

**ACCOUNTING FOR FINANCIAL
INSTRUMENTS: A COMPARISON OF
EUROPEAN COMPANIES' PRACTICES
WITH IAS 32 AND IAS 39**

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ACCOUNTING FOR FINANCIAL INSTRUMENTS: A COMPARISON OF EUROPEAN COMPANIES' PRACTICES WITH IAS 32 AND IAS 39

This paper analyses accounting for financial instruments of STOXX 50 companies and compare them to the requirements of IAS 32 and IAS 39, before IFRS are mandatory in the European Union. We use a list of 120 categories of inquiry and 370 possible responses and analyse companies' annual reports. The results show that the majority of companies disclose the fair value amounts and methods of calculation but the information is neither clear nor objective, preventing the fair value information from being relevant and useful. We conclude that companies have a long way to go in terms of accounting and disclosure of financial instruments, namely derivatives. The mandatory adoption of more stringent standards such as the IAS 32 and IAS 39 may improve the information disclosed by companies. Doubts about the compliance degree and the usefulness of the information still remain. This paper brings new perspectives to the challenges of IAS/IFRS adoption, namely to what relates to fair value measurement.

Key words: Accounting for financial instruments, Fair value accounting, International Accounting, Accounting harmonisation, IAS/IFRS, STOXX 50

1. INTRODUCTION

IAS 32 and IAS 39 are seen as the most complex IASB standards in terms of understandability and the ones that are more difficult to implement by companies (BDO *et al.* (2003); Jermakowicz (2004); Sucher and Jindrichovska (2004); Larson and Street (2004) and Street and Larson (2004)); additionally, the requirements of these standards have generated much controversy among the various agents on the accounting scene and it is far from being a closed issue (Pacter (2005); Whittington (2005); Walton (2004) Gélard (2004) and Hague (2004)). Additionally, the 2001/65/EC Directive, which amended the Forth (78/660/EEC) and Seventh (83/349/EEC) Directives as regards valuation rules, allowing for accounting for financial instruments at fair value, and Regulation 1606/2002, known as IAS Regulation, are effective signs of the irreversibility of the accounting harmonisation process within Europe, resulting in many companies adopting fair value measures (Schipper (2005)).

Within this context, the purpose of this paper is twofold. First, we want to analyse current accounting practices for financial instruments by European companies. Then, we want to compare these practices with the measurement, recognition and disclosure requirements of IAS 32 and IAS 39, in order to ascertain how far the European companies are from IAS requirements.

The remainder of the paper is organised as follows: Section 2 reviews prior literature. Section 3 describes research design. Section 4 presents the empirical results and section 5 discusses the results and presents some limitations of the study.

2. PRIOR LITERATURE

Prior studies that analyse accounting practices under financial instrument accounting standards include those of Chalmers (2001), Chalmers and Godfrey (2000), Blankley *et al.* (2000), Roulstone (1999) and Mahoney and Kawamura (1995). Chalmers (2001) and Chalmers and Godfrey (2000) show high levels of non-compliance among Australian companies and problems of understanding, comparability and consistency with derivative disclosures. Chalmers and Godfrey (2000) conclude that companies are not disclosing details about derivative accounting policies making the information not useful and not comparable. They also find diversity in terms of the clarity, detail and consistency of companies'

disclosures about the classification of accounting policies. Regarding accounting for hedges, companies generally state that they use the same accounting method as the underlying, but do not describe the method in particular. They also find low levels of disclosure regarding special items of hedges of forecasted transactions. Regarding fair value disclosures, they find that companies disclose the fair value but show reluctance to disclose the calculation method.

Both Blankley *et al.* (2000) and Roulstone (1999) measure compliance with FRR 48¹ of US companies. Blankley *et al.* (2000) find mixed results: compliance with qualitative disclosure requirements concerning company's risk and its management is high, but detailed disclosures for the quantitative items are incomplete or lacking. Roulstone (1999) finds that disclosures are not presented in accordance with SEC requirements: there is lack of contextual information regarding quantitative market risk exposure and low details about risk management procedures and accounting policies.

Mahoney and Kawamura (1995) analyse compliance with SFAS 119² disclosures. The items that show lowest levels of disclosure are cash requirements of derivative financial instruments held or issued, disclosures about trading derivatives (average fair value, end-of-period fair value and net gains or losses), hedges of anticipated transactions, gap analysis and value at risk disclosures.

In another stream of research, Edwards Jr. and Eller (1995), Edwards Jr. and Eller (1996), Roulstone (1999), Woods and Marginson (2004), Dunne *et al.* (2004) and Hamlen and Largay (2005) try to assess the increase in quality/understanding of the disclosures as a consequence of a new standard on financial instruments. Edwards Jr. and Eller (1995) and Edwards Jr. and Eller (1996) analyse the top ten US dealer banks' annual reports, after SFAS 119 had become effective. They conclude that the depth of both the qualitative and the quantitative disclosures improved. They argue that the experimentation of better approaches to disclosure encouraged by standard setters is evident namely in increasing transparency but further efforts should continue to be made.

Roulstone (1999) concludes that the quality of the disclosures improved after FRR 48 but there is still room for improvement, namely regarding the detail of quantitative measures of market risk and discussion of risk management activities.

¹ FRR 48: Disclosure of Accounting Policies for Derivative Financial Instruments and Derivative Commodity Instruments and Disclosure of Quantitative and Qualitative Information about Market Risk Inherent in Derivative Financial Instruments, Other Financial Instruments and Derivative Commodity Instruments, issued by the US Securities Exchange Commission, 1997.

² SFAS 119: Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments, issued by the Financial Accounting Standards Board (FASB), 1994.

Woods and Marginson (2004) and Dunne *et al.* (2004) analyse the implementation of FRS 13³ in the UK. Woods and Marginson (2004) conclude that the information disclosed lacks usefulness. The reasons for this are the generic nature of qualitative disclosures (in line with the USA study of Roulstone (1999)), lack of detail and comparability of the quantitative disclosures and difficulty of combining qualitative and quantitative disclosures. Dunne *et al.* (2004) conclude that the implementation of a mandatory standard on derivatives is associated with an increase in disclosures in the annual reports. In a related study, Dunne *et al.* (2003) find support for the introduction of the standard from preparers, though numerical disclosures appear to be less popular than narrative disclosures, because of the time and effort needed to prepare them.

Hamlén and Largay (2005) analyse the disclosures under SFAS 133. They find that companies increase disclosures after SFAS 133, but disclosures are not informative enough and reflect unobservable assumptions and choices, harming comparability among companies.

Concluding, there is wide evidence of problems in the accounting for financial instruments around the world. In the context of the convergence to IFRS within European Union and of the actual discussion about new models and paradigms of accounting, especially devoted to the financial instruments, we find that the objectives that we stated for this research are useful and timely. This research improves our knowledge and understanding of the complex reality of fair value accounting.

3. RESEARCH DESIGN

With the aim of identifying accounting practices for financial instruments, we analyse companies' annual reports⁴ using a pre-defined list of categories. Table 1 summarises some recently published studies (all of them reviewed in the prior research section) that examine information published on the companies' annual reports in order to identify accounting practices. All studies are specifically concerned with derivative accounting and disclosure practices. This paper extends the analysis to all financial instruments.

³ FRS 13: Derivatives and other Financial Instruments: Disclosures, issued by the UK Accounting Standards Board, 1998.

⁴ Accounting practices are communicated to external parties in many other forms than the annual report, such as press releases, interim financial reports and institutional presentations. However, annual reports are not subject to journalistic interpretations and distortions due to press reporting (Guthrie and Parker (1989)) and are generally considered to be the primary source of information for external parties, such as investors, creditors and the government. Moreover, the analysis of accounting practices for financial instruments through the annual reports is supported by previous research (see Table 1).

Table 1: Content analysis studies on accounting practices for financial instruments

	Instrument/Standard	Country
Woods and Marginson (2004) and Dunne <i>et al.</i> (2004)	Derivatives/ FRS13 (a)	United Kingdom
Chalmers (2001, Chalmers and Godfrey (2000)	Derivatives / AASB 1033 (b)	Australia
Blankley <i>et al.</i> (2000) and Roulstone (1999)	Derivatives / FRR 48 (c)	United States of America
Edwards Jr. and Eller (1995, (1996)	Derivatives/ SFAS 119 (d)	United States of America

(a) FRS 13: Derivatives and other Financial Instruments: Disclosures, issued by the UK Accounting Standards Board, 1998.

(b) AASB 1033: Presentation and Disclosure of Financial Instruments, issued by the Australian Accounting Standards Board (AASB), 1996.

(c) FRR 48: Disclosure of Accounting Policies for Derivative Financial Instruments and Derivative Commodity Instruments and Disclosure of Quantitative and Qualitative Information about Market Risk Inherent in Derivative Financial Instruments, Other Financial Instruments and Derivative Commodity Instruments, issued by the US Securities Exchange Commission, 1997.

(d) SFAS 119: Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments, issued by the Financial Accounting Standards Board (FASB), 1994

In order to develop the analysis of the annual reports, we draw up a list of the categories of inquiry and possible responses that we are interested in analysing. These categories and responses cover the items that assist our attempt to identify the adoption of IAS 39 measurement and recognition rules and the existence and content of disclosures required by IAS 32 and IAS 39⁵.

The analysis of the annual reports is structured into two levels:

1 – Analysis of the Balance sheet and Income statement to obtain numerical information about some generic accounting amounts and financial instruments specific amounts, such as total assets; total liabilities; total sales/total turnover⁶; financial investments, excluding parts of capital in group and associated companies, loans to group and associated companies and prepayments; short-term marketable securities; and loans, which included long and short term bond issues, loans and debts to credit institutions⁷.

2 – Analysis of the Notes to the accounts, and other parts of the annual report, namely letter to shareholders, management report and corporate governance report in order to codify the quantitative and qualitative information into the pre-defined categories and responses.

⁵ Before developing the analysis for the entire sample, we conducted an exploratory analysis on 3 selected annual reports to test the adequacy of the categories/variables identified. This exploratory analysis resulted in few adjustments to the first list of categories related to the amounts of gains and losses realised/non-realised for financial instruments, commissions due to financial instrument operations and amounts of collateral of derivative instruments.

⁶ In financial companies, this amount corresponds to total revenue.

⁷ This item is not applicable to financial institutions and so it is not obtained for this type of companies.

As derivative instruments have very specific accounting rules compared with other non-derivative instruments, we divide this part of the analysis into three parts. The first relates to non-derivative financial instruments, the second to derivative instruments and the third to information related to all financial instruments.

For each category of information, we qualify the type of information reported as either quantitative (numerical/monetary) or qualitative (narrative/descriptive) and register the location in the annual report (letter to shareholders, management report, notes to accounts, other, including corporate governance report and more than in one location).

In all, 120 categories and 370 possible responses are drawn up. Appendix 1 shows the list of categories⁸.

Sample design and data collection

Our sample includes all companies of the Dow Jones Stoxx 50 Index on 31st December 2001. The reason for this choice lies in the fact that this index includes the leading European stocks from 17 western European countries⁹ allowing us to attain a global view over the other countries that are going to be affected by Regulation 1606/2002. The annual reports of the STOXX 50 companies were all obtained from each company's web pages. **Error! Reference source not found.** shows the categorisation of the sample by economic sectors and by country of origin.

Table 2: Sample

By economic sector			By country of origin		
	N	Percent		N	Percent
Basic materials	1	2.0	Spain	3	6.0
Consumer, cyclical	4	8.0	Germany	8	16.0
Consumer, non-cyclical	4	8.0	Finland	1	2.0
Energy	5	10.0	France	8	16.0
Financial	21	42.0	UK	13	26.0
Healthcare	4	8.0	Netherlands	6	12.0
Technology	4	8.0	Italy	3	6.0
Telecommunications	5	10.0	Sweden	1	2.0
Utilities	2	4.0	Switzerland	7	14.0
Total	50	100.0	Total	50	100.0

⁸ A complete list with all the 370 possible responses is available from the authors upon request.

⁹ Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, the Netherlands, Norway, Spain, Sweden, Switzerland, Portugal and the United Kingdom.

We begin by developing a standard form to be used to collect the responses to each of the categories of inquiry. All data are then collected by hand from the companies' 2001 annual reports¹⁰. A separate form is completed for each company. Finally, we enter the responses from the completed forms in a database from which the data can be analysed (SPSS software). The main descriptive statistics of the sample are summarised in Table 3. In this group of companies, 12% are listed solely on the stock exchange of the country of origin. The majority of the companies are listed on several stock exchanges, 82% in the USA and 4% on non-USA stock exchanges. Regarding the type of auditor, almost all companies (except one) are audited by an auditor that belongs to the big five group.

Table 3: Selected descriptive statistics
Continuous variables

	N	Min	Max	Mean	Std. Dev.
Total assets (10 ⁶ euros)	50	14872.00	918222.00	242610.30	258347.30
Liabilities/ Asset (%)	50	18.09	101.29	74.6148	20.45238
Liabilities/Equity (D/E) (%)	50	-7829.89	3868.84	686.3357	1557.33350
Sales (10 ⁶ euros)	50	5689.77	197682.97	48513.66	39811.26
Sales to foreign countries/Sales (%)	45 (a)	19.32	98.55	68.79	23.36
Market value /Assets (%)	50	4.08	606.71	82.03	122.50
Financial liabilities/ Assets (%)	29 (b)	4.62835	66.64	24.44886	15.67519

(a) 5 companies did not disclose in their annual reports the amount of sales to foreign countries

(b) This ratio is calculated for all non-financial companies

Categorical variables

	Attributes	N	%
Listing status	Listed, origin country stock exchange	6	12.0
	Multilisting, including USA	41	82.0
	Multilisting, not including USA	2	4.0
	Do not disclose	1	2.0
Auditor status	Big five	49	98.0
	Not big five	1	2.0

4. EMPIRICAL RESULTS

Next we present the main results of the analysis of the annual reports based on the frequencies for each accounting method and for each disclosure and compare companies' accounting choices with those required by IAS 32 and IAS 39 methods and disclosures. Analysis of

¹⁰ With the exception of the BT Group, Diageo, Siemens and Vodafone, which have end of years different from the 31st December. For these companies we choose the 2002 annual reports, since IAS 39 became operative for financial statements covering financial years beginning on or after 1 January 2001.

frequencies is the most common technique found in IAS compliance and harmonisation studies (Tay and Parker (1990); Evans and Taylor (1982); Nobes (1990); Street and Gray (1999); Street *et al.* (1999); Chalmers (2001); Chalmers and Godfrey (2000)).

The research questions stated are the following:

- How are European companies accounting for financial instruments (including derivatives) costs, gains and losses?
- How are European companies calculating and disclosing the fair value of financial instruments?
- How are European companies disclosing the risks of their financial instruments positions?
- Is the disclosed information understandable and comparable?
- How far are these practices from IAS 32 and IAS 39 requirements?

Before presenting the results, two notes must be made. The first note relates to non-disclosure. We are very careful when classifying a company as non-disclosing. An item is considered non-disclosed only if it is applicable to the company. If the opposite is true, it is considered non-applicable and the company is excluded from the analysis of that specific item. The second note relates to the analysis by country. Our research objective is not to analyse the practices in the various European countries. Instead we aim to describe the practices among a group of big European listed groups, global player companies, supposedly the ones possessing the best information systems and applying the most advanced and sophisticated accounting and disclosure practices, and which can be seen as benchmarks by other parties. Our analysis applies to the group of companies of the STOXX 50 as a whole.

Financial instruments, excluding derivatives

Measurement

Regarding measurement, more than a half of the companies (55.3%) adopt fair value for held-for-trading financial assets, according to IAS 39 requirements. However, for available-for-sale financial assets the majority of companies (64%) adopt cost criterion, against IAS 39. Regarding held-for-trading liabilities, there are only 4 companies that report this type of liability. All of them use fair value in balance sheet recognition.

Table 4: Accounting Policies

	Non disclosing		Cost or amortised cost		Fair value or market value	
Held-for-trading financial assets	0	.0%	21	44.7%	26	55.3%
Held-to-maturity financial assets	0	.0%	44	100.0%	0	.0%
Loans and Receivables Originated by the Enterprise	0	.0%	49	98.0%	1	2.0%
Available-for-sale financial assets	0	.0%	32	64.0%	18	36.0%
Held-for-trading Liabilities	0	.0%	0	.0%	4	100.0%
Other financial liabilities	0	.0%	50	100.0%	0	.0%

Fair value disclosures

According to IAS 32 and IAS 39 companies are required to disclose the fair value determination method and the significant assumptions adopted. These disclosures are essential for the comprehensibility and comparability of the information. In fact, as companies use several financial instruments that are not traded in liquid markets, their fair value must be estimated. This fact implies choices by companies. Without clear and complete information about the methods and the assumptions adopted, the fair value information is not useful, because it is not reliable and does not permit comparisons, making it very difficult to ascertain the company's exposure to risk.

Regarding the fair value calculation method, 22% of companies do not disclose any type of method. Most companies (68%) report the use of more than one method, depending on the type of instrument and on the fact that the instrument is listed or not. Among these companies, all of them use market quotation for listed securities and some other method when market quotation is not available. The most used method is discounted cash-flows, which is pointed out by 21 companies. Market quotations of similar instruments, independent appraisals and option valuation techniques are each mentioned by 4 companies. We register several cases (13) of generic and vague mention to "standard valuation models", "market accepted valuation techniques", or "directors' estimates" (see Appendix 2). Some companies (e.g. ABN) also make a reference to the subjective nature of values obtained by estimation methods advising that disclosed fair values may not be comparable with other companies' and may not be indicative of the net realisable value. We argue that this limitation can be overcome with a full disclosure information system, which includes the description of the method and clear and objective information (with quantitative information) about the adopted assumptions and the sources of those assumptions and values, per type of instrument. Regarding significant assumptions adopted, there is an almost total lack of information disclosed by companies. None of the sample companies discloses quantitative information of

assumptions adopted, such as discount rates, credit risk adjustments, etc. The only information that we find is of qualitative type, such as that of Astrazeneca (p. 73): “...the fair value of remaining debt is estimated using appropriate zero coupon valuation techniques based on rates current at year end” and of Zurich Financial Services (p. 79): “...discounted cash flow calculations based upon the Group’s current incremental lending rates for similar type loans. Universal life and other investment contracts: fair values are estimated using discounted cash flow calculations based on interest rates currently being offered for similar contracts with maturities consistent with those remaining for the contracts being valued.”

Table 5: Fair value calculation method

	N		
Non-disclosing*	11	22.0%	
Disclosing			
Market quotation	5	10.0%	
Market quotation of a similar instrument	0	0	
Independent appraisals	0	0	
Discounted cash-flows	0	0	
Option valuation models	0	0	
Several methods	34	68.0%	
			N
			Market quotation
			34
			Market quotation of a similar instrument
			4
			Independent appraisals
			4
			Discounted cash-flows
			21
			Option valuation models
			4
			Other specified calculation methods
			6
			Other not specified
			13

* Non-disclosing stands for companies that say nothing about calculation methods; if the company refers to standard valuation techniques or another generic expression it is included in the category of other not specified.

Available-for-sale assets

When companies adopt fair value for available-for-sale financial assets, under IAS 39 they must disclose additional information. They must disclose where (equity / profit or loss for the period) they register unrealised gains or losses and if it is in equity, they must disclose the amounts recognised and removed from equity during the year. Among our sample companies that adopt fair value to this class of assets (18 companies), 16 companies recognises unrealised gains and losses in equity. Additionally, only 10 companies, among those 16 that register gains and losses in equity, disclose the amount taken to equity and 7 disclose the

amount removed from equity and recognised in profit and losses. Summing up, there is quite a large percentage of non disclosure regarding this item.

Derivatives

Before analysing the accounting practices for derivatives, we are going to characterise the sample regarding instruments adopted and purposes stated for the use of derivatives.

Table 6: Derivatives

Panel A: Instrument types

		Instrument type			
		Swaps	Options	Forwards	Futures
Underlying	Interest rate	49	35	30	19
	Exchange rate	38	31	45	11
	Equity	10	15	5	12
	Commodities	9	11	8	14
	Unknown	1	1		1

Notes: When identifying the type of instruments used, the absence of a reference to a specific instrument is interpreted as it not being used.

Panel B: Purposes of holding derivatives

	N
Non-disclosing	0
Hedging only	16
Hedging and no mention to trading	10
Trading	0
Hedging and trading	24

All sample companies are derivative users and have open positions at end of year. Analysing the type of risk of the derivatives adopted (Table 6, panel A), we conclude that companies adopt most interest rate and exchange rate instruments. The most used derivative is the interest rate swap, which is used by 49 companies, followed by exchange rate forwards, which are used by 45 companies. Exchange rate swaps and exchange rate and interest rate options follow those two instruments in the list of the most adopted derivatives.

According to IAS 32 and IAS 39, companies must disclose the purpose of holding derivatives. In our sample all companies state the objective of derivative adoption. In order to classify companies regarding the purposes of holding derivative instruments, we consider four categories of purposes (besides the category for non-disclosure): hedging only (when the company specifically refers that uses derivatives for hedging and not for speculative strategies), hedging without any mention to speculative strategies, speculation and finally,

both hedging and speculation. We think that this classification is useful because the specific mention by companies that they do not use derivatives for speculation can be interpreted that companies expect that this disclosure is perceived by the market as a non-risky use of these types of instruments, which are normally related to risky positions. All the companies use derivatives for hedging purposes. The majority of companies (24) state that behind hedging, they use derivatives for investment and speculative purposes. Additionally, a group of companies (16) specifically states that it adopts derivatives for hedging only, not using them for other purposes, namely for speculative strategies.

Accounting policies

The disclosure of the accounting policies adopted regarding derivative instruments is analysed by considering 4 categories of methods of recognition and measurement (lower of cost or market, fair value/market value only, hedge accounting only and both fair value/market value and hedge accounting), besides the category for non-disclosure (Table 7, panel A). Most companies are classified in the category of fair value/market value plus hedge accounting meaning that the accounting policy adopted depends on the purpose of using derivatives. We register 3 companies that always use fair value/market value for all their derivatives positions and 11 companies that only use hedge accounting. Then we analysed the accounting policies applied within hedge accounting (Table 7, panel B). Most companies (31) use the deferral method to account for gains and losses of derivatives in hedging relations. This is against the requirements of IAS 39, which requires that gains and losses in the hedging position (derivative) be recognised immediately in equity or profit and loss account, and gains and losses in the hedged position also be recognised immediately (even if out of the hedge relation the hedge position is being measured at cost). 15 companies adopt the accounting policy required by IAS 39, that is, recognise gains and losses in the profit and loss account or in equity.

Table 7: Accounting policies and methods adopted
Panel A: All types of transactions

	N	Percent
Non-disclosing	2	4.0
LOCOM	2	4.0
Fair value/ Market value	3	6.0
Hedge accounting	11	22.0
Fair value/ Market value + hedge accounting	32	64.0

Total	50	100.0
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Panel B: Hedging accounting policies

	N	Percent
Non-disclosing	3	6.0
Deferral	31	62.0
Profit and loss account	1	2.0
Profit and loss account and equity	15	30.0
Total	50	100.0

Hedging disclosures

IAS 32 and IAS 39 prescribe quite an extensive list of disclosures regarding hedging operations. We analyse the degree of disclosure of each item required by IAS among our sample companies. The degree of non-disclosure is between 12% and 36% depending on the item. The biggest non-disclosure percentage is found in the fair value of the hedging instruments. Most of the companies disclose a description of the hedging operations, the instruments adopted for the operations and the type of risks hedged.

Table 8: Hedging

Panel A: Disclosures

	Non-disclosing		Disclosing	
Hedging description	10	20.0%	40	80.0%
Financial instruments designated as hedging instruments description	7	14.0%	43	86.0%
Their fair values	18	36.0%	32	64.0%
Nature of the risks being hedged	6	12.0%	44	88.0%

Panel B: Hedging of forecasted transaction disclosures

	Non-disclosing		Disclosing	
Period in which the transaction is expected to occur	37	82.2%	8	17.8%
Period in which it is expected to appear in the determination of net profit or loss	29	64.4%	16	35.6%

Panel C: Cash-flow hedging disclosures

	Non-disclosing		Disclosing		Non applicable	
Amount recognised in equity	6	12.0%	9	18.0%	35	70.0%
Amount removed from equity and reported in net profit or loss	11	22.0%	4	8.0%	35	70.0%
Amount removed from equity and added to the initial measurement of the acquisition cost	15	30.0%	0	.0%	35	70.0%

The so-called forecasted transaction hedges and cash-flow hedges imply, according to IAS 39, additional disclosures. In our sample, 45 companies engage in hedges of forecasted transactions and 46 in cash-flow hedges. Regarding the hedging of forecasted transactions, we

register a high degree of non-disclosure either regarding the disclosure of the period in which the forecasted transaction will occur or the disclosure of the period in which the operation will appear in the determination of net profit or loss (Table 8, panel B). Regarding the required disclosures for cash-flow hedges (Table 8, panel C), they relate to the accounting policy required by IAS 39 in this type of hedges. IAS 39 requires the disclosure of the amount recognised in equity, the amount removed from equity and reported in net profit or loss and the amount removed from equity and added to the initial measurement of the acquisition cost. Only 15 companies are eligible for this analysis, as shown in Table 7, panel B. The only item that is disclosed by the majority of companies belonging to this group is the amount taken to equity (disclosed by 9 companies). The other two items are not disclosed by the majority of companies.

Other derivative disclosures

Regarding other derivative policies disclosures (Table 9, panel A), financial control policy is the least disclosed item. Risk management policy and monitoring policy are disclosed by 86% and 58% of the companies, respectively. This denotes a good degree of disclosure of the risk management policy of the companies, but a medium and small degree of disclosure of the monitoring and the financial control policies applied to derivatives.

Table 9: Derivative disclosures

Panel A: Policies

	Non-disclosing		Disclosing	
Risk management policy	7	14.0%	43	86.0%
Monitoring policy	21	42.0%	29	58.0%
Financial control	32	64.0%	18	36.0%

Panel B: Risks

	Non-disclosing		Disclosing	
Segregation by risk categories	9	18.0%	41	82.0%
Extent	11	22.0%	39	78.0%
Maturity	25	50.0%	25	50.0%
Effective or weighted interest rate	36	72.0%	14	28.0%

Almost all the information disclosed by companies regarding these items is of a qualitative type, even regarding the financial control policy. In this item it would be expected that companies would present the financial controls and limits that they have defined to their derivative positions. Most of the time, what we find is a generic and qualitative description of

the controls. For example, Alcatel says that “The group controls credit risks related to these financial instruments by credits, investments limits authorisation and centralised treasury policies but do not ask for pledge or other guarantees to cover risks linked to these financial instruments.” Diageo refers to a “defined benchmark level” without specifying it. Zurich Financial Services also refers to the existence of limits but does not specify them. Some companies, such as Eni and Deutsche Telekom state that risk evaluation of their positions in this type of instruments is carried out according to Basel Committee recommendations. Several companies, most of them from the financial sector, make reference to the VAR technique as a measure of risk exposure and a means of risk control. In some cases, this technique is accompanied by other analyses, such as stress tests and sensitivity analyses. Two examples of detailed descriptions of VAR technique adoption from non-financial companies are the cases of Nokia and Novartis. Nokia says: “Nokia uses the Value-at-Risk (“VaR”) methodology to assess the foreign exchange risk related to the Treasury management of the Group exposures. The VaR figure represents the potential losses for a portfolio resulting from adverse changes in market factors using a specified time period and confidence level based on historical data. To correctly take into account the non-linear price function of certain derivative instruments, Nokia uses Monte Carlo simulation. Volatilities and correlations are calculated from a one-year set of daily data. The VaR figures assume that the forecasted cash flows materialize as expected”. Novartis states that “The Group uses a value at risk (“VAR”) computation to estimate the potential ten-day loss in the fair value of its interest rate-sensitive financial instruments, the loss in pre-tax earnings of its foreign currency price-sensitive derivative financial instruments as well as the potential ten-day loss of its equity holdings. In addition to these VAR analyses, the Group uses stress-testing techniques. Such stress-testing is aimed at reflecting a worst case scenario”.

Lastly, regarding the location of risk management policies, most companies disclose this information in the Management Report (20 companies), the non-audited part of the annual report and in the Notes to the accounts (19 companies).

When it comes to the disclosure of the risks of derivative positions (Table 9, panel B), the great majority of companies disclose information segregated by risk categories (exchange rate, interest rate, equity, commodity prices) and disclose the notional or other similar amount of their derivative positions. Yet, the maturity and the effective or weighted interest rate are not disclosed by the majority of companies.

Derivative fair value disclosures

As for other non-derivative instruments, the disclosure of the fair value calculation method and the significant assumptions adopted for the estimation of the fair value when there is not an active market for the derivative are essential for the usefulness and comparability of the fair value amounts. Again, we find that, though the majority of companies disclose the fair value amount of their derivative positions, they do not disclose the calculation methods (38% of companies) and the assumptions adopted to calculate the fair value (none of the companies disclose clear information about this). Finally, the degree of non-disclosure of the average fair value in the period is also almost total (90% of the companies).

Table 10: Fair value disclosures

	Non-disclosing		Disclosing	
Fair value amount	11	22.0%	39	78.0%
Significant assumptions	50	100.0%	0	.0%
Average fair value in the period	45	90.0%	5	10.0%

Analysing the methods of fair value calculation disclosed by companies, besides the companies that do not disclose this information (38%), the great majority state the use of more than one method of calculation, including the market value when it is available. When there is not a market for the instrument, fair value is calculated mostly by using discounted cash-flow techniques (by 16 companies) and option valuation models (by 8 companies). As for non-derivative instruments, we register several cases (12) of generic references to valuation techniques not specifying them.

Table 11: Derivative fair value calculation method

Non-disclosing	19	38.0%		
Market price	1	2.0%		
Similar instrument market price	0	.0%		
Independent appraisal	0	.0%		
Discounted cash-flow analysis	5	10.0%		
Option valuation model	0	.0%		
Several	25	50.0%	Market quotation	24
			Market quotation of a similar instrument	1
			Independent appraisals	6
			Discounted cash-flows	16
			Option valuation models	8
			Other not specified	12

Financial Instrument Risks

Interest rate risk disclosures

Within interest rate risk disclosures, Table 12, panel A, shows that most companies disclose the contractual repricing or maturity dates of the assets and liabilities exposed to interest rate risk. Yet, when it comes to the disclosure of the effects of future interest rate changes, the level of non-disclosure increases to 52% of the companies.

IAS 32 suggests several alternative formats for information disclosure, including tabular, narrative descriptions based on maturity time bands, fixed and floating rate exposures, interest rate sensitivity analysis and through the use of weighted average rates or ranges of rates. The formats to disclose interest rate risk exposure most chosen by companies are the tabular format (50% of the companies) and sensitivity analysis (30.4% of companies).

**Table 12: Interest rate risk
Panel A: Disclosures**

	Non-disclosing		Disclosing	
	N	%	N	%
Effects of future interest rate changes	26	52.0%	24	48.0%
Maturity dates	7	14.0%	43	86.0%

Panel B: Format

	N	%
Narrative descriptions	1	2.2%
Tabular format	23	50.0%
Sensitivity analysis	14	30.4%
Combination of several formats	8	17.4%

Credit risk disclosures

Regarding credit risk disclosures, overall the level of disclosure is very low. The counterparties are disclosed by a very small number of companies (20%). The maximum amount of credit risk exposure and the significant concentration of credit risk show slightly better disclosure levels, but they are still disclosed by a minority of companies (32% and 42%, respectively).

Table 13: Credit risk disclosures

	Non-disclosing		Disclosing	
	N	%	N	%
Counterparties identification	40	80.0%	10	20.0%
Maximum amount of credit risk exposure	34	68.0%	16	32.0%
Significant concentration of credit risk	29	58.0%	21	42.0%

5. DISCUSSION

Summarising, we conclude that about half of the companies are using fair value for held-for-trading financial assets, but less than half adopt this criteria for available-for-sale financial assets as required by IAS 39. The majority of companies disclose the fair value method, but the information is far from being clear and objective, preventing the fair value information from being relevant and useful. Regarding derivative accounting policies, the worst situation was recorded in the accounting for hedging transactions. The majority of companies are still using deferral methods and show low levels of disclosure.

We registered generic and qualitative type descriptions of risk management policies and derivatives' financial controls, making it difficult for users to have a clear understanding of information. Similar studies in other countries (Roulstone (1999), in USA, Woods and Marginson (2004), in the UK, Chalmers and Godfrey (2000), in Australia) also found that companies disclose generic information about the adoption of derivatives and risk management. Chalmers (2001) presents two arguments for these findings: the lack of quality of information available to managers and the proprietary nature of specific disclosure items. In her opinion, there are two areas, commodity risk and interest rate risk, which may be critical for companies due to their specific commercial sensitivity. Chalmers and Godfrey (2000) argue that the solution lies in more stringent standards with extended disclosure requirements in terms of quantity and specificity. They point out IAS 39 and SFAS 133 as examples of standards that require enhanced disclosures. Woods and Marginson (2004) are in line with this last solution. They expect that improvements in the derivative disclosures may be forthcoming with new financial instrument standards, namely as a consequence of IAS 32.

Our empirical study shows that companies have quite a long way to go in terms of accounting and disclosure of financial instruments, namely derivatives. The mandatory adoption of more stringent standards such as the IAS 32 and IAS 39 may improve the information disclosed by companies. However, since this area is quite critical and sensitive for companies as it deals with exposure to risks and their management, two doubts remain: first, if the existence of mandatory standards will mean compliance with them; second, even if companies comply with IAS 32 and IAS 39, it remains to be seen whether the information disclosed under these standards is more useful for decision-making.

Finally, we would like to mention some limitations of this study. First, we are aware that annual reports may not be the best source of information about compliance, at least, they are certainly not the only one. We should thus accept that our results may not show important aspects of accounting practices, and that they are naturally influenced by the source of information used. Then there is the limitation inherent in the research technique adopted. The authors took every care when examining the information provided in the annual reports and classifying it into the categories, but errors may have occurred.

In spite of these limitations, we think that this paper makes important contributions. We provide a first complete and exhaustive template for analysing the accounting practices for financial instruments based on companies' annual reports. Then, the research describes the practices of the accounting for financial instruments of the biggest European companies (European global players), supposedly the ones possessing the best information systems and applying the most advanced and sophisticated accounting and disclosure practices. We show the areas in which these companies are farther away from complying with the requirements of IAS in relation to financial instruments, an issue widely accepted as being complex and one that is far from being closed.

These results are useful for the IASB and national standard setters and for every other company that is going to change to IFRS since they point out the areas which will require more work in order to achieve convergence to IAS 32 and IAS 39 and high degrees of compliance with these accounting standards.

Appendix 1 - List of categories for the content analysis

N	Category description	Number of answers
1	Financial investments	
2	Sort-term marketable securities	
3	Loans	

1. FINANCIAL INSTRUMENTS, EXCLUDING DERIVATIVES

Information about accounting policies		
4	Held for trading securities	3
5	Held-to-maturity securities	3
6	Loans and receivables originated by the enterprise	3
7	Available-for-sale financial assets	3
8	Liabilities held for trading	3
9	Other financial liabilities	3
10	Trade date vs Settlement date	2
11	Location of the information	5
Information about fair values and market values		
12	Measurement method	7
13	Significant assumptions	2
14	Fair value changes in Available-for-sale financial assets	3
15	Amount recognized in equity	2
16	Amount removed from equity	2
17	Unability of reliability in measurement	2
18	Financial assets description	2
19	Their carrying amount	2
20	Explanation of the reason	2
21	Range of estimates within which the fair value is likely to lie	2
22	Location of the information	5
Information about securitization and repurchase agreements		
23	Existence of operations	2
24	Type of information	2
25	Accounting policy	2
26	Type of information	2
27	Nature and extent	2
28	Type of information	2
29	Collateral	2
30	Type of information	2
31	Information about the key assumptions used in calculating the fair value of new and retained interests	2
32	Type of information	2
33	Whether the financial assets have been derecognized	2
34	Type of information	2
35	Location of the information	5
36	Impairment losses	2
37	Location of the information	5
38	Total interest income and total interest expense separately	2
39	Location of the information	5
40	For AFS assets, realized and unrealized profits/losses	2
41	Location of the information	5

2. DERIVATIVES

42	Type of user	4
43	Instruments	25
Information about accounting policies		
44	Risk management policy, including hedging policy	2
45	Type of information	2
46	Location of the information	5
47	Objectives of holding or issuing derivatives	5
48	Type of information	2
49	Location of the information	5

50	Accounting policies and methods adopted	5
51	Type of information	2
52	Location of the information	5
53	Monitoring and controlling policy	2
54	Type of information	2
55	Location of the information	5
56	Financial controls	2
57	Type of information	2
58	Location of the information	5
	Information about risks	
59	Segregation by risk categories	2
60	Type of information	2
61	Location of the information	5
62	Principal, stated value, face value, notional value	2
63	Type of information	2
64	Location of the information	5
65	Maturity	2
66	Type of information	2
67	Location of the information	5
68	Weighted average/effective interest rate	2
69	Type of information	2
70	Location of the information	5
	Information about hedging transactions	
71	Hedging description	2
72	Type of information	2
73	Location of the information	5
74	Accounting method	4
75	Type of information	2
76	Location of the information	5
77	Financial instruments designated as hedging instruments	2
78	Type of information	2
79	Location of the information	5
80	Fair values	2
81	Type of information	2
82	Location of the information	5
83	Nature of the risks being hedged	2
84	Type of information	2
85	Location of the information	5
	Future transactions hedging	
86	Existence	2
87	The period in which forecasted transactions are expected to occur	2
88	The period they are expected to enter in income	2
	Cash-flow hedging	
89	Existence	2
90	The amount recognized in equity	2
91	The amount removed from equity and recognized in income	2
92	The amount removed from equity and added to initial measurement of the acquisition cost	2
	Information about fair values	
93	Fair value	2
94	Method adopted	7
95	Significant assumptions	2
96	Average fair value during the year	2
97	Location of the information	5
	3. ALL FINANCIAL INSTRUMENTS	
	Information about interest rate risk	
98	Future changes in interest rates	2
99	Type of information	2

100	Maturity dates	2
101	Disclosure format	4
102	Location of the information	5
	Information about credit risk	
103	Counterparties identification	2
104	Type of information	2
105	Location of the information	5
106	Maximum amount of credit risk exposure	2
107	Type of information	2
108	Location of the information	5
109	Significant concentration of credit risk	2
110	Type of information	2
111	Location of the information	5
	Others	
112	Collateral – terms and conditions	2
113	Type of information	2
114	Location of the information	5
115	Collateral - Carrying amount and fair value	2
116	Type of information	2
117	Location of the information	5
118	Negative Information	2
119	Type of information	2
120	Location of the information	5
	Total answers	370

Appendix 2

Disclosures of non-specified calculation techniques

Company	
ABN	Fair value is based on quoted prices for traded securities and <i>estimated market value</i> for non-traded securities.
Aegon	Shares and convertible debentures reported under this caption are valued at their quoted price or, if unquoted, at <i>estimated market value</i> .
Barclays	... unlisted securities are valued based on the <i>Directors' estimate</i> , which takes into consideration discounted cash flows, price earnings ratios and <i>other valuation techniques</i> .
CGNU	...and <i>directors' valuations</i> for other unlisted securities, and for mortgages and loans.
Credit Suisse	In the absence of such a market, the fair value is established on the basis of a <i>valuation model</i> .
Eon	The fair value of funds and non-marketable securities is based on quoted market prices of the investments or <i>other appropriate valuation techniques</i>
Nokia	Available-for-sale investments are fair valued by using quoted market rates, discounted cash flow analyses and <i>other appropriate valuation models</i> at the balance sheet date.
Philips	The fair value of equity investments is based on quoted market prices. For other financial assets, fair value is based upon <i>the estimated market prices</i> .
Prudential	Fair value is based on quoted market prices for listed securities, and on quotations provided by external fund managers, brokers, independent pricing services or <i>values as determined by management</i> for unlisted securities.
Royal Bank of Scotland	Quoted market values are used where available; otherwise, fair values have been estimated based on discounted expected future cash flows and <i>other valuation techniques</i> .
UBS	However, for certain complex or illiquid financial instruments, we have to use <i>projections, estimates and models to determine fair value</i> . In addition, judgmental factors such as the need for credit adjustments, liquidity adjustments and other valuation adjustments affect the reported fair value amounts of many assets and liabilities.
Vivendi	In cases where quoted market prices are not available, fair value is based on estimates using present value or <i>other valuation techniques</i> .
Zurich financial services	Derivative and other financial instruments (included in other investments): fair values are estimated based on quoted market prices, on prices provided by independent brokers, or are calculated <i>on best market practice</i> .

Examples of disclosures of fair value calculation techniques

Allianz	Non-quoted companies at their net worth calculated by the DVFA method or at acquisition cost.
Bayer	The fair values are derived from market prices. Financial obligations are valued mainly on the basis of quoted prices, or in some cases by discounting future cash flows
BBVA	Unlisted securities: underlying book value of the holding per the latest available balance sheet, after taking into account the income projections for coming years which were used in determining the acquisition cost and persisted at year-end.
BNP Paribas	Fair value of unlisted securities is determined according to net asset value per share (consolidated, if applicable).
British Telecom	The fair value of the group's bonds, debentures, notes and other long-term borrowings has been estimated on the basis of quoted market prices for the same or similar issues with the same maturities where they existed and on the calculations of the present value of future cash-flows using the appropriate discount rates in effect at the balance-sheet dates, where market prices of similar issues did not exist.
Deutsch bank	Fair value is generally based on quoted market prices, price quotes from brokers or dealers or discounted expected cash flows.
Diageo	The fair values of other borrowings, derivative financial instruments and other financial liabilities and assets are estimated by discounting the future cash flows to net present values using appropriate market rates prevailing at the year end. These are based on fair values obtained from third parties.

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