

Accounting practices for financial instruments. How far are the Portuguese companies from IAS?

Patrícia Teixeira Lopes

and

Lúcia Lima Rodrigues



FACULDADE DE ECONOMIA

UNIVERSIDADE DO PORTO

www.fep.up.pt

ACCOUNTING PRACTICES FOR FINANCIAL INSTRUMENTS. HOW FAR ARE PORTUGUESE COMPANIES FROM IAS?♦

Patrícia Teixeira Lopes

Faculdade de Economia
da Universidade do Porto
Rua Dr. Roberto Frias, 4200-464 Porto Portugal
patricia@fep.up.pt

Lúcia Lima Rodrigues

Escola de Economia e Gestão
da Universidade do Minho
Campus de Gualtar, 4710-057 Braga Portugal
lrodrigues@eeg.uminho.pt

Abstract

The purpose of this study is to analyse the current accounting practices for financial instruments by Portuguese companies and compare them to the measurement, recognition and disclosure requirements stipulated in IAS 32 and 39.

In order to attain our objective, we drew up a list of 120 categories of inquiry and 370 possible responses that we were interested in analysing. We applied content analysis technique to 2001 listed companies' annual reports.

Our results suggest that the accounting practices for financial instruments by companies listed on the Portuguese stock exchange are very far from what IAS 32 and 39 require. This is especially observed in the measurement and recognition criteria applied to the categories of financial instruments for which the adoption of fair value is required (that is, held-for-trading and available-for-sale financial assets). In what derivative instruments are concerned, we found that the fair value measurement criterion is being adopted by a large number of derivative users. However, with respect to hedging transactions, the gap between accounting practices and the relevant accounting Standards is quite wide. A big improvement in reporting practices regarding this type of instruments will be needed.

These findings throw light on the challenges of adopting IAS, particularly with respect to fair value measurement, now that 2005 is near.

Keywords: Financial instruments accounting, Fair Value, International Accounting, IAS, Portugal

Resumo

O objectivo deste estudo é analisar as práticas das empresas cotadas em Portugal ao nível da contabilização dos instrumentos financeiros e compará-las com as exigências das Normas Internacionais de Contabilidade (NIC) 32 e 39.

Analisámos compreensivamente os Relatórios e Contas de 2001 utilizando o método de análise de conteúdo baseado numa lista de categorias pré-construída composta por 120 categorias de informação e 370 respostas possíveis. Os nossos resultados mostram que as práticas contabilísticas relativas a instrumentos financeiros não derivados estão longe das exigências das NIC 32 e 39, designadamente ao nível dos instrumentos financeiros para os quais é exigido a mensuração ao justo valor (activos financeiros de negociação e disponíveis para venda). Quanto aos instrumentos financeiros derivados, o critério do justo valor está a ser usado por um grande número de empresas. Contudo, ao nível da contabilidade de estratégias de cobertura, a situação é bastante diferente, prevendo-se a necessidade de grandes alterações aquando da passagem para as NIC. Estes resultados trazem novas evidências sobre o impacto da estratégia da União Europeia relativa a 2005.

Palavras chave: Contabilidade dos instrumentos financeiros, Justo Valor, Contabilidade Internacional, NIC, Portugal

♦ Acknowledgement: The authors would like to express their gratitude to the discussants in the EIASM Workshop on Implementing IFRS (Brussels, September 2003), to Professor Stefano Zambon at the Doctoral Colloquium of the IPA Conference 2003 (Madrid, July 2003), to the discussants in Grudis Seminar (Porto, 2003) and to the discussants in the EAA 2004 Conference (Prague, 2004) for their helpful comments on early versions of this paper. The financial support from Faculdade de Economia do Porto (Portugal) and PRODEP is also acknowledged, with thanks.

I. INTRODUCTION

International standard setters have been coming to recognise the need for change in the conventional accounting model, setting fair value accounting for financial instruments in several standards¹. For example, in a first phase IASB and FASB issued standards which require fair value at disclosure level: IAS 32 Disclosure and Presentation, FAS 105 Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk and FAS 107 Disclosures about Fair Value of Financial Instruments. Nowadays, these bodies are at a more advanced phase in terms of fair value accounting, after the publication of standards which require fair value at measurement and recognition level: IAS 39 Financial Instruments: Recognition and Measurement², FAS 133 Accounting for Derivative Instruments and Hedging Activities³, amended by FAS 149 Amendment of Statement 133 on Derivative Instruments and Hedging Activities and by FAS 138 Accounting for Certain Derivative Instruments and Certain Hedging Activities - an amendment of FASB Statement 133.

In 2002, the European Parliament and the Council adopted the Proposal of regulation (Regulation 1606/2002) of the European Commission regarding the use and adoption of International Accounting Standards within the European Community. This regulation states that for each financial year starting at the 1st January 2005, companies whose securities are traded on a regulated market shall prepare their consolidated accounts in accordance with International Accounting Standards adopted by the Commission. Each member state may permit or require listed companies to prepare their annual accounts and other companies to prepare their consolidated or annual accounts in conformity with those International Accounting Standards.

The adoption of the International Accounting Standards means, among other things, a change in the principle stated in the Fourth Council Directive (78/660/EEC) by which the items shown in the annual accounts should be valued on the basis of the principle of purchase price or production cost. So, in September 2001, The Parliament and the Council adopted the 2001/65/EC Directive which amends Directives 78/660/EEC, 83/349/EEC and 86/635/EEC as regards the valuation rules for the annual and

¹ Fair value accounting has also been required for other types of assets. That is the case of IAS 40 Investment Property and IAS 41 Agriculture that use fair value as reference measurement criterion.

² Issued in March 1999, effective from 1st January 2001.

³ Originally, to be effective after 15th June 1999, then deferred to 15th June 2000, by FAS 137.

consolidated accounts of certain types of companies as well as of banks and other financial institutions, allowing fair value valuation for certain types of assets and liabilities.

The 2001/65/EC Directive and Regulation 1606/2002 are effective signs of the irreversibility of the accounting harmonization process within Europe, meaning that Portuguese companies will have to adopt IAS very soon.

Regarding financial instruments recognition and measurement, there are several differences between Portuguese accounting standards and IAS. In Portugal, financial assets and liabilities are not valued at fair value (except the trading securities of financial institutions) and hedge accounting rules are much less restricted.

The new European Union accounting strategy concerning the year 2005 and the recent developments in financial instruments accounting standards have prompted studies about, both the fair value accounting of financial instruments and current compliance with International Accounting Standards.

The purpose of this paper is twofold. First, we want to analyse current accounting practices for financial instruments by Portuguese companies and address the following questions:

- How are Portuguese companies accounting for financial instruments (including derivatives) costs, gains and losses?
- How are Portuguese companies calculating and disclosing the fair value of financial instruments?
- How are Portuguese companies disclosing the risks of their financial instruments positions?
- Is the disclosed information understandable, comparable and therefore useful to financial agents?

Then, we want to compare these practices with the measurement, recognition and disclosure requirements of International Accounting Standards 32 and 39, in order to ascertain how far the Portuguese companies are from IAS requirements.

This empirical work enables us to estimate the impact of the European Union accounting strategy concerning 2005.

The remainder of the paper is organised as follows: Section II reviews prior literature. Section III contains the regulatory background related to financial instruments accounting comparing Portuguese standards and IAS 32 and 39. The data and research method are detailed in Section IV. Section V presents empirical results while Section VI discusses the results and outlines future research.

II. PRIOR LITERATURE

Our research is based on the harmonization and comparability literature. Tay and Parker (1990) make a very clear distinction between, what they call, *de jure* harmony (that of accounting regulations) and *de facto* harmony (that of companies' actual practices). The first does not necessarily imply the second one (for example, if the standards allow for options), nor does the second necessarily mean that the first exists⁴. Furthermore, they also clarify the concept of compliance with regulations, presenting differences in accounting regulations between countries. They argue that “when seeking to measure compliance, the different types of regulations, and the different types of companies to which they relate, must be distinguished” (p. 75).

van der Tas's (1992) comment on Tay and Parker (1990) clarifies the concept of compliance, saying that quantifying the compliance or observance degree with a standard is not the same as measuring harmonization (because, as IAS allows different methods, compliance may be high but harmony may be low). Additionally, van der Tas makes a very interesting point for our research, focusing the problem of non-disclosure. If the same method is used to quantify measurement harmony and to quantify disclosure harmony, very strange conclusions will be reached. If a lot of companies decide to do not disclose, this will mean, according to Tay and Parker's method, a high degree of harmony, but what we may actually have is very different situations (companies to which the particular item does not apply, or companies that simply do not comply with the standard). So, it is important to note that the methods used to analyse measurement items cannot be used (or at least, must be used with caution) in analysing disclosure items.

This discussion has important implications for our empirical study. In fact, according to Tay and Parker (1990), we will develop a *de facto* harmony analysis because we will analyse accounting practices in a one-year period study. Also, as the study includes

⁴ For a literature review of *de jure* and *de facto* harmony studies see Cañibano and Mora (2000).

several items related to disclosures, the appropriate method of analysis involves quantifying the number (or percentage) of companies that disclose a given item or that adopt a given recognition/measurement criterion. Cañibano and Mora (2000) also emphasise the importance of an adequate definition of the research aim in order to choose the most appropriate method. Index based methods (van der Tas, 1988) and statistical models (first suggested by Tay and Parker, 1990, and then revisited by Tay and Parker, 1992⁵) are not alternatives. Statistical models are better suited to measuring the level of harmony between countries. The construction of indexes is suitable for determining if companies adopt the same accounting method.

Aisbitt (2001) refers to some problems of index based studies, especially reliability problems caused by the treatment given to non-disclosure and by the marked effect of the number of accounting methods considered on the index. Indexes also have validity problems in capturing increases or decreases in harmony and in capturing the comparability of the financial statements (again, with respect to non-disclosure, a high index does not necessarily mean that they are comparable; it is by analysing the reason for non-disclosure that we will discover whether there is really an increase in harmony). So this work highlights the problem of using indexes to analyse disclosure items, which is of great importance for our study.

Considering the objectives of our empirical study, we will focus our attention on empirical studies that analyse accounting decisions and disclosure practices in terms of their compliance degree either with IAS or with financial instruments' accounting standards.

Early studies on compliance with IAS include Evans and Taylor (1982) and Nobes (1990). Evans and Taylor studied the impact of IAS on the financial reporting in member nations by analysing companies' financial reports. Nobes (1990) also used the financial reports⁶ of companies to ascertain the degree of compliance with IAS. Both studies present the results in terms of compliance rates (percentage of companies which meet IAS requirements) and find low compliance rates, meaning the IASC had little influence over each country's accounting practices.

⁵ More recently, Archer et al. (1996) and McLeay et al. (1999) developed measurement techniques based on statistical models.

⁶ Another important source of data for compliance studies is survey data published by consulting companies or compiled by authors (Doupnik and Taylor (1985); Purvis et al. (1991)). The disadvantages of using survey data are summarized by Nobes (1987).

More recently, Street and Gray (1999), Street et al. (1999) also investigated the extent of compliance with IAS based on companies' annual reports and presented the results in terms of the number of companies that comply/do not comply with IAS requirements. The first paper, which analyses US companies accounting practices in terms of their compliance with IAS disclosure requirements, indicates that the sample companies generally comply with IAS, more because of the consistency between IAS and US GAAP, than because of voluntary compliance. Street et al. (1999) analyze companies that claim to comply with IAS and conclude that there is significant noncompliance (selective compliance) indicating that many companies would like the status that the adoption of IAS gives but do not in practice fulfill every requirement.

More directly related to financial instruments accounting standards, Chalmers (2001) and Chalmers and Godfrey (2000) studied the degree of compliance with Australian financial instruments accounting standards, namely AASB 1033 Presentation and Disclosure of Financial Instruments, among Australian companies. By analyzing the number of companies that comply, these studies show high levels of non-compliance among sample companies and problems of understandability, comparability and consistency with derivative disclosures.

III. REGULATORY BACKGROUND

In this section, we present the regulatory background related to financial instruments' accounting. We adopt the definition of financial instrument of IAS 32 (2000, para. 5), which is "any contract that gives rise to both a financial asset of one enterprise and a financial liability or equity instrument of another enterprise"⁷. IAS 32 and 39 apply to all financial instruments except to interest in subsidiaries, associates and joint ventures, leases, employee benefit plans and insurance contracts. Equity instruments issued by the reporting enterprise (options, warrants that are classified as shareholders' equity) are excluded from IAS 39, but are covered by IAS 32.

⁷ In this regulatory background description we are going to follow the 2000 versions of IAS 32 and IAS 39 because these were the versions that were operative for financial statements in 2001 (the year of our empirical study).

Portugal⁸

Non-financial companies

In Portugal, accounting rules applied to non-financial companies are contained in the Accounting Act (POC - Plano Oficial de Contabilidade, Decree-law 410/89) and in the Accounting Directives (Directrizes Contabilísticas) issued by the Portuguese Accounting Standards Board (Comissão de Normalização Contabilística)⁹.

The Accounting Act establishes two principles that are relevant to our analysis:

- Historical cost: the accounting registers should be based on acquisition or production costs;
- Prudence: it is possible to include some degree of caution in the financial statements in situations when predictions are uncertain, but without allowing for hidden reserves or excessive provisions or the deliberate imbalance of assets and liabilities.

Regarding the valuation criteria for short-term financial assets and financial investments, the Accounting Act defines the adoption of the lowest of acquisition cost or the market price. If the acquisition cost exceeds the market price, this amount is recognised as a provision.

Accounting Directive 17 covers exchange-traded futures. The measurement criterion depends on the type of operation. Trading operations are accounted at market value, with market value changes being immediately recognised in the profit and loss account. In hedging operations, the principle is the matching of the hedged and the hedging positions, meaning that when the hedged position is held at cost, the gains/losses of the future are deferred until the gains and losses of the hedged position are recognised.

Directive 17 does not cover the other type of financial instruments. According to Accounting Directive 18, non-financial companies are obliged to comply with International Accounting Standards in the absence of national accounting rules.

⁸ In April, 2004, it was approved the Decree-Law 88/2004 which is the transposition to Portugal of the 2001/65/EC Directive, allowing, not obliging (it is not mandatory) Portuguese companies (financial and non-financial) to adopt fair value accounting for financial instruments in their consolidated accounts from 1st January 2004 onwards. This regulatory review is based on the mandatory standards, and thus does not include the provisions of Decree-Law 88/2004.

⁹ The Portuguese Accounting Standards Board is an independent technical body, which functions under the Ministry of Financial Affairs. According to Decree-Law 367/99, its main objective is to issue standards and establish accounting procedures, harmonized with European and International Standards of the same nature, in order to achieve higher quality financial information. One of its powers is to issue Accounting Directives, which are compulsory and approved by the Finance Minister.

Portuguese companies are therefore subject to IAS relative to most financial instruments, including almost all derivative instruments.

To sum up, accounting rules for non-financial companies in Portugal include fair value measurement in futures contracts accounting (trading operations). As far as other off-balance-sheet financial instruments are concerned, there are no specific accounting rules. The on-balance-sheet financial instruments should be measured at cost (or market value, if it is lower).

Financial companies

Regarding credit institutions and financial companies, the accounting rules are established by the Portuguese Central Bank (Banco de Portugal), through its Instruction no. 4/96, which establishes the Accounting Act for the Banking System (PCSB - Plano de Contas do Sistema Bancário).

The Accounting Act for the Banking System establishes the principle of Prudence, which means that it is possible to include some degree of caution in the financial statements in situations when predictions are uncertain, but without allowing for hidden reserves or excessive provisions or the deliberate imbalance of assets and liabilities.

In financial companies, fair value should be applied to trading securities and to FRAs, futures, options and swaps when used in trading operations. Changes in the fair value should be registered in profits and losses for the period in which they occur. Regarding operations that qualify for hedging accounting, the profits and losses of the hedging instruments and the hedged instruments are registered simultaneously, with the measurement criterion of the hedged position prevailing.

International Standards

IAS 32 – Financial Instruments: Disclosure and Presentation

This Standard “prescribes certain requirements for presentation of on-balance-sheet financial instruments and identifies the information that should be disclosed about both on-balance-sheet (recognised) and off-balance-sheet (unrecognised) financial instruments” with the objective of enhancing “financial statement users’ understanding of the significance of on-balance-sheet and off-balance-sheet financial instruments to an

enterprise's financial position, performance and cash-flows"¹⁰. Regarding fair value, this Standard is seen as a first step to the fair value measurement of financial instruments, as it prescribes the disclosing of both recognised and unrecognised financial instruments' fair value information. When it is not practicable to determine the fair value with reliability, this fact must be disclosed.

IAS 39 – Financial Instruments: Recognition and Measurement

According to this Standard, all financial assets and liabilities, including derivatives, should be recognised in the Balance Sheet. After initial recognition (which should be made at cost), all financial assets should be measured at fair value¹¹. Regarding financial liabilities, this Standard establishes that held-for-trading liabilities and derivatives are measured at fair value. Other financial liabilities are measured at cost (or amortised cost). Changes in fair value are registered on the profit and loss account for the period in which they occur. Changes in fair value of available-for-sale financial assets may be recognised either in the profit/loss account or on equity. IAS 39 establishes that derivatives are always considered as held-for-trading, unless they are identified as hedging instruments, in which cases special accounting rules are established. The table below compares Portuguese accounting rules and IAS 32 and 39, highlighting the differences between the two.

¹⁰ In IAS 32 (2000), Objective.

¹¹ Except the following categories of financial assets: a) loans and receivables originated by the enterprise; b) held-to-maturity investments; c) non-quoted financial assets, for which fair value cannot be reliably measured.

	International Accounting Standards	Portuguese Standards	
		Non- financial companies	Financial companies
	IAS 32/39	Accounting Act/ Acc Directive 17	Accounting Act for the Banking System
Scope	All enterprises	Non-financial enterprises	Financial enterprises
	All financial instruments (with exceptions: interest in subsidiaries, associates and joint ventures, leases, employee benefit plans, insurance contracts)	Only primary financial instruments (among others, cash, receivables, payables, financial investments, treasury) and exchange traded futures	All financial instruments
Definitions			
Financial instrument	Any contract that gives rise to both a financial asset of one enterprise and a financial liability or equity instruments of another enterprise	Same as IAS	Same as IAS
Financial asset	Any asset that is cash, contractual right to receive cash or another financial asset, contractual right to exchange financial instruments under conditions that are potentially favorable or an equity instrument of another enterprise.	Same as IAS	Same as IAS
Financial liability	Contractual obligation to deliver cash or another financial asset or to exchange financial instruments under conditions that are potentially unfavorable	Same as IAS	Same as IAS
Equity instrument	Any contract that evidences a residual interest in the assets of an enterprise after deducting all of its liabilities	Same as IAS	Same as IAS
Fair value	Amount for which an asset could be exchanged or a liability settled, between knowledgeable, willing parties in an arm's length transaction	Same as IAS	N. A.
Derivative	Financial instrument whose value changes in response to the change in a specified interest rate, security price, commodity price, foreign exchange rate, index of prices or rates, that requires no initial net investment and that is settled at a future date	Financial instrument whose fair value changes reflect fair value changes of the underlying; allows the transference of the risk of an underlying financial instruments; there is no reference to no initial investment	Financial instrument whose value is related to the price of the underlying asset, exchange rate or index; there is no reference to no initial investment
Recognition	All financial assets and financial liabilities are recognized on the balance sheet, including all derivatives	Only primary financial instruments are recognized on the balance sheet	Only primary financial instruments are recognized on the balance sheet; off-balance sheet accounts should be used for derivatives reporting
Derecognition	Lost of control of the contractual rights (by expiration, realization or surrender) of the asset; extinguishing of the obligation specified in the liability (by discharging, expiration or cancellation)	Not available in applicable portuguese accounting standards (N. A., hereon)	Allows derecognition if most of the risks and benefits are transferred and the value of the retained risks and benefits may be reliably measured

Measurement			
Initial	Measured at the fair value of what was received or paid; Transaction costs are included in the initial measurement of all financial instruments	Acquisition cost (includes transaction costs)	Acquisition cost or nominal value (discounted securities), not including transaction costs
Subsequent			
Financial Assets			
Held for trading	Fair value	LOCOM	Same as IAS
Available for sale	Fair value	LOCOM	Acquisition cost or nominal value (discounted securities)
Derivatives	Fair value	Futures for trading: Same as IAS	FRA, Swaps, Futures and Options (exchange traded or OTC) for trading : Same as IAS
		Other derivatives: N. A.	
Loans and receivables originated by the enterprise	At cost / amortized cost + impairment test	Cost	Cost
Held to maturity	At cost / amortized cost + impairment test	LOCOM	Acquisition cost or nominal value (discounted securities)
Assets whose fair value cannot be reliably measured - unquoted equity instrument + derivative linked to and that must be settled by the delivery of such an instrument	At cost / amortized cost + impairment test	Not applicable	Not applicable
Strict test for held-to-maturity	Ability to hold to maturity	Not applicable	Same as IAS
Tainting of held-to-maturity by early sale	Exists; expires after 2 years	Not applicable	Does not exist
Financial Liabilities			
Financial liabilities other than:	Amortized cost	Same as IAS	Cost
Held for trading	Fair value	Not possible	Same as IAS
Derivatives	Fair value	Futures for trading: Same as IAS	FRA, Swaps, Futures and Options (exchange traded or OTC) for trading : Same as IAS
		Other derivatives: N. A.	
Fair value changes			
Held-for trading (including derivatives):	Net profit or loss for the period in which it arises	Futures: Same; Other derivatives: N. A.	Same as IAS

Available -for-sale	Either in the net profit or loss for the period or in equity until the financial asset is sold or determined to be impaired, at which time the cumulative gain or loss should be included in net profit or loss.	Not applicable	Not applicable
Hedging			
	Only hedging with derivatives can qualify for hedge accounting, except hedge of a foreign currency risk	Implicitly, the same	Implicitly, the same
	Three types of hedging relationships: fair value hedge; cash-flow hedge; hedge of a net investment	Does not exist	Does not exist
Hedge accounting	The hedging and the hedged items are measured at fair value (even if the hedged item would not be measured at fair value individually)	<u>Futures</u> : Match of measurement criteria: the hedged position determines the measurement criterion for the hedging position - Always deferral hedge accounting; <u>Other derivatives</u> : N. A.	Match of measurement criteria: the hedged position determines the measurement criterion for the hedging position
	Allows for macro hedging for a portfolio hedge of interest rate risk	Implicitly, the same	Implicitly, the same
Qualification for hedge accounting	Formal documentation since the inception	Same as IAS	Same as IAS
	Expected to be highly effective (80-125%)	Does not exist	Same as IAS, but not quantified
	Highly probable forecasted transaction	Does not exist	Same as IAS, plus expected time less than a year
	Effectiveness can be reliably measured	Does not exist	Does not exist
	Assessment of hedge effectiveness during the period	Same as IAS	Same as IAS
Disclosure			
Accounting Policies	Accounting policies separately for each class of asset/liabilities	Same as IAS	Same as IAS
Fair value	Fair value calculation methods and significant assumptions	Not required	Not required
Fair value changes in Available-for-sale financial assets	Amount recognized/removed in/from equity	Not applicable	Not applicable
Inability of reliability in measurement	Financial assets description	Not required	Not required
	Their carrying amount	Not required	Not required
	Explanation of the reason	Not required	Not required
	Range of estimates within which the fair value is likely to lie	Not required	Not required

Information about securitization and repurchase agreements	Accounting policy	Not required	Same as IAS
	Nature and extent	Not required	Same as IAS
	Collateral	Not required	Same as IAS
	Information about the key assumptions used in calculating the fair value of new and retained interests	Not required	Not required
	Whether the financial assets have been derecognized	Not required	Same as IAS
Derivatives	Risk management policy, including hedging policy	Futures: Same as IAS	Same as IAS
	Objectives of holding or issuing derivatives	Futures: Same as IAS	Same as IAS
	Accounting policies and methods adopted	Futures: Same as IAS	Same as IAS
	Monitoring and controlling policy	Futures: Same as IAS	Same as IAS
	Financial controls	Futures: Same as IAS	Same as IAS
	Segregation by risk categories	Futures: Same as IAS	Same as IAS
	Principal, stated value, face value, notional value	Futures: Same as IAS	Same as IAS
	Maturity	Futures: Same as IAS	Same as IAS
	Weighted average/effective interest rate	Futures: Same as IAS	Same as IAS
	Information about hedging transactions	Futures: Same as IAS	Same as IAS
	Hedging description	Futures: Same as IAS	Same as IAS
	Accounting method	Futures: Same as IAS	Same as IAS
	Financial instruments designated as hedging instruments	Futures: Same as IAS	Same as IAS
	Fair values	Not required	Not required
	Nature of the risks being hedged	Futures: Same as IAS	Same as IAS
	The period in which forecasted transactions are expected to occur	Not required	Not required
	The period they are expected to enter in income	Not required	Not required
	The amount recognized in equity in cash-flow hedging	Not required	Not required
	The amount removed from equity and recognized in income	Not required	Not required
	The amount removed from equity and added to initial measurement of the acquisition cost	Not required	Not required
Information about interest rate risk	Future changes in interest rates	Not required	Not required

	Maturity dates	Not required	Same as IAS
Information about credit risk	Counterparties identification	Not required	Not required
	Maximum amount of credit risk exposure	Not required	Not required
	Significant concentration of credit risk	Not required	Not required
Information about collateral	Terms and conditions	Same as IAS	Same as IAS
	Carrying amount and fair value	Not required	Not required

Analysing Table 1, we conclude that the two standards are not as alike as one might think at first sight. In fact, Portuguese accounting directives (which include Directive 17 Futures) are almost a transposition of IAS to Portugal (Portuguese Accounting Standards Board, 2003). One of the most obvious facts is the lack of derivatives' accounting standards for non-financial companies. This lack is remedied by Accounting Directive 18 that establishes compliance with IAS whenever Portuguese standards are not available. So, it can be expected that Portuguese companies are already making use of IAS 32 and 39 in their derivatives accounting. Further evidence is the difference in hedge accounting rules. In fact, Portuguese rules indicate that the measurement criteria of the hedged position define the measurement criteria of the hedging derivatives. This means that, since historical cost is the basis of measurement in almost all financial instruments, hedge accounting is based on the deferral of gains and losses. There is only one exception to this – the hedging of the trading securities of financial institutions that are already marked to the market. With respect to non-derivative financial instruments, there are some quite striking differences, particularly in non-financial companies: the general measurement criterion is LOCOM and fair value has not been introduced yet. Accounting rules for financial companies are closest to IAS since fair value is accepted for trading financial instruments.

Next, we complement this comparison between Portuguese standards and IAS with an analysis of accounting practices by Portuguese companies.

IV. RESEARCH METHOD AND DATA

Research Method

With the aim of identifying accounting practices for financial instruments, we applied content analysis technique to listed companies' annual reports.

Holsti (1969, p. 14) says that content analysis is “any technique for making inferences by objectively and systematically identifying specified characteristics of messages”. Content analysis has been widely used in accounting research, namely applied to annual reports in order to analyse several issues, such as social, environmental, research and development disclosures. The following table summarise some of these studies.

Table 2: Selected accounting studies that use content analysis

Author(s)			Accounting Issue	Object
Bettman, J.	Weitz, B.	1983	Corporate Performance	Letters to Shareholders
D'Aveni, R.A.	MacMillan, C.	1990	Bankruptcy	Letters to Shareholders
Entwistle, G.		1999	Research & Development Disclosures	Annual Reports
Frazier, K.	Ingram, R. Tennyson, B.	1984	Methodological issues	All narrative accounting disclosures
Ingram, R.	Frazier, K.	1980	Environmental Performance	Annual Reports
Mason, S.	McCartney, S., Sherer M.	2001	Value of management letters to unlisted companies	Management letters
Milne, M.	Adler, R.	1999	Environmental Disclosures (Literature review)	n.a.
O'Dwyer, B.		2001	Environmental Disclosures	Annual Reports and environmental reports
Shrives, P.	Linsley, P.	2002	Risk disclosures	Annual Reports
Tennyson, M.	Ingram, R. Dugan, M.	1990	Bankruptcy	Narrative disclosures
Unerman, J.		2000	Environmental Disclosures (Literature review)	n.a.
Williams, S.		2004	Information technology disclosures (Year 200)	Annual Reports

Jones and Shoemaker (1994) reviewed a large number of studies that use content analysis within accounting research. They identified 68 studies that are classified in thematic (which focus on themes) and syntactic studies (which focus on the cognitive difficulty of reading a message)¹². They present a wide description of data units, coding methods and measurement models used in textual accounting research. They also address reliability and validity issues.

Specifically concerning financial instruments, we refer to some recently published studies that examine information published on the companies' annual reports in order to identify accounting practices. They are summarized in the following table.

¹² Since, according to this classification, our study is included in the thematic analysis category, the literature review presented in Table 2 only covers this type of studies.

Table 3: Content analysis studies on accounting practices for financial instruments

	Instrument/Standard	Country
Woods and Marginson (2004)	Derivatives/ FRS13 ¹³	United Kingdom
Chalmers and Godfrey (2000) and Chalmers (2001)	Derivatives / AASB 1033 ¹⁴	Australia
Blankley et al. (2000) and Roulstone (1999)	Derivatives / FRR 48 ¹⁵	United States of America
Edwards and Eller (1995), (1996) and Mahoney and Kawamura (1995)	Derivatives/ SFAS 119 ¹⁶	United States of America

All studies are specifically concerned with derivative accounting and disclosure practices. We extended our analysis to all financial instruments. In order to develop the content analysis of the annual reports, we drew up a list of the categories of inquiry and possible responses that we were interested in analysing. These categories and responses covered the items that would 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 39¹⁷.

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

1 – Analysis of the Balance sheet and Income statement to obtain numerical information about financial instruments. The amounts of the following items were collected:

- Financial investments, excluding: parts of capital in group companies and associated companies, loans to group and associated companies and prepayments;
- Short-term marketable securities;

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

¹⁴ AASB 1033: Presentation and Disclosure of Financial Instruments, issued by the Australian Accounting Standards Board (AASB), 1996.

¹⁵ 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.

¹⁶ SFAS 119: Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments, issued by the Financial Accounting Standards Board (FASB), 1994

¹⁷ Before developing the content 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, which were removed from the list because they were not reported by the companies.

- Loans, which include long and short term bond issues, loans and debts to credit institutions¹⁸.

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.

As derivative instruments have very specific accounting rules compared with other non-derivative instruments, we divided 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 qualified the type of information reported as either quantitative (numerical/monetary) or qualitative (narrative/descriptive) and registered the location in the annual report (letter to shareholders, management report, notes to accounts, other, including corporate governance report and certain parts). In addition, we recorded whether the company reports any negative information about financial instruments.

In all, 120 categories and 370 possible responses were drawn up. Appendix I shows the list of categories¹⁹.

Sample Design and Data Collection

Our sample includes all listed companies at Euronext Lisbon on 31st December 2001²⁰. Appendix II contains a list of the sample companies and their respective economic sector.

At the end of 2001, there were 56 quoted companies in Portugal. One company did not publish the annual report and accounts in 2001 and so it was excluded from the sample. Consequently, the final sample includes 55 companies, of which 29% are from the industrial sector and 20% from the financial sector.

¹⁸ This item is not applicable to financial institutions.

¹⁹ A complete list with all the 370 possible responses is available from the authors upon request.

Table 4: Sample sectoral distribution

Economic sector	N	
Basic materials	7	12,7%
Consumer, cyclical	9	16,4%
Consumer, non-cyclical	4	7,3%
Financial	11	20,0%
Industrial	16	29,1%
Technology	4	7,3%
Telecommunications	3	5,5%
Utilities	1	1,8%
Total	55	100,0%

We began by developing a standard form to be used to collect the responses to each of the categories of inquiry. All data were then collected by hand from the companies' 2001 annual reports. A separate form was completed for each company. Finally, we entered the responses from the completed forms in a database from which the data could be analysed (SPSS software).

Besides the data related to the categories of inquiry, we also collected information about certain firm characteristics to allow a better understanding of the companies' accounting and disclosure practices. The characteristics selected are: size, industry, auditor type, listing status, degree of multinationality, shareholders/creditors relationship and the importance of shareholders. The proxies for these variables are shown in the following table.

Table 5: Firm characteristics

Size	Total assets Decimal log of total assets Total sales Decimal log of total sales
Industry	Financial/Non-financial (1 = yes; 0 = no)
Auditor type	Big5 / Non Big5
Listing status	Listed, origin country stock exchange/ Listed, (one) foreign stock exchange / Multilisting, including USA / Multilisting, not-including USA
Multinationality	Sales outside Portugal/ Total sales
Shareholders/creditors	Total liabilities/ Total assets Financial liabilities / Total assets Debt/Equity
Shareholders	Market value/ Total assets

The main descriptive statistics are the following:

²⁰ We chose the year 2001 because it is the year that IAS 39 became effective and it is the last year that there were published annual reports when we started the research.

Table 6: Descriptive statistics**Continuous variables**

	N	Min	Max	Mean	Std. Deviation
Total assets (10 ⁶ euros)	55	22,05	358137,51	10833,29	48944,85
Liabilities/ Asset (%)	55	37,91	96,33	72,55	15,06
Liabilities /Equity (D/E)	55	,61	26,28	4,93	5,51
Sales (10 ⁶ euros)	55	5,80	34885,49	1720,26	4890,21
Sales to foreign countries/Sales (%)	45	,00	93,46	28,84	31,02
Market value /Assets (%)	55	3,36	219,49	37,12	39,95
Financial liabilities/ Assets (%)	45	,04	63,60	35,25	15,21

Categorical variables

Variable	Attributes	N	
Listing status			
	Listed, origin country stock exchange	50	90,91%
	Listed, (one) foreign stock exchange	0	0,00%
	Multilisting, including USA	5	9,09%
Auditor status	Multilisting, not-including USA	0	0,00%
Auditor status	Big five	42	76,36%
	Not Big five	13	23,64%

V. EMPIRICAL RESULTS

In this section, we present the main results of the content analysis of the annual reports of the Portuguese stock exchange listed companies. The structure of this section is based on the list of categories used in the content analysis. First of all, we characterize the financial instruments' (excluding derivatives) accounting practices, then the derivatives ones and, finally, we present the results for items related to all financial instruments.

In accordance with previous empirical studies whose objectives are the same as for this (Tay and Parker, 1990; Evans and Taylor, 1982; Nobes, 1990; Street and Gray, 1999; Street et al., 1999; Chalmers, 2001 and Chalmers and Godfrey, 2000), we are going to present an analysis of the collected information based on descriptive statistics. This analysis allows us to attain two objectives. First, we want to answer to the following questions:

- How are Portuguese companies accounting for financial instruments (including derivatives) costs, gains and losses?
- How are Portuguese companies calculating and disclosing the fair value of financial instruments?

- How are Portuguese companies disclosing the risks of their financial instruments positions?

- Is the disclosed information understandable, comparable and so useful for financial agents?

Next, we want to ascertain how far the actual accounting practices for financial instruments by companies are from the recognition, measurement and disclosure requirements of IAS 32 and 39.

Before presenting the results, a note must be made relating to non-disclosure. We were very careful when classifying a company as a non-disclosing one. An item was considered non-disclosed only if it was applicable to the company. In the opposite case, it was considered non-applicable and the company was excluded from the analysis of that specific item.

Financial Instruments, excluding derivatives

Measurement

Regarding measurement criteria, Portuguese companies use historical cost accounting, combined with the prudence principle. All categories of financial assets are measured at cost or amortised cost by the majority of the companies (between 73% and 98%, according to the financial asset category).

20% of the companies measure held-for-trading financial assets at market value or fair value. If we analyse the sectorial distribution of these companies, we conclude that almost all of them belong to the financial sector (8 among 9 companies). This result was expected since the Accounting Act for the Banking System has already required held-for-trading financial assets to be measured at market value.

IAS 39 requires that available-for-sale financial assets are measured at fair value. Regarding this category of assets, the scenario is very far removed from that defined by IAS 39, given that only 2 companies adopt that criterion.

Concerning held-for-trading liabilities, the measurement criterion most used is fair value. Among the companies that report this category of financial instrument (only 3), two companies adopt fair value and the other does not disclose the measurement policy.

Table 7: Accounting Policies

	Non disclosing	Cost or amortised cost	Fair value or market value
Held-for-trading financial assets	3 (6,7%)	33 (73,3%)	9 (20,0%)
Held-to-maturity financial assets	1 (2,0%)	48 (98,0%)	0
Loans and Receivables Originated by the Enterprise	1 (1,8%)	54 (98,2%)	0
Available-for-sale financial assets	1 (1,9%)	50 (94,30%)	2 (3,8%)
Held-for-trading Liabilities	1 (33,3%)		2 (66,7%)
Other financial liabilities	1 (1,8%)	54 (98,2%)	0

Notes:

(1) Number of companies that adopt each method. Between brackets, it is the weight in the total number of sample companies.

Fair value disclosures

According to IAS 32 and 39, companies are required to disclose the fair value determination method and the significant assumptions adopted. Forty-five companies do not disclose the first item²¹. The market price is reported by 7 companies. One company reports the adoption of the discounted cash-flows method and two companies use more than one calculation method (including the market price). None of them discloses the significant assumptions. Financial companies have higher disclosure levels compared with the non-financial ones. In fact, our results show a non-disclosing percentage of 27% companies in the financial sector against 95,5% companies in non-financial sectors.

Available-for-sale assets

IAS 39 requires firms to disclose if the gain or loss in available-for-sale financial assets is recognised directly in net profit or loss or in equity. Among the companies that adopt fair value in available-for-sale assets, only one discloses that it includes the fair value changes in equity. This company also discloses, as required by IAS 39, the amount recognised and the amount removed from equity during the period.

²¹ As cost or amortised cost criteria include accounting for provisions when there are non-realizable losses, we considered that this item (disclosure of fair value calculation method) is applicable to all sample companies.

Table 8: Fair value changes in available-for-sale assets

	N	%
Non-disclosing	2	66.7
Equity	1	33.3
Total	3 ²²	100.0
Non-applicable	52	
	55	

When the presumption that fair value can be reliably measured has been overcome, IAS 39 requires additional disclosures, namely the description of the financial assets, their carrying amount, the reason for it and the range of estimates within which fair value is likely to lie. Eight companies report the existence of this type of situation; but the disclosure level is insufficient. Only one company (from the financial sector) describes the financial assets and explains why fair value cannot be reliably measured; none of the companies discloses the carrying amount of the assets or the range of estimates within which fair value is likely to lie.

Table 9: Presumption of reliability in measuring fair value

PANEL A	Yes	No
Non possibility of reliable measure	8 (66,7%)	3 (33,3%)

PANEL B	Non-disclosing		Disclosing	
	Financial	Non-financial	Financial	Non-financial
Description of the financial assets	6	1	1	
Carrying amount	7	1		
Reason	6	1	1	
Range of estimates	7	1		

Note: This analysis includes only the companies that adopt fair value for one category of financial assets or liabilities, which is 11 companies.

Lastly, regarding the location of the disclosures about financial instruments accounting policies and about fair values in the annual report, all firms report this information in the Notes to the accounts.

Summing up, this analysis suggests that the accounting practices for financial instruments by companies listed on the Portuguese stock exchange are very far from what IAS 32 and 39 require. This is especially observed in the measurement and recognition criteria applied to the categories of financial instruments for which the

²² This number includes one company that does not disclose the available-for-sale assets accounting policies (and so potentially could adopt fair value).

adoption of fair value is required (that is, held-for-trading and available-for-sale financial assets). There is one exception: financial companies have been already using fair value for held-for-trading assets. However, as far as the available-for-sale assets are concerned, there is almost complete divergence between current practice and IAS 39 requirements. Additionally, the quality of disclosures is less than satisfactory. The main weaknesses are found in the disclosure about the fair value determination.

Derivatives

Before analysing the accounting practices for derivatives, we are going to characterize the sample regarding the user type, instrument type, risk categories and purposes stated for the use of derivatives.

User type

The sample includes 18 companies that are explicitly derivative users with material positions at the end of 2001 and one company that uses derivatives but has no open positions at the balance sheet date. Thirty-six firms were classified as implicit non-users since they made no reference to derivative instruments in their annual reports. The following analysis is based on the 19 users of derivative instruments.

Table 10: User type

	N	%	Non-financial	Financial
User	18	32,7	10	8
User but not at year end	1	1,8	0	1
Implicit non-user (a)	36	65,5	34	2
Explicit non-user (b)	0	0	0	0
Total	55	100,0	44	11

Notes:

(a) Firms with no reference to derivatives in their annual reports were considered to be implicit non-users. This group was excluded from the subsequent analysis relating to derivatives accounting.

(b) This category includes the firms that explicitly refer to the fact that they do not use derivative instruments. In our sample, none of the firms made such a statement.

Analysing the sectoral distribution of the derivative users, we conclude that in this category, 44,4% companies belong to the financial sector. So the group of companies that is now going to be analysed has a significant weight of financial companies, compared with non-financial ones. This situation, which may limit a generalization of the results, signifies a real situation. The financial companies are big derivative users

and so they comprise the group that should be most affected by IAS 32 and 39. It is also expected that financial firms have more sophisticated risk management mechanisms and are thus able to produce higher quality information, providing a benchmark for other sectors (Roulstone, 1999).

Instruments and risks

According to firms' descriptions of the derivative types, the most used instrument is interest rate swap (66,67% of the companies), followed by the exchange rate swap and forward (each reported by 50% of the companies).

Table 11: Instrument types

	Instrument type				
		Swaps	Options	Forwards	Futures
Underlying	Interest rate	12 (66,67%)	5 (27,78%)	5 (27,78%)	6 (33,33%)
	Exchange rate	9 (50,0%)	5 (27,78%)	9 (50,00%)	2 (11,11%)
	Equity	2 (11,11%)	8 (44,44%)		4 (22,22%)
	Commodities				4 (22,22%)
	Unknown				3 (16,67%)

Notes:

- (1) The percentages are calculated based on the total number of derivative users (18) with outstanding positions at final year.
- (2) When identifying the type of instruments used, the absence of a reference to a specific instrument was interpreted as it not being used.

Purposes of holding derivative instruments

Regarding the purposes of holding derivative instruments, most companies state hedging purposes only (42,1%), explicitly reporting not using derivatives for trading purposes. One company uses derivatives for hedging but makes no statement about trading operations. Trading operations are exclusively held by financial companies.

Table 12: Purposes of holding derivatives

	N	Financial	Non-financial
Non-disclosing	2 (10,5%)	1	1
Hedging only	8 (42,1%)	0	8
Hedging and no mention to trading	1 (5,3%)	0	1
Trading	1 (5,3%)	1	0
Hedging and Trading	7 (36,8%)	7	0
Total	19 (100,0%)	9	10

Accounting policies

Among the sample companies that use derivatives, 47,4% do not disclose any information, revealing a high level of non-disclosing, mainly among non-financial companies. Seven companies disclose the use of fair value/market value combined with hedge accounting in hedging operations. There is one company that uses only fair value measurement; this is the company that uses derivatives for trading only.

Table 13: Accounting policies and methods adopted

	N	Financial	Non-financial
Non-disclosing	9 (47,4%)	2	7
LOCOM	1 (5,3%)	0	1
Fair value / Market value	1 (5,3%)	1	0
Hedge accounting	1 (5,3%)	0	1
Fair value / Market value + hedge accounting	7 (36,8%)	6	1
Total	19	9	10

Analysing the hedge accounting methods, we conclude that most companies (44,4%) uses deferral accounting, contrary to the IAS 39 requirements²³. Only two companies recognise gains and losses immediately in hedging operations, one in the profit and loss account and the other in equity. Once again, the results show a big percentage of companies (44,4%, the majority from the non-financial sector) that does not disclose the accounting method for hedging derivatives.

Table 14: Hedging accounting policies

	N	Financial	Non-financial
Non disclosing	8 (44,4%)	2	6
Deferral	8 (44,4%)	6	2
Gain and loss account	1 (5,6%)	0	1
Equity	1 (5,6%)	0	1
Total	18 (100,0%)	8	10

This analysis reveals that firms are not forthcoming with details about accounting policies applied to derivative instruments, considering the large number of non-disclosing firms. The information disclosed by companies about accounting policies is

²³ IAS 39 requires the gain and loss recognition of the hedged instruments measured at cost to be speeded up.

too general and consequently it is not very useful and comparable, making the analysis of accounting figures very difficult.

The information about derivative accounting policies and hedging accounting policies is located mainly in the Notes to the accounts.

Other policy disclosures

Regarding other policy disclosures, financial control policy is the least disclosed item. Risk management policies are already being quite well disclosed by companies.

Table 15: Derivative policies disclosures

	Non-disclosing			Disclosing		
	N	Financial	Non-financial	N	Financial	Non-financial
Risk management policy	8 (40,0%)	3	5	12 (60,0%)	6	6
Monitoring policy	9 (45,0%)	2	7	11 (55,0%)	7	4
Financial control	13 (65,0%)	5	8	7 (35,0%)	4	3

We also analysed the additional disclosure requirements of IAS 32 and 39 relating to hedging operations. Most companies disclose a description of the financial instruments designated as hedging instruments (72,2% of the companies) and the nature of the risks being hedged (77,8% of the companies). Quite a big percentage of companies (42,1%) does not disclose the description of the hedge. The item that shows the biggest disclosure deficit is the fair value of the financial instruments designated as hedging instruments, which is not disclosed by 77,8% of the companies involved in hedging operations. This fact re-emphasises the distance between the companies' accounting practices relating to the fair value calculation and disclosure (and, even worse, to the fair value recognition).

Table 16: Hedging disclosures

	Non-disclosing			Disclosing		
	N	Financial	Non-Financial	N	Financial	Non-Financial
Hedging description	8 (42,1%)	5	3	11 ²⁴ (57,9%)	3	8
Financial instruments designated as hedging instruments description	5 (27,8%)	4	1	13 (72,2%)	4	9
Their fair values	14 (77,8%)	5	9	4 (22,2%)	3	1
Nature of the risks being hedged	4 (22,2%)	4	0	14 (77,8%)	4	10

²⁴ The total of the companies that disclose and the ones that do not disclose the description of the hedge is 19 and not 18 (the number of companies that are supposed to make hedging descriptions: 16 that entered into hedging operations and 2 that do not say anything about the objective of holding derivatives). This is because one company reports "hedging actions" but does not indicate hedging instruments, and so it was considered a derivative non-user, developing natural hedges.

The forecasted transactions and the cash-flow hedges imply additional disclosures. We identified 8 companies that engaged in hedgings of forecasted transactions and 10 in cash-flow hedgings. Six companies did not disclose the type of hedge.

Table 17: Hedging operation types

	No	Yes			Unknown
		Total	Financial	Non-Financial	
Hedges of forecasted transactions	4	8	4	4	6
Cash-flow hedges	2	10	4	6	6

Note: We considered “Unknown”, when the company has hedging operations, but does not disclose information about the type of hedging.

Relating to the hedging of forecasted transactions, there is a big deficit of disclosure: only one company discloses the period in which the forecasted transactions are expected to occur and when they are expected to appear in the determination of the net profit or loss. The situation is the same with respect to cash-flow hedging: total lack of information relating to all items required by the Standards (except for one company that discloses the amount recognised in equity). Here, a note regarding the bad performance regarding disclosure levels of the financial companies.

Table 18: Hedging of forecasted transaction disclosures

	Non-disclosing			Disclosing		
	Total	Financial	Non-financial	Total	Financial	Non-financial
Period in which the transaction is expected to occur	7	4	3	1	0	1
Period in which it is expected to appear in the determination of net profit or loss	7	4	3	1	0	1

Table 19: Cash-flow hedging disclosures

	Non-disclosing			Disclosing		
	Total	Financial	Non-financial	Total	Financial	Non-financial
Amount recognised in equity	10	4	6	1	0	1
Amount removed from equity and reported in net profit or loss	11	4	7	0	0	0
Amount removed from equity and added to the initial measurement of the acquisition cost	11	4	7	0	0	0

When it comes to the majority of derivative risk disclosures, the companies are closer to what is required. In fact, most companies separate the information by risk category, disclose the principal, stated, face or similar amount of derivative positions and their maturity. Non-financial companies show quite good disclosure levels for these items.

Table 20: Derivative risk disclosures

	Non-disclosing			Disclosing		
	Total	Financial	Non-financial	Total	Financial	Non-financial
Segregation by risk categories	5	3	2	14	6	8
Extent	5	3	2	14	6	8
Maturity	8	4	4	11	5	6
Effective or weighted interest rate	17	8	9	1	0	1

Fair value disclosures

Most companies (73,7%) do not disclose the derivative fair value calculation method. This result is not surprising, considering the results obtained in fair value information in other financial instruments. Once again, non-financial companies show a total lack of this information.

Table 21: Derivative fair value calculation method

	Total		Financial	Non-financial
	N	%		
Non-disclosing	14	73,7	4	10
Market price	1	5,3	1	0
Similar instrument market price	0	0	0	0
Independent appraisal	0	0	0	0
Discounted cash-flow analysis	0	0	0	0
Option valuation model	0	0	0	0
Several	4	21,1	4	0
Total	19	100,0		

Regarding additional fair value disclosures required by IAS, they are almost totally absent, except the amount of derivative fair value, which is disclosed by 8 companies (six are financial companies). This means that some companies are already prepared to calculate the fair value of financial instruments, though they are reluctant to disclose the calculation method and assumptions. These factors complicate the understandability, the comparability and the consistency of the information. We question the usefulness of the information about the amount of fair value, without the other disclosures.

Table 22: Fair value disclosures

	Non-disclosing			Disclosing		
	N	Financial	Non-financial	N	Financial	Non-financial
Fair value amount	11	3	8	8	6	2
Significant assumptions	19	9	10	0	0	0
Average fair value in the period	19	9	10	0	0	0

Regarding the location of derivatives fair value, all companies disclose the information in the Notes to the accounts.

To sum up, we found that the fair value measurement criterion is being adopted by a large number of derivative users. However, with respect to hedging transactions (the most frequent operation in our sample companies), the gap between accounting practices and the relevant accounting Standards is quite wide. The majority of companies uses deferral accounting as the accounting method for hedging operations. Additionally, the level of hedging disclosure is also very low. Therefore, the adoption of International Standards will have its major impact on hedging accounting practices. Since the strategy most adopted with derivatives is hedging, we can conclude that companies will be required to make a big change in their derivative accounting practices, as a whole. A big improvement in reporting practices regarding this type of instruments will be needed.

Financial Instruments

We will characterize disclosure practices relating to all financial instruments (derivatives or not), namely, interest rate risk disclosures, credit risk disclosures, collateral and negative information.

Interest rate risk disclosures

Regarding interest rate risk, the level of disclosure is low when compared to that required by IAS 32 and 39. Only a small number of companies includes the exposure to future changes in the interest rates. Most companies disclose the contractual repricing or maturity dates of the assets and liabilities exposed to interest rate risk.

Table 23: Interest rate risk disclosures

	Non-disclosing			Disclosing		
	Total	Financial	Non-financial	Total	Financial	Non-financial
Effects of future interest rate changes	51	7	44	4	4	0
Maturity dates	21	6	15	34	5	29

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. Our sample companies choose either narrative descriptions (33,3%) or a tabular format (50,0%). Only a small number of companies discloses sensitivity analysis information (8,3%).

Table 24: Format

	Total		Financial	Non-financial
	N	%		
Narrative descriptions	12	33.3	0	12
Tabular format	18	50.0	3	15
Sensitivity analysis	3	8.3	3	0
Combination of several formats	3	8.3	1	2
Total	36	100.0		

Regarding the location of interest rate risk disclosures, most companies give the information in the Notes to the accounts. Although small in number, there is a group of companies that presents the information only in the Management Report, that is, in the non-audited part of the annual report. One company discloses the information in several parts of the annual report.

Table 25: Interest rate risk disclosures location

	N	%
Management Report	4	11.1
Notes to the accounts	31	86.1
Several, including Notes	1	2.8
Total	36	100.0

Credit risk disclosures

Regarding credit risk, we registered an even worse scenario than in the above item. Only a small number of companies discloses the main counterparties (7,3%), the maximum amount of credit risk (3,6%) and significant concentration of credit risk (9,1%).

Table 26: Credit risk disclosures

	Non disclosing			Disclosing		
	Total	Financial	Non-financial	Total	Financial	Non-financial
Counterparties identification	51 (92,7%)	8	43	4 (7,3%)	3	1
Maximum amount of credit risk exposure	53 (96,4%)	9	44	2 (3,6%)	2	0
Significant concentration of credit risk	50 (90,9%)	8	42	5 (9,1%)	3	2

By analysing the type of information about credit risk, we conclude that concerning counterparties identification, companies make quantitative disclosures; regarding the concentration of credit risk, the disclosures are mainly qualitative.

Table 27: Credit risk type of information

	Quantitative	Qualitative
Type of information about counterparties identification	3 (75,0%)	1 (25,0%)
Type of information about maximum amount of credit risk exposure	2 (100,0%)	
Type of information significant concentration of credit risk	1 (20,0%)	4 (80,0%)

Information about credit risk is disclosed mainly in the Management Report (namely the one related to credit risk concentrations) and in the Notes to the Accounts (namely the counterparties identification).

Table 28: Credit risk disclosure location

	Management Report	Notes to the accounts	Several, including Notes to the accounts
Counterparties identification location	2 (50,0%)	1 (25,0%)	1 (25,0%)
Maximum amount of credit risk exposure location	2 (100,0%)		
Credit risk concentration location	4 (80,0%)		1 (20,0%)

Collateral disclosures

The level of collateral disclosures is greater than for the previous items. In fact, most companies (60,0%) disclose the amount of financial assets pledged as collateral and a smaller number (38,2%) discloses the significant terms and conditions relating to pledged assets. This information is in all cases located in the Notes to the accounts.

Table 29: Collateral

	Non-disclosing			Disclosing		
	Total	Financial	Non-financial	Total	Financial	Non-financial
Collateral – terms and conditions	34 (61,8%)	5	29	21 (38,2%)	6	15
Collateral - amounts	22 (40,0%)	5	17	33 (60,0%)	6	27

Negative information

Complementing the analysis presented above, we tried to see if the companies disclose negative information about financial instruments. There are only 6 cases (10,9% of the companies) in which we found negative information. Regarding the type of information presented by the companies, it is shared equally between qualitative and quantitative.

This type of information is distributed around several parts of the annual report, depending on the company. Two companies disclose it in the management report, another 2 in the Notes to the accounts, another one uses the Corporate Governance report to disclose negative information, and there is one company that discloses it in more than one part of the annual report. The following Table summarizes the negative information found in the annual reports analysed.

Table 30: Negative information disclosed by sample companies

<p>Banco Espírito Santo: “However, the equity markets poor performance had a strongly negative impact on this [capital markets] area's results, leading to the recognition of significant losses. Still, these losses were in part mitigated by the results obtained from the negotiation of sale options on minority blocks of shares in insurance companies included in Tranquilidade Group; The bank's performance from the standpoint of its capacity to generate income by developing the various business components was strongly affected by the capital market's negative situation, with trading results falling 38,5%”</p>
<p>Central: “The large losses reported in “financial operations”, which amount 17 354 thousand euros, are the result of effective or potential losses in the trading and investment portfolios held by the bank or its subsidiaries.”*</p>
<p>Companhia de Celulose do Caima: “In accordance with what has already been disclosed to the market, the Enron Group, with which, in 2000, taking advantage of the good price conditions, we had established future contracts on cellulose pulp, for a five year period, is late in the payment of its obligations”*</p> <p>“ As a result of the non-fulfilment of the contract by the company responsible for the hedging, in the future, the company will not count on the moderating instrument for the cyclical variations in the price of the pulp, and so will be exposed to positive and negative cycles relative to the pulp.”*</p>
<p>Efacec: “ Their [of the exchange rate contracts] amount totals 27,3M USD, and their valuation at the 31st December 2001 exchange rate means an opportunity cost to the Group of 1496,394 Euros...”*</p>
<p>Jerónimo Martins: Interest rate and exchange rate swap fair value unfavourable*</p>
<p>Reditus: “Reporting as a financial loss, the devaluation of the national and international issuers security portfolio”*</p>

Citations marked with * are free translations from the Portuguese version of the annual reports.

In conclusion, as far as interest rate risk and credit risk are concerned, though some companies present quite satisfactory disclosure levels, very few companies disclose much information. With regard to the assets pledged as collateral, we found that companies have already been disclosing this type of off-balance-sheet information, though some aspects are missing particularly relative to the terms, conditions and fair value of those assets. Last, we found that companies are reluctant to disclose negative information in their annual reports.

VI. DISCUSSION OF THE RESULTS AND FUTURE RESEARCH

The primary objective of this study was to analyse the accounting practices for financial instruments actually applied by Portuguese companies and compare them to the measurement, recognition and disclosure requirements of International Accounting Standards 32 and 39. In order to achieve this objective, we began by analysing Portuguese accounting standards (applied to both financial and non- financial companies) relating to financial instruments and compared them with International Accounting Standards, with specifically regard to measurement, recognition and disclosure rules. This provided a first insight into those areas where Portuguese companies are farther away from IAS requirements. But this analysis would not be completed without a thorough analysis of companies' accounting practices. So, we next tried to answer the question of whether Portuguese companies' accounting practices are very distant from the IAS stipulation for financial instruments. An assessment of the degree of proximity is very important as European Union requires listed companies to prepare their consolidated accounts in accordance with IAS from 2005 onwards.

For this, we chose a sample composed of all Portuguese listed companies (55 companies) and comprehensively examined their 2001 annual reports, based on a pre-constructed list of categories. Our analysis suggests that the accounting practices for financial instruments are very far from meeting the IAS 32 and 39 requirements, especially in the measurement and recognition criteria applied to the categories of financial instruments for which the adoption of fair value (that is, held-for-trading and available-for-sale financial assets) is required. The quality of the disclosures is less than satisfactory, particularly with respect to fair value determination. Regarding derivative financial instruments, fair value measurement is being adopted by a large number of derivatives users. However, relative to hedging transactions, the gap between accounting practices and the relevant accounting standards is quite wide. Furthermore, the level of hedging disclosure is very low. The adoption of International Standards will have a major impact on hedging accounting practices. Given that the most adopted strategy with derivatives is hedging, we conclude that companies will have to make a considerable change in their derivative accounting practices, as a whole. In addition, IAS 32 and 39 will require enhanced disclosures, in terms of both quantity and specificity.

As a next phase of this research, we are going to extend this study to other European countries to ascertain and compare how close accounting practices come to IAS in other countries that are going to be affected by the 2005 accounting regulation. The determination of accounting practices in a multi-country sample will yield valuable conclusions.

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 on 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 to the research method 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 research is very important since it sheds light on the areas where Portuguese companies will encounter more difficulties when changing to IASB standards. These findings are very useful to Portuguese accounting standard setters as they point out which areas will require more work in order to achieve a smooth transition to IAS.

References

AISBITT, Sally (2001), "Measurement of harmony of financial reporting within and between countries: the case of the Nordic countries", *European Accounting Review*, Vol.10, 1, pp.51-72.

ARCHER, Simon, DELVAILLE, Pascale and MCLEAY, Stuart (1996), "A Statistical Model of International Accounting Harmonization", *Abacus*, Vol. 32, 1, pp.1-29.

BETTMAN, James and WEITZ, Barton (1983), "Attributions in the Board Room: Causal Reasoning in Corporate Annual Reports", *Administrative Science Quarterly*, 28, pp. 165-183.

BLANKLEY, Alan, LAMB, Reinhold and SCHROEDER, Richard (2000), "Compliance with SEC Disclosure Requirements about Market Risk", *Journal of Derivatives*, Vol. 7, 3, pp. 39-50.

CAÑIBANO, Leandro and MORA, Araceli (2000), "Evaluating the statistical significance of de facto accounting harmonization: a study of European global players", *European Accounting Review*, Vol. 9, 3, pp.349-369.

CHALMERS, Keryn (2001), "The Progression from Voluntary to Mandatory Derivative Instrument Disclosures - Look Who's Talking", *Australian Accounting Review*, Vol. 11, 1, pp. 34-44.

CHALMERS, Keryn and GODFREY, Jayne (2000), "Practice versus Prescription in the Disclosure and Recognition of Derivatives", *Australian Accounting Review*, Vol. 11, 2, pp. 40-50.

D'AVENI, R.A. and MACMILLAN, I. C. (1990), "Crisis and the Content of Managerial Communications: a Study of the Focus of Attention of Top Managers in Surviving and Failing Firms", *Administrative Science Quarterly*, 35, 4, pp. 634-657.

Decree-law 410/89, 21st November 1989 – Portuguese Accounting Act.

Decree-Law 367/99, 18th September 1999 – Portuguese Accounting Standards Board Statutory Rules.

Decree-Law N° 88/2004, 20th April 2004 – Transposition to Portugal of Directive 2001/65/EC.

Directive 78/660/EEC, 25th July 1978 based on Article 54 (3) (g) of the Treaty on the annual accounts of certain types of companies, Official Journal L 222, 14/08/1978 P. 0011 – 0031.

Directive 2001/65/EC, 27th September 2001 amending Directives 78/660/EEC, 83/349/EEC and 86/635/EEC as regards the valuation rules for the annual and consolidated accounts of certain types of companies as well as of banks and other financial institutions, Official Journal L 283, 27/10/2001 P. 0028 – 0032.

DOUPNIK and TAYLOR (1985), “An empirical investigation of the observance of IASC standards in Western Europe”, *Management International Review*, Vol. 1, pp. 27-33.

EDWARDS Jr., Gerald and ELLER, Gregory (1995), “Overview of Derivatives Disclosures by Major U.S. Banks”, *Federal Reserve Bulletin*, September, pp. 817-831.

EDWARDS Jr., Gerald and ELLER, Gregory (1996), “Derivatives Disclosures by Major U.S. Banks, 1995”, *Federal Reserve Bulletin*, September, pp. 792-801.

ENTWISTLE, Gary (1999), “Exploring the R&D Disclosure Environment”, *Accounting Horizons*, 13, 4, pp. 323-341.

EUROPEAN PARLIAMENT AND THE COUNCIL (2002), Regulation 1606/2002 on the application of international accounting standards, Official Journal L 243, 11/09/2002 P. 0001 - 0004

EVANS, Thomas and TAYLOR, Martin (1982), "Bottom Line Compliance" with IASC: A Comparative Analysis, *International Journal of Accounting*, Vol. 18, 1, pp. 115-128.

FASB (1990), FAS 105 Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk.

FASB (1991), FAS 107 Disclosures about Fair Value of Financial Instruments.

FASB (1998), FAS 133 Accounting for Derivative Instruments and Hedging Activities.

FASB (1999), FAS 137 Accounting for Derivative Instruments and Hedging Activities—Deferral of the Effective Date of FASB Statement No. 133—an amendment of FASB Statement No. 133.

FASB (2000), FAS 138 Accounting for Certain Derivative Instruments and Certain Hedging Activities - an amendment of FASB Statement No. 133.

FASB (2003), FAS 149 Amendment of Statement 133 on Derivative Instruments and Hedging Activities.

FRAZIER, Katherine, INGRAM, Robert and TENNYSON, B. (1984), "A Methodology for the Analysis of Narrative Accounting Disclosures", *Journal of Accounting Research*, 22, 1, pp. 318-331.

HOLSTI, O. R. (1969), "Content analysis for the social sciences and humanities", Addison-Wesley Publishing Company, Reading, Massachusetts.

IASB (2000), IAS 32 Financial Instruments: Disclosure and Presentation.

IASB (2000), IAS 39 Financial Instruments: Recognition and Measurement.

INGRAM, Robert and FRAZIER, Katherine (1980), "Environmental Performance and Corporate Disclosure", *Journal of Accounting Research*, 18, 2, pp. 614-622.

JONES, Michael John and SHOEMAKER, Paul A. (1994), "Accounting narratives: A review of empirical studies of content and readability", *Journal of Accounting Literature*, 13, pp. 142-161.

MAHONEY, Jeffrey and KAWAMURA, Yoshinori (1995), "Review of 1994 Disclosures about Derivative Financial Instruments and Fair Value of Financial Instruments", *Financial Accounting Series*, n° 156-A, FASB Special Report.

MASON, Stuart, MCCARTNEY, Sean and SHERER, Michael (2001), "The Value of Management Letters to Unlisted Companies", *British Accounting Review*, 33, 4, pp. 549-568.

MCLEAY, Stuart, NEAL, David and TOLLINGTON, Tony (1999), "International Standardisation and Harmonisation: a New Measurement Technique", *Journal of International Financial Management and Accounting*, Vol. 10, 1, pp. 42-70.

MILNE, Markus and ADLER, Ralph (1999), "Exploring the reliability of social and environmental disclosures content analysis", *Accounting, Auditing and Accountability Journal*, 12, 2, pp. 237-256.

NOBES, Christopher, (1987), "An Empirical Investigation of the Observance of IASC Standards in Western Europe: A Comment", *Management International Review*, Vol. 27, 4, pp.78-79.

NOBES, Christopher (1990), “Compliance by US Corporations with IASC Standards”, *British Accounting Review*, Vol. 22, pp. 41-49.

O'DWYER, Brendan (2001), “The State of Corporate Environmental Reporting in Ireland”, Certified Accountants Educational Trust, London.

PORTUGUESE ACCOUNTING STANDARDS BOARD (1997), Accounting Directive 17 “Future Contracts”

PORTUGUESE ACCOUNTING STANDARDS BOARD (1997), Accounting Directive 18 “Objectives of the Financial Reports and Generally Accepted Accounting Principles”

PORTUGUESE ACCOUNTING STANDARDS BOARD (2003), “Projecto de Linhas de Orientação para um Novo Modelo Contabilístico” (A project for a new accounting standard setting model), portuguese version on www.cnc.min-financas.pt.

PORTUGUESE CENTRAL BANK (1996), Instruction nº 4/96 – Accounting Act for the Banking System.

PURVIS, S., GERON, Helen and DIAMOND, Michael (1991), “The IASC and Its Comparability Project: Prerequisites for Success”, *Accounting Horizons*, June, pp. 25-44.

ROULSTONE, Darren (1999), “Effect of SEC Financial Reporting Release nº 48 on Derivative and Market Risk Disclosures”, *Accounting Horizons*, Vol. 13, 4, pp. 343-363.

SHRIVES, Philip and LINSLEY, Philip (2002), “Communicating Risk to Shareholders and other Stakeholders: An empirical study”, European Accounting Association Conference, Copenhagen.

STREET, Donna and GRAY, Sidney (1999), “How wide is the gap between IASC and U.S. GAAP? Impact of the IASC comparability project and recent international developments”, *Journal of International Accounting, Auditing & Taxation*, Vol. 8, 1, pp. 133-164.

STREET, Donna, GRAY, Sidney and BRYANT, S. (1999), “Acceptance and Observance of International Accounting Standards: An Empirical Study of Companies Claiming to Comply with IAS”, Vol. 34, 1, pp. 11-48.

TAY, J. and PARKER, R. (1990), "Measuring International Harmonization and Standardization", *Abacus*, Vol. 26, 1, pp.71-88.

TAY, J. and PARKER, R. (1992), "Measuring International Harmonization and Standardization: A Reply", *Abacus*, Vol. 28, 2, pp. 217-220.

TENNYSON, M., INGRAM, R. and DUGAN, M. (1990), "Assessing the Information Content of Narrative Disclosures in Explaining Bankruptcy", *Journal of Business Finance and Accounting*, 17, 3, pp. 391-410.

UNERMAN, Jeffrey (2000), "Methodological Issues. Reflections on quantification in corporate social reporting content analysis", *Accounting, Auditing and Accountability Journal*, 13, 5, pp. 667-680.

VAN DER TAS, L. (1988), "Measuring harmonisation of financial reporting practice", *Accounting and Business Research*, Vol. 18, 70, pp. 157-169.

VAN DER TAS, L. (1992), "Measuring International Harmonization and Standardization: A Comment", *Abacus*, Vol. 28, 2, pp. 211-216.

WILLIAMS, S. Mitchell (2004), "An International investigation of associations between societal variables and the amount of disclosure on information technology and communication problems: the case of Y2K", *International Journal of Accounting*, Vol. 39, pp. 71-92.

WOODS, Margaret and MARGINSON, David (2004), "Accounting for Derivatives: An Evaluation of Reporting Practice by UK Banks", *European Accounting Review*, Vol. 13, 2, pp. 373-391.

Appendix I - List of categories for the content analysis

1. FINANCIAL INSTRUMENTS, EXCLUDING DERIVATIVES

Information about accounting policies

- Held for trading securities
- Held-to-maturity securities
- Loans and receivables originated by the enterprise
- Available-for-sale financial assets
- Liabilities held for trading
- Other financial liabilities
- Trade date vs Settlement date

Information about fair values and market values

- Measurement method
- Significant assumptions
- Fair value changes in Available-for-sale financial assets
- Amount recognised in equity
- Amount removed from equity
- Unability of reliability in measurement
- Financial assets description
- Their carrying amount
- Explanation of the reason
- Range of estimates within which the fair value is likely to lie

Information about securitisation and repurchase agreements

- Accounting policy
- Nature and extent
- Collateral
- Information about the key assumptions used in calculating the fair value of new and retained interests
- Whether the financial assets have been derecognised

2. DERIVATIVES

Information about accounting policies

- Risk management policy, including hedging policy
- Objectives of holding or issuing derivatives
- Accounting policies and methods adopted
- Monitoring and controlling policy
- Financial controls

Information about risks

- Segregation by risk categories
- Information about the following:
 - Principal, stated value, face value, notional value
 - Maturity
 - Weighted average/effective interest rate

Information about hedging transactions

- Hedging description
- Accounting method
- Financial instruments designated as hedging instruments
- Fair values
- Nature of the risks being hedged
- Future transactions hedging
 - Existence
 - The period in which forecasted transactions are expected to occur
 - The period they are expected to enter in income
- Cash-flow hedging
 - Existence
 - The amount recognised in equity
 - The amount removed from equity and recognised in income
 - The amount removed from equity and added to initial measurement of the acquisition cost

Information about fair values

- Fair value

Method adopted
Significant assumptions
Average fair value during the year

3. ALL FINANCIAL INSTRUMENTS

Information about interest rate risk

Future changes in interest rates

Maturity dates

Disclosure format

Information about credit risk

Counterparties identification

Maximum amount of credit risk exposure

Significant concentration of credit risk

Information about collateral

Terms and conditions

Carrying amount and fair value

Negative Information

Appendix II – Sample companies

Company Name	Economic Sector	Company Name	Economic Sector
Barbosa & Almeida	Industrial	ITI	Consumer, cyclical
BANIF	Financial	Jerónimo Martins	Consumer, non-cyclical
BCA	Financial	LISGRAFICA	Consumer, cyclical
BCP	Financial	Mota-Engil	Industrial
BES	Financial	Mundicenter	Financial
BPI	Financial	NOVABASE	Technology
BRISA	Industrial	Soc. Comercial Orey Antunes	Industrial
BSCH	Financial	Papelaria Fernandes	Consumer, cyclical
Banco Totta & Açores	Financial	PARAREDE	Technology
Corticeira Amorim	Industrial	PORTUCEL Produtora de Pasta e Papel	Basic materials
Companhia de Celulose do Caima	Industrial	PT Multimédia.Com	Technology
CENTRAL - Banco de Investimento	Financial	PT Multimédia	Consumer, cyclical
CIMPOR	Industrial	REDITUS	Technology
CIN	Basic materials	Salvador Caetano	Industrial
CIRES	Basic materials	Soares da Costa	Industrial
COFINA	Basic materials	SAG GEST	Consumer, cyclical
COMPTA	Technology	SEMAPA	Industrial
Modelo Continente	Consumer, non-cyclical	SOMAGUE	Industrial
EDP	Utilities	SONAE Indústria	Industrial
EFACEC	Industrial	SONAE SGPS	Consumer, non-cyclical
Estoril - Sol	Consumer, cyclical	SONAE.COM	Telecommunications
F.Ramada	Basic materials	SUMOLIS	Consumer, non-cyclical
FINIBANCO	Financial	Teixeira Duarte	Industrial
FISIPE	Basic materials	Portugal Telecom	Telecommunications
Grão-Pará	Industrial	TERTIR	Industrial
IBERSOL	Consumer, cyclical	Vista Alegre Atlantis	Consumer, cyclical
IMOLEASING	Financial	Vodafone Telecel	Telecommunications
IMPRESA	Consumer, cyclical		
INAPA	Basic materials		

Working papers mais recentes

Nº 149	Pedro Cosme Costa Vieira, <u>Top ranking economics journals impact variability and a ranking update to the year 2002</u> , June 2004
Nº 148	Maria do Rosário Correia, Scott C. Linn and Andrew Marshall, <u>An Empirical Investigation of Debt Contract Design: The Determinants of the Choice of Debt Terms in Eurobond Issues</u> , June 2004
Nº 147	Francisco Castro, <u>Foreign Direct Investment in a Late Industrialising Country: The Portuguese IDP Revisited</u> , May 2004
Nº 146	Óscar Afonso and Álvaro Aguiar, <u>Comércio Externo e Crescimento da Economia Portuguesa no Século XX</u> , May 2004
Nº 145	Álvaro Aguiar and Manuel M. F. Martins, <u>O Crescimento da Produtividade da Indústria Portuguesa no Século XX</u> , May 2004
Nº 144	Álvaro Aguiar and Manuel M. F. Martins, <u>Growth Cycles in XXth Century European Industrial Productivity: Unbiased Variance Estimation in a Time-varying Parameter Model</u> , May 2004
Nº 143	Jorge M. S. Valente and Rui A. F. S. Alves, <u>Beam search algorithms for the early/tardy scheduling problem with release dates</u> , April 2004
Nº 142	Jorge M. S. Valente and Rui A. F. S. Alves, <u>Filtered and Recovering beam search algorithms for the early/tardy scheduling problem with no idle time</u> , April 2004
Nº 141	João A. Ribeiro and Robert W. Scapens, <u>Power, ERP systems and resistance to management accounting: a case study</u> , April 2004
Nº 140	Rosa Forte, <u>The relationship between foreign direct investment and international trade. Substitution or complementarity? A survey</u> , March 2004
Nº 139	Sandra Silva, <u>On evolutionary technological change and economic growth: Lakatos as a starting point for appraisal</u> , March 2004
Nº 138	Maria Manuel Pinho, <u>Political models of budget deficits: a literature review</u> , March 2004
Nº 137	Natércia Fortuna, <u>Local rank tests in a multivariate nonparametric relationship</u> , February 2004
Nº 136	Argentino Pessoa, <u>Ideas driven growth: the OECD evidence</u> , December 2003
Nº 135	Pedro Lains, <u>Portugal's Growth Paradox, 1870-1950</u> , December 2003
Nº 134	Pedro Mazedo Gil, <u>A Model of Firm Behaviour with Equity Constraints and Bankruptcy Costs</u> , November 2003
Nº 133	Douglas Woodward, Octávio Figueiredo and Paulo Guimarães, <u>Beyond the Silicon Valley: University R&D and High-Technology Location</u> , November 2003.
Nº 132	Pedro Cosme da Costa Vieira, <u>The Impact of Monetary Shocks on Product and Wages: A neoclassical aggregated dynamic model</u> , July 2003.
Nº 131	Aurora Teixeira and Natércia Fortuna, <u>Human Capital, Innovation Capability and Economic Growth</u> , July 2003.
Nº 130	Jorge M. S. Valente and Rui A. F. S. Alves, <u>Heuristics for the Early/Tardy Scheduling Problem with Release Dates</u> , May 2003.
Nº 129	Jorge M. S. Valente and Rui A. F. S. Alves, <u>An Exact Approach to Early/Tardy Scheduling with Release Dates</u> , May 2003.
Nº 128	Álvaro Almeida, <u>40 Years of Monetary Targets and Financial Crises in 20 OECD Countries</u> , April 2003.
Nº 127	Jorge M. S. Valente, <u>Using Instance Statistics to Determine the Lookahead Parameter Value in the ATC Dispatch Rule: Making a good heuristic better</u> , April 2003.

Nº 126	Jorge M. S. Valente and Rui A. F. S. Alves, <i>Improved Heuristics for the Early/Tardy Scheduling Problem with No Idle Time</i> , April 2003.
Nº 125	Jorge M. S. Valente and Rui A. F. S. Alves, <i>Improved Lower Bounds for the Early/Tardy Scheduling Problem with No Idle Time</i> , April 2003.
Nº 124	Aurora Teixeira, <i>Does Inertia Pay Off? Empirical assessment of an evolutionary-ecological model of human capital decisions at firm level</i> , March 2003.
Nº 123	Alvaro Aguiar and Manuel M. F. Martins, <i>Macroeconomic Volatility Trade-off and Monetary Policy Regime in the Euro Area</i> , March 2003.
Nº 122	Alvaro Aguiar and Manuel M. F. Martins, <i>Trend, cycle, and non-linear trade-off in the Euro Area 1970-2001</i> , March 2003.
Nº 121	Aurora Teixeira, <i>On the Link between Human Capital and Firm Performance. A Theoretical and Empirical Survey</i> , November 2002.
Nº 120	Ana Paula Serra, <i>The Cross-Sectional Determinants of Returns: Evidence from Emerging Markets' Stocks</i> , October 2002.
Nº 119	Cristina Barbot, <i>Does Airport Regulation Benefit Consumers?</i> , June 2002.
Nº 118	José Escalera, <i>A Procura no Sector das Artes do Espectáculo. Tempo e Rendimento na Análise das Audiências. Um Estudo para Portugal</i> , June 2002.
Nº 117	Ana Paula Serra, <i>Event Study Tests: A brief survey</i> , May 2002.
Nº 116	Luís Delfim Santos and Isabel Martins, <i>A Qualidade de Vida Urbana - O caso da cidade do Porto</i> , May 2002.
Nº 115	Marcelo Cabús Klötzle and Fábio Luiz Biagini, <i>A Restruturação do Sector Eléctrico Brasileiro: Uma análise comparativa com a Califórnia</i> , January 2002.
Nº 114	António Brandão and Sofia B. S. D. Castro, <i>Objectives of Public Firms and Entry</i> , December 2001.
Nº 113	Ana Cristina Fernandes and Carlos Machado-Santos, <i>Avaliação de Estratégias de Investimento com Opções</i> , December 2001.
Nº 112	Carlos Alves and Victor Mendes, <i>Corporate Governance Policy and Company Performance: The Case of Portugal</i> , December 2001.
Nº 111	Cristina Barbot, <i>Industrial Determinants of Entry and Survival: The case of Ave</i> , October 2001.
Nº 110	José Rodrigues de Jesús, Luís Miranda da Rocha e Rui Couto Viana, <i>Avaliação de Pequenas e Médias Empresas e Gestão de Risco</i> , October 2001.
Nº 109	Margarida de Mello and Kevin S. Nell, <i>The Forecasting Ability of a Cointegrated VAR Demand System with Endogeneous vs. Exogenous Expenditure Variable: An application to the UK imports of tourism from neighbouring countries</i> , July 2001.
Nº 108	Cristina Barbot, <i>Horizontal Merger and Vertical Differentiation</i> , June 2001.
Nº 107	Celsa Machado, <i>Measuring Business Cycles: The Real Business Cycle Approach and Related Controversies</i> , May 2001.
Nº 106	Óscar Afonso, <i>The Impact of International Trade on Economic Growth</i> , May 2001.
Nº 105	Abraão Luís Silva, <i>Chamberlain on Product Differentiation, Market Structure and Competition: An essay</i> , May 2001.
Nº 104	Helena Marques, <i>The "New" Economic Theories</i> , May 2001.

Editor: Prof. Aurora Teixeira (ateixeira@fep.up.pt)

Download dos artigos em:

<http://www.fep.up.pt/investigacao/workingpapers/workingpapers.htm>



FACULDADE DE ECONOMIA

UNIVERSIDADE DO PORTO

www.fep.up.pt