	
Number of obs.		7,873		4,579	
Adj. R-squared		0.4094		0.2029	

Variables definitions are in table 7.
*correlation is significant at the 0.01 level.

Table 11:

H07- All determinants of FRQ using AAA as dependent variable with two sub-samples (high leveraged where DE >80 and less leveraged where DE<80)

Independent Variables	Predicted Sign	Coefficient (OLS t-statistic) DE<80	Prob.	Coefficient (OLS t-statistic) DE>80	Prob.
Intercept		0.1223	*	0.1239	*
		(22.1460)		(18.9117)	
Size	-	-0.0055	*	-0.0054	*
		(-11.6366)		(-10.2967)	
ROA	-	-0.0002	*	0.0000	
		(-7.3598)		(-0.3186)	
SG	-	0.0000		0.0046	*
		(-0.8691)		(3.6858)	
SL	-	0.0000	*	0.0000	*
		(5.3048)		(2.5517)	
DE	+	-1.47E-08		2.24E-06	*
		(-0.0342)		(2.8952)	
ADR	-	0.0026		-0.0032	
		(1.0459)		(-1.1774)	
BIG4	-	-0.0028		-0.0061	*
		(-1.5682)		(-2.8789)	
Law	-	0.0044	*	-0.0035	**
		(2.7868)		(-1.6275)	
Number of obs.		7,748		4,536	
Adj. R-squared		0.0386		0.0517	

Variables definitions are in table 8.
*correlation is significant at the0.01 level.
**correlation is significant at the 0.05 level.

Table 12:

H03- All determinants of FRQ using EP as dependent variable with two sub-samples (high leveraged where DE >80 and less leveraged where DE<80)

Independent Variables	Predicted Sign	Coefficient (OLS t-statistic) DE<80	Prob.	Coefficient (OLS t-statistic) DE>80	Prob.
Intercept		-0.0328	*	-0.0134	***
		(-3.4772)		(-1.6429)	
ET	+	0.6286	*	0.4505	*
		(54.9210)		(29.0412)	
Size	+	0.0026	*	0.0008	
		(3.2378)		(1.2752)	
ROA	+	-0.0001		-0.0001	**
		(-1.0157)		(-2.0830)	
SG	+	-0.0002	**	-0.0017	
		(-1.7990)		(-1.1375)	
SL	+	0.0000	**	0.0000	*
		(1.7856)		(3.0937)	
DE	+	-9.62E-08		-7.76E-07	
		(-0.1316)		(-0.8344)	
ADR	+	-0.0078	**	-0.0001	
		(-1.8173)		(-0.0335)	
BIG4	+	0.0073	*	0.0128	*
		(2.4296)		(5.0575)	
Law	+	0.0087	*	0.0066	*
		(3.2736)		(2.5671)	
Number of Obs.		7,748		4,535	
Adj.d R-squared		0.3933		0.2093	

Variables definitions are in table 8.
*correlation is significant at the0.01 level.
**correlation is significant at the 0.05 level.

Section 3: Conclusions

We found evidence that economic performance affects Financial Report Quality (FRQ) in European Countries.

Firm's size is the most significant factor in defining financial information quality because, regardless of whether we use abnormal accruals or earnings persistence to access that quality, it is always statistically significant. The biggest firms exhibit the highest FRQ since there is a negative relation between size and abnormal accruals and there is a positive relation between size and earnings persistence. The biggest firms and with high ROA have several pressures to exhibit Financial Information with high quality. This also can mean that smallest firms have Financial Reports with poorer quality. They should be given special attention, namely specific regulation to assure good information in Financial Reports.

The earnings reported in the current year are also an important factor in explaining FRQ. It was only included in one model (B), which more readily explains our FRQ proxy. In addition, the independent variables may explain FRQ better when we use EP rather than AA to estimate FRQ.

Of the other economic variables included, only sales growth is statistically significant at 10% level. Labour productivity is not consistent with this strong relation between economic factors and FRQ.

The financial variables considered don't have a significant effect under FRQ in European Countries:

About capital structure the results obtained show us that it is not significant, both in abnormal accruals and in earnings persistence. This only becomes a significant factor when we consider all factors together with AAA as FRQ proxy. The sign is that expected: firms with heavy debt to equity tend to reduce FRQ. However, we found evidence that the relation between capital structure and FRQ is not linear since DE (Debt to Equity) becomes a FRQ determinant to those firms which are high leveraged. This is observable in the two models less in model B with all variables. The results for less leveraged firms confirmed that for those firms capital structure has no implications on FRQ.

ADR statistical significances and signs are not consistent. Therefore we can not say that this is a relevant factor of FRQ.

The last set of variables considered was related with firm's control. The results we obtained shows that control variables affect FRQ of European firms.

As in literature, we obtained that firms audited by one Big4 have more accurate Financial Reporting. This result is robust since it is obtained with the two FRQ proxies. Finally, Law was not very consistent but when it was statistically significant it produced the expected effect: countries with common law protect investors more by increasing FRQ and those countries are less represented in our sample.

References

Astami, E. and Tower, G., 2006,. "Accounting policy choice and firm characteristics in the Asia Pacific Region: an international empirical test of costly contracting theory", The International Journal of Accounting, vol. 41, pp. 1-21.

Beatty, Anne and Weber, Joseph, 2003, "The effects of debt contracting on voluntary accounting method changes", The Accounting Review, vol. 78, no. 1. pp. 119-142.

Bradshaw, Mark T.; Bushee. Brian J. and Miller, Gregory S., 2004, "Accounting choice, home bias and U.S investment in non-U.S. firms", Journal of Accounting Research, vol. 42, no. 5, pp.795-840.

Christie, Andrew A. and Zimmerman, Jerold L., 1994, "Efficient and opportunistic choices of accounting procedures: corporate control contest", The Accounting Review, vol. 69, no. 4, pp. 539-566.

Dechow, P. M.; Sloan. R. G. and Sweeney. A. P., 1995, "Detecting earnings management", The Accounting Review, no. 70, pp. 193-225.

Demerjian, Peter; Lev, Baruch and McVay, Sarah (2006), "Managerial ability and earnings quality", Working paper.

Fields, Thomas; Lys, Vicent and Vicen, Linda, 2001, "Empirical research on accounting choice", Journal of Accounting & Economics, no. 31, pp. 255-307.

Gelos. R. Gaston and Wei. Shang-Jin., 2005, "Transparency and international portfolio holdings", The Journal of Finance, vol. LX, no. 6, pp. 2987-3020.

Gopalakrishnan. V., 1994, "Accounting choice decisions and unlevered firms: further evidence on debt/equity hypothesis", Journal of Financial and Strategic Decisions, vol.7, no. 3, pp.33-47.

Jones, Jennifer J., 1991, "Earnings management during import relief investigations", Journal of Accounting Research, vol. 29, no. 2, pp. 193-228.

La Porta, R.; Lopez-de-Silanes, F.; Shleifer, A. and Vishny, R., 2000. "Investor protection and corporate governance", Journal of Financial Economics 58, pp. 3-27.

Lacker, David F. and Richardson, Scott A., 2004, "Fees paid to audit firms, accrual choice and corporate governance", Journal of Accounting Research, vol. 42, no. 3, pp. 625-658.

Mitton, Todd, 2002, "A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis", Journal of Financial Economics, 64, pp. 215-241.

Phillips, John; Pincus, Morton; Rego, Sonja Olhoft, 2003, "Earnings management: new evidence based on deferred tax expense", The Accounting Review, vol.78, no. 2, pp.491-521.

Schipper, Katherine and Vicent, Linda, 2003, "Earnings quality", Accounting Horizons, supplement, pp.97-110.

Scott, William R., 2003. "Financial Accounting Theory", Prentice Hall, third edition.

Soares, Nuno and Stark, Andrew, 2008, "How mispriced are accruals in the UK?", Working paper, Manchester Business School.

Warfield, Terry D.; Wild, John J. and Wild, Kenneth L., 1995, "Managerial ownership, accounting choices and informativeness of earnings", Journal of Accounting and Economics 20, pp. 61-91.