THE IMPACT OF FIRMS' INTERNATIONALIZATION ON FINANCIAL STATEMENT PRESENTATION: SOME FRENCH EVIDENCE

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ABSTRACT

Historically, the format of financial statements has varied from one country to another. Recently, due to the attractiveness of their capital markets, the strength of their accounting professions and the influence of their institutional investors, Anglo-American countries have seen a steady increase in the impact of their accounting practices on other nations, even influencing the actual format of financial statements. Given that French accounting regulations allow a certain degree of choice in consolidated balance sheet format ('by nature' or 'by term') and income statement format ('by nature' or 'by function'), this study examines a sample of 199 large French listed firms in an attempt to understand why some of these firms choose not to use the traditional French formats ('by nature' for the balance sheet and 'by nature' for the income statement), instead preferring Anglo-American practices that we call 'alternative' ('by term' format for the balance sheet and 'by function' format for the income statement). We first analyze the balance sheet and income statement formats separately using a logit model, then combine the two and enrich the research design with a generalized ordered logit model. Our results confirm that opting for one or two alternative formats is related to internationalization, influenced by several factors: size, international auditor, accounting standards, foreign listing and international sales. When distinguishing the decision to adopt at least one versus two alternative-format financial statements, our findings also provide evidence that not all variables play the same role: 'Accounting standards' and 'Foreign listing', which are important in explaining the use of at least one alternative format, are irrelevant in explaining the use of two alternative-format financial statements.

INTRODUCTION

As early as 1985, Doupnik and Taylor (1985, p. 27) pointed out that "*the problem of diversity in national accounting practices has been widely discussed over the years. A world economy exists today in which trade and investment show no regard for national borders. Differences in accounting practices among countries impede the flow of capital across borders necessary for the optimal allocation of scarce resources worldwide*". This globalization trend has certainly intensified over the last twenty years, leading to profound changes in the field of financial reporting, as illustrated by the convergence agreement signed between the FASB and IASB in 2002 and the European Union's adoption of IAS/IFRS from 2005.

Each country's financial reporting practices follow a set of principles, rules, or conventions that have evolved in the political, legal, economic, and cultural environments of that country, and consequently financial reports often lack international comprehensibility and acceptance (Qureshi, 1979).

Meanwhile, the massive growth of the multinational enterprise has been followed by an increasing demand for financial information by the world community of stockholders, investors and creditors. The world's leading stock exchanges impose listing requirements that place multinational enterprises under additional accounting and reporting pressures. The question of how firms handle their financial communication practices alongside their business internationalization is thus very interesting.

Choi (1991, p. 106) developed a theory on how multinationals could deal with the problem of international accounting differences in order to better serve foreign investors. In his opinion, "*firms attempting to raise funds abroad at reasonable costs face the choice of how much they wish to accommodate the information needs of investors who are used to providing capital on the basis of reports prepared according to local accounting and reporting norms. In attempting to court investors who may be less tolerant of accounting differences, management can opt to provide foreign readers with 1) accounts that have been restated to the accounting principles of the reader's country-of-domicile, 2) additional disclosure, 3) enhanced audits, or any combination of the above*". In addition to these three approaches (or any approach combining two or all of them), our study provides some empirical evidence on a fourth possible way of making the disclosed financial information more 'decision relevant' (a term developed by Choi (1991)): choosing an alternative (i.e., non-traditional) format for the financial statements (understood for the purposes of this study specifically to comprise the balance sheet and income statement).

Since financial information now circulates well beyond national borders, international differences in financial statement formats have emerged as an important issue. Although the efficient market hypothesis may suggest that financial statement format should not be considered important by information users, experimental studies have often proved that the way financial information is presented does in fact impact users' perception of firms' risk (e.g., Maines & McDaniel, 2000).

Comparability in companies' financial positions and activities is essential for accounting information users, but straightforward comparability is still a long way off achievement. Worldwide, a range of presentation formats are used for the key documents, particularly the balance sheet and income statement (Sutton, 2004; Kothari & Barone, 2006; Stolowy & Lebas, 2006; Walton & Aerts, 2006). Two balance sheet formats exist, differing with regard to the way assets and liabilities are classified: 'by term' (long-term versus short-term) or 'by nature' (intangible, tangible, financial or operating) (see Table 1); and two types of classification of expenses for the income statement: 'by nature' (according to type of expenditure) or 'by function' ('cost of sales' format) (see Table 2). Traditionally, the 'by term' balance sheet and the 'by function' income statement are considered as 'Anglo-American' practices, because they correspond to the practice of most North American and British firms. Conversely, the 'by nature' balance sheet and income statement corresponds to traditional practice in continental Europe (including Belgium, France, Germany and Switzerland).

Insert Tables 1 and 2 about here

Referring to international accounting standards, IAS 1 (IASB, 2003, §§ 51, 57, 60) allows firms a choice between the 'by term' and 'by nature' balance sheet formats (see Table 1). The IASB does not explain in its standard why it still allows different formats. The most plausible explanation is that it is technically impossible to merge the two formats and the IASB cannot impose a choice that would go against the practice of thousands of companies in the world.

Of all the countries allowing a range of balance sheet and income statement formats, France is a particularly interesting example, as it allows a great degree of freedom with regards to the income statement format. This provides researchers with a unique setting to answer our research question: why do some French firms choose an alternative format for their financial statements?

From a sample of annual reports for 2002 published by 199 non-financial companies included in the French SBF 250 index, we observe that 131 firms (65.8%) publish financial statements under the traditional French format, 36 (18.1%) have adopted a fully-alternative

strategy (both balance sheet and income statement use an 'alternative' format) and 32 firms (16.1%) follow a mixed strategy (either balance sheet or income statement is traditional while the other is 'alternative'). Given that this mixed strategy is not self-explanatory, we first analyze the balance sheet and income statement formats separately using a logit model, then combine the two to focus on the mixed strategy, using a generalized ordered logit regression. Our results confirm that the major driving factor behind the adoption of one or two alternative formats is the firm's degree of internationalization: company size, use of an international auditor, the decision to apply alternative accounting standards, foreign listing and sales internationalization.

These results are all the more interesting because they lose none of their relevance after the adoption of international accounting standards/international financial reporting standards (IAS/IFRS) by listed European (and also Hong Kong, Australian and Russian) companies from 2005. As seen earlier, IAS 1 (IASB, 2003), even in its revised version, continues to allow an alternative format. International accounting harmonization will not apparently automatically mean standardized statement formats.

The rest of the paper is organized as follows. In the following section, we provide some background on financial statement formats and develop our hypotheses. We then present our sample and research design, followed by our empirical findings. Certain limitations are subsequently discussed, before concluding the paper and providing directions for future research.

FINANCIAL STATEMENT FORMATS: SOME BACKGROUND

Research into the Impact of Information Presentation on Judgment

Several researchers have looked into the impact of information presentation on human judgment. For example, both Moriarity (1979) and Stock and Watson (1984) studied the use of multidimensional graphics as a financial communication tool and its impact on judgment accuracy. In the same vein, Maines and McDaniel (2000) used a psychology-based framework to study the effects of the comprehensive-income format on nonprofessional investors' judgments. Finally, some researchers have examined the impact of the cash flow statement format on lenders' decisions (Klammer & Reed, 1990; Kwok, 2002).

Lack of Research into Financial Statement Formats

To the best of our knowledge, there has been little research into the formats used for financial statements, although Fjeld (1936a; 1936b) referred to balance sheet presentation in

the U.S. as early as the first half of the 20th century. Only Ding, Stolowy and Tenenhaus (2003) have looked at this topic recently, and provide evidence of the progressive move away from traditional accounting practices[1] through a study of the financial statement presentation of one hundred large French industrial and commercial groups over a ten-year period. Hirshleifer and Teoh (2003), in a related field, concentrate on levels of discretion in pro forma earnings disclosure, methods of accounting for employee option compensation, and degrees of aggregation in reporting. In an analytical setting, they study the effect of different presentations on market prices when investors have limited attention and processing power. However, these authors do not explore the reasons underlying the choice of a given format. We believe that the main reason for the lack of researcher interest in the topic is that traditionally, the practice in each individual country has been relatively homogeneous: one format dominates.

Balance Sheet Presentation[2]

One of the key choices concerning the balance sheet essentially pertains to the classification method for assets and liabilities:

- 'by nature' (intangible, tangible, financial, operating) (see Table 1, Panel A), or
- 'by term' (short-term versus long-term) (see Table 1, Panel B).

In other words, assets and liabilities can be classified based on either the length of the cycle for transformation into cash (fixed versus current, short-term versus long-term), or the item's 'nature' (tangible versus intangible, or financial versus operating).

For example, under the 'by term' approach, liabilities will be classified into different subsets. A parallel classification must also be applied to assets: long-term assets will be recognized as fixed assets (the stream of economic benefits they create for the firm extends beyond one year) as distinct from short-term assets. In contrast, when the 'by nature' format is adopted, the classification depends on the nature of the assets and liabilities and their role in the operating cycle or operations of the business. For example, in this approach liabilities can take the structure shown in Table 1, Panel A, with a matching distinction on the asset side.

IAS 1 (IASB, 2003, §§ 57, 60) leaves companies a degree of choice, as its definition of 'current' is relatively broad. It may be assessed by reference to the operating cycle (which corresponds to what we call the 'by nature' format) or by reference to the date of receipt or settlement (which corresponds to our 'by term' format). In the U.S. and Canada, for example, all figures in the balance sheet must be classified 'by term' (long-term or short-term)[3].

However, the 4th EU Directive (1978) and national regulations in some countries (including Belgium, France, Germany and Switzerland) allow 'by nature' presentation like IAS 1.

For individual company financial statements, French accounting places the emphasis on the legal form (nature) of the items in the balance sheet, and the French General Accounting Plan (X, 1999a) recommends a balance sheet model where all items are classified by nature. Since France has separate regulations for individual company and consolidated financial statements, we would expect to find instructions on consolidated financial statement format in the relevant specific regulations, published since 2000 (X, 1999b). These regulations do not explicitly refer to the choice between the 'by nature' or 'by term' formats, but include a model balance sheet visibly organized 'by nature'. The French 'Methodology' formerly in application before 2000 (X, 1986, No. 30) did not require a specific model, and many French companies interpreted this as permission to use 'by term' presentation for their consolidated balance sheet, and have carried on doing so after the publication of the new French regulations (X, 1999b).

Income Statement Format

As was the case for the balance sheet, there are several ways of presenting an income statement. More specifically, there are two methods to classify expenses:

- 'By nature' (by type of expenditure) (see Table 2, Panel A)
- 'By function' (by type of operation or segment) (see Table 2, Panel B).

In a 'by nature' classification (or 'nature of expenditure method'), expenses are aggregated in the income statement directly according to their nature (e.g., purchases of materials, transportation costs, taxes other than income tax, salaries and social security expenses, depreciation).

In a 'by function' format (or 'cost of sales method'), expenses are classified according to their role in the determination of income (cost of goods sold, commercial, distribution and administrative expenses are common distinctions in this case).

The distinction between 'by nature' and 'by function' classification of expenses only applies to expenses reported above operating income. Consequently, Table 2 does not explore classification patterns beyond those of operating income.

IAS 1 (IASB, 2003, § 88) states that "*an entity shall present an analysis of expenses using a classification based on either the nature of expenses or their function within the entity, whichever provides information that is reliable and more relevant*". The 4th EU directive (1978) also accepts both types of classification of expenses for the income statement.

What happens in practice is highly variable across countries. While the U.S. and Canada, for example, have adopted a 'by function' income statement format, certain countries (e.g., Italy) prefer the 'by nature' format, and several others (e.g., Germany) leave the choice up to the firms themselves. But even in a country where the situation seems extremely clear, as is the case for the U.S., there may be exceptions to the rule. For example, airline accounting in the U.S. is partly governed by the Uniform System of Accounts and Reports (USAR) issued by the U.S. Department of Transportation (DOT) (2002). Pursuant to DOT regulations, income statements are normally presented 'by nature' rather than 'by function' (Baker, Ding, & Stolowy, 2005).

In France, the 'by nature' format is the traditional method for individual company income statements. However, the new French consolidation regulations (X, 1999b, § 400) allow companies to choose between the 'by nature' and 'by function' models for their consolidated income statement.

The respective merits of the formats are not the primary concern of this article and will not be discussed here. Each presentation emanates from a certain vision of the business model financial statements are supposed to describe. Neither choice is intrinsically better. Each is coherent with a certain philosophy and communication approach.

As the 'by nature' formats for balance sheets and income statements are the 'traditional' formats in France, for convenience the rest of this article uses the term 'alternative' for the 'by term' balance sheet format and the 'by function' income statement format.

HYPOTHESIS DEVELOPMENT

As mentioned in the previous section, there are no previous studies analyzing the features of firms adopting alternative financial statement formats. This study is exploratory in nature. In this section, since we consider the use of alternative formats as a signal of internationalization in a firm's financial communication, we will refer to the literature on corporate internationalization to identify the features of firms more likely to adopt such practices.

The previous literature shows that in order to internationalize, "*firms must possess superior assets and skills that can earn economic rents that are high enough to counter the higher cost of servicing these markets. A firm's asset power is reflected by its size and multinational experience, and skills by its ability to develop differentiated products*" (Agarwal & Ramaswami, 1992, p. 4). In our particular case of the choice of financial statement format, our general hypothesis is based on Choi's (1991) theory, referred to earlier, on how multinationals could handle the problem of international accounting differences in order to

better serve foreign users. We assume that if a French firm moves from traditional French formats to Anglo-American (alternative) formats, its aim is to make its financial statements more accessible to English-speakers. Since in many industries, French companies are in direct competition with U.S. or U.K. firms for customers or investors, their willingness to improve the understandability of their financial statements can also be interpreted by the theory of 'oligopolistic reaction' (Mascarenhas, 1986, p. 2), whereby "*in some global concentrated industries, companies closely follow one another in investing in the same foreign markets so as to maintain competitive stability by not permitting the initiating firm to develop an advantage that can be used to combat its opponents elsewhere*".

Size

In this study, the choice of alternative formats for financial statements is regarded as a signal that firms are devoting extra effort to internationalize their financial communication. Firms need asset power to engage in international expansion and the size of the firm reflects its capability for absorption of the internationalization costs (Agarwal & Ramaswami, 1992). In his study on more than 14,000 Canadian manufacturers, Calof (1994) indicates that firm size is positively related to the degree of firm internationalization. The same results are also found in Nadkarni and Perez's study (2007). Furthermore, Bonaccorsi develops a more theoretical analysis on the obstacles preventing small firms becoming more international: limited resources, lack of scale economies and high risk perception in international activity. Another reason can be derived from Dumontier and Raffournier (1998) who refer to Singhvi and Desai (1971): disclosing alternative (i.e., 'different' or 'unusual') information is costly in general, but less costly for large firms.

The first hypothesis is therefore as follows:

H1: The adoption of an alternative format for the balance sheet or income statement is positively related to size.

International Auditor

In the international business literature, the 'psychic distance' concept suggests that in the internationalization process, a firm tends to choose options that are 'psychically' close (O'Grady & Lane, 1996). As the largest audit firms are of Anglo-American origin[4], they might be expected to encourage their clients to adopt a balance sheet or income statement format that resembles international practices. Furthermore, before it is able to use unfamiliar accounting practices (for example, adopting alternative financial statement formats), the firm needs to pass through a gradual process of acquisition, integration and use of accounting

knowledge in foreign countries (Johanson & Vahlne, 1977). In such an internationalization process, an assistance will come from an auditor with an international background. We can now formulate our second hypothesis:

H2: The adoption of an alternative format for the balance sheet or income statement is positively related to the choice of an international auditor.

Accounting Standards

As explained by Stolowy and Ding (2003), the *Commission des Opérations de Bourse* (COB, equivalent to the U.S. SEC) declared in 1995 that since no set of international standards had been adopted at a national level, French companies must prepare their accounts and financial statements published in France in accordance with French regulations. However, since in many cases French accounting rules do not differ greatly from international or American standards, the COB stated that it does not object to companies including a statement in the notes to the effect that their accounts or financial statements, prepared in accordance with French standards, also comply with international or American standards (COB, 1998, p. 3).

French companies can thus apply 'alternative' standards if, in doing so, they state that these practices are in compliance with the French regulations. We anticipate that companies explicitly declaring they have adopted alternative standards (while respecting French GAAP) will be tempted to take advantage of the leeway left by French regulations (see above) to opt for alternative balance sheet or income statement formats, thus 'signaling' their internationalization. Their knowledge of international or American standards also reduces the effort involved in adopting alternative financial statement formats. For example, Eriksson et al. (1997) show that lack of knowledge of foreign business and foreign institutions is often the main obstacle for a firm's internationalization. They also demonstrate that this lack of knowledge significantly increases the cost of the internationalization process as perceived by managers. In short, if a firm has decided that there is some benefit to using an alternative set of accounting standards, it will perceive a similar benefit from using an alternative format as well. Our next hypothesis is thus the following:

H3: The adoption of an alternative format for the balance sheet or income statement is positively related to explicit reference to an alternative set of accounting standards.

Foreign Listing

As Debreceny, Gray and Rahman (2002) point out, foreign listing is sought by firms in order to have a more competitive cost of capital structure, as it enables them to issue

securities in markets with higher liquidity and lower cost of capital. Foreign listing has numerous other benefits (Biddle & Saudagaran, 1991; Saudagaran & Biddle, 1995).

Choi (1991, p. 105-106) argued that "*business enterprises interested in increasing the supply, and reducing their capital costs are increasingly sourcing their external capital needs abroad (…). As a consequence, investment and corporate funding decisions will become increasingly international in scope*". The international accounting differences "*could lead to problems of interpretation and understanding when financial statements are read by investors (…) who may not be familiar with foreign accounting and reporting norms (…) In making their investment picks, investors will need some mechanism, either implicit or explicit for making cross-country comparisons*".

This leads us to believe that French companies listed outside France will be tempted to adopt alternative formats that are closer to the formats used in the country of listing, or internationally.

H4: The adoption of an alternative format for the balance sheet or income statement is positively related to foreign listing.

Degree of Sales Internationalization

According to Choi (1991), business internationalization leads the firm into a faster-changing and more competitive context. Raffournier (1995) states that companies are induced to comply with the usual practices of countries in which they operate. "*The more international the operations of a firm, the larger is the inducement*" (1995, p. 266).

Many previous studies in international business use international sales as an indicator for the degree of internationalization of a firm (Sullivan, 1994). We think that French companies with international sales will be more inclined to adopt the alternative format, which as noted above is 'more international'. This is consistent with the signaling theory, which is supported by Dumontier and Raffournier (1998) who explain that because they are more visible on foreign markets, firms which operate internationally may have an interest in preparing financial statements which can easily be understood by local customers, suppliers and governments. This leads to the following hypothesis:

H5: The adoption of an alternative format for the balance sheet or income statement is positively related to the degree of sales internationalization.

Internationalization of Ownership

We think that the presence of international investors (owners) will tend to encourage the firms' management to adopt alternative financial statements, and believe that similar motives

are at work when firms have a high level of disclosure and adopt an alternative format. According to Macharzina (1992), "*reporting practices are heavily influenced by the ownership patterns of companies*". He believes that disclosure tends to increase as the level of capital obtained from foreign sources rises.

Since financial statements are designed for investors, managers tend to publish financial statements that can be understood easily by their significant and permanent shareholders. Since international owners are mainly Anglo-American[5], firms with a high level of international ownership will probably publish 'alternative format' financial statements. On this basis, our next hypothesis is as follows:

H6: The adoption of an alternative format for the balance sheet or income statement is positively related to the internationalization of ownership.

Leverage

Leverage is also proven by the literature to be related to firms' internationalization. For example, in the U.S. internationalized firms tend to have lower debt-equity ratios than purely domestic corporations (Chen, Cheng, He, & Kim, 1997). Kwok and Reeb (2000) obtain more precise results on this issue: when firms from more stable economies become internationalized, this tends to increase their risk and leads to a reduction in debt utilization. By contrast, when firms from less stable economies go international, it decreases their risk and allows for greater debt utilization. Our final hypothesis is thus:

H7: The adoption of an alternative format for the balance sheet or income statement is negatively related to leverage.

Control Variable: Economic Sector

Extant international business research shows that the decision to internationalize is often industry-specific (Kotha, Rindova, & Rothaermel, 2001). Especially since the competition between firms varies considerably from one industry to another, firms in different sectors may position themselves differently against their competitors (Mascarenhas, 1986).

This leads us to believe that the sector can influence the choice of account format, even if only due to mimicry, but we have no prediction regarding the type of influence. We will therefore include the economic sector as a control variable[6].

SAMPLE AND RESEARCH DESIGN

Sample

Our basic sample comprises all companies in the Paris Stock Exchange SBF 250 index at December 31, 2002. The consolidated financial statements examined for our study are those published for the year 2002.

First, the 38 financial and real estate companies were excluded from the sample, as their account formats are very different from those of the industrial and commercial companies. Next to be eliminated were six foreign companies, which do not mention French GAAP at all in the reference to a set of accounting standards at the beginning of the notes. These companies apply U.S. GAAP only, and we thus considered that they had not made a real accounting choice but were obliged to use a U.S. format, i.e. 'by term' balance sheet and 'by function' income statement.

Finally, we faced the problem encountered previously by Raffournier (1995): seven firms did not disclose a breakdown of sales by geographical area or, when they did, did not provide figures for sales in France (reporting sales in Europe instead). Details of determination of the final sample are shown in table 3.

Insert Table 3 about here

Research Design

As stated in the introduction, the firms in our 199-firm sample that use an alternative format fall into three groups: firms with a fully-alternative strategy (both the income statement and the balance sheet follow an alternative format), firms applying a mixed strategy (one and only one alternative-format financial statement) and firms adopting the traditional French format only. To fully investigate the presentation of financial statements, we first use a logit model, i.e., we assume that presentation choices (for the income statement and balance sheet) are independent. We then relax this assumption and consider the two choices as interrelated, using an ordered logit model.

Logit Model

This study seeks to explain the choice made by French firms as to the balance sheet and income statement format. As the outcome is categorical ('by nature' vs. 'by term' balance sheet, 'by nature' vs. 'by function' income statement), the binary logistic regression model can be used for our statistical analysis. This method is presented in Hosmer and Lemeshow (2000). More specifically, the two models to be tested here[7] can be written as follows:

$$Log\left[\frac{\Pr(\text{Balance sheet format}=1)}{1-\Pr(\text{Balance sheet format}=1)}\right]=\alpha_0+\alpha_1\text{Size}+\alpha_2\text{International Auditor}$$
$$+\alpha_3\text{Accounting standards}+\alpha_4\text{Foreign listing}+\alpha_5\text{International sales} \quad (1)$$
$$+\alpha_6\text{Foreign institutional ownership}+\alpha_7\text{Leverage}+\sum_j\alpha_{8,j}\text{Economic sector}$$

$$Log\left[\frac{\Pr(\text{Income statement format}=1)}{1-\Pr(\text{Income statement format}=1)}\right]=\beta_0+\beta_1\text{Size}+\beta_2\text{International auditor}$$
$$+\beta_3\text{Accounting standards}+\beta_4\text{Foreign listing}+\beta_5\text{International sales} \quad (2)$$
$$+\beta_6\text{Foreign institutional ownership}+\beta_7\text{Leverage}+\sum_j\beta_{8,j}\text{Economic sector}$$

The variables, proxies used for their computation and predicted signs are presented in table 4.

Insert table 4 about here

Ordered Logit Model

It will also be interesting to consider the choice of financial statement format as an overall decision covering both balance sheet and income statement. To do so, we create a variable named 'Format', equal to the sum of 'Balance sheet format' and 'Income statement format'. This variable can take the following values: 0 (no alternative format), 1 (alternative balance sheet or alternative income statement) or 2 (alternative balance sheet and alternative income statement). Initially considering that this variable was ordinally scaled (the outcomes ranging from '0' to '2'), we decided to use an ordered logit model[8] that estimates relationships between an ordinal dependent variable and a set of independent variables.

The ordered logit model will simultaneously estimate multiple equations whose number equals the number of categories of the dependent variable minus one. In our example, because we have three possibilities (0, 1 or 2), the model will estimate two equations: equation (1) comparing 0 to 1 and 2 (i.e., probability of 0); equation (2) comparing 0 and 1 to 2 (i.e., probability of 0 or 1) (Snedker, Glynn, & Wang, 2002)[9]. This method estimates the independent variables' effects on the number of alternative financial statements falling above or below a given cut-point. Each cut-point is defined as the separation of two contiguous categories. Since the dependent variable has a total of three categories, there are two cut-points.

The most commonly used version of the ordered logit model assumes that the impact of each variable is the same for all cut-points. This is known as the assumption of 'parallel regression' or 'proportional odds' or 'parallel lines', i.e., that the effects of the explanatory variables on the cumulative response probabilities are constant across all categories of the

ordinal response. In other words, factors explaining the shift from the first to the second category (from 0 to 1 alternative-format financial statement) should not be significantly different from the factors explaining the shift from the second to the third category (from one alternative format to two alternative formats).

We have no particular reason to anticipate such stability in factors explaining format choices[10]. We will therefore use a variant of ordered logit regression: the generalized ordered logit regression[11]. This less restrictive method developed by Fu (1998) is similar to ordered logit regression, but relaxes the proportional odds assumption on the data[12]. In contrast to the ordered logit regression, the generalized ordered logit regression produces two sets of coefficients that correspond to each cut-point. In practical terms, the first set of coefficients refers to the odds that the number of alternative statements falls into categories 1 or 2 instead of category 0 (a 'non-traditional' strategy). Similarly, the second set refers to the odds that the number of alternative statements falls into category 2 instead of 0 or 1 (a 'fully-alternative' strategy). The 'gologit' method presents two equations for our case, corresponding to the following estimates:

$$Log\left[\frac{\text{Prob(Format} \geq 1)}{\text{Prob(Format} = 0)}\right] = \alpha_0 + \alpha_1 \text{Size} + \alpha_2 \text{International auditor} + \alpha_3 \text{Accounting standards} + \alpha_4 \text{Foreign listing} + \alpha_5 \text{International sales} + \alpha_6 \text{Foreign institutional ownership} + \alpha_7 \text{Leverage} + \sum_j \alpha_{8,j} \text{Economic sector} \quad (3)$$

$$Log\left[\frac{\text{Prob(Format} = 2)}{\text{Prob(Format} < 2)}\right] = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{International auditor} + \beta_3 \text{Accounting standards} + \beta_4 \text{Foreign listing} + \beta_5 \text{International sales} + \beta_6 \text{Foreign institutional ownership} + \beta_7 \text{Leverage} + \sum_j \beta_{8,j} \text{Economic sector} \quad (4)$$

EMPIRICAL FINDINGS

Descriptive Statistics and Univariate Tests

Descriptive Statistics

Table 5 provides descriptive statistics on independent variables. In our 199-firm sample, 36 firms have adopted a fully-alternative strategy for financial reporting (both the income statement and the balance sheet are in an alternative format) and 32 firms (10 + 22) use a mixed strategy (publishing one and only one alternative-format financial statement) (see Table 5, Panel A). Panel A provides evidence of the absence of a link between the choice to report an alternative balance sheet and an alternative income statement (χ^2= 69.889, 1 df, p =

0.000). This finding is somewhat surprising: while the choice of fully-alternative financial reporting can be easily understood, understanding mixed strategies (use of one and only one alternative-format financial statement) is less straightforward.

Insert Table 5 about here

Normality and Univariate Tests

A Skewness-Kurtosis joint test on the normality assumption of the independent continuous variables was applied (see Table 5, Panel B)[13]. 'International sales', 'Foreign institutional ownership' and 'Leverage' variables violate the normality assumption at the 0.01 level. Consequently, we decided to apply the non-parametric Mann-Whitney U-test to these variables to examine differences in the variables when observations are grouped by financial statement format. The Student t-test was used for size. For dichotomous explanatory variables ('International auditor', 'Accounting standards' and 'Foreign Listing') (see Table 5, Panel C), we used the chi-square test.

Table 6 summarizes the results obtained when comparing firms which adopt an alternative format for the balance sheet (Panel A) or income statement (Panel B) to those which do not.

Insert Table 6 about here

As table 6 shows, all our hypotheses (with the exception of Leverage) are supported on the basis of univariate tests. There is a significant difference between companies that use an alternative format and those that do not for 'Size' (H1) and 'Foreign institutional ownership' (H6) (significant at the 0.05 level for Balance sheet and 0.01 level for Income statement), and for 'International auditor' (H2), 'Accounting standards' (H3), 'Foreign listing' (H4), 'International sales' (H5): all significant at the 0.01 level for both financial statements. 'Leverage' has no impact on the format.

Multicollinearity

No significant multicollinearity was detected by either the correlation matrix between the seven[14] independent variables (not reported) or the VIF for the same variables[15].

Multivariate Analysis

Logit Regression

As stated earlier in the 'research design' section, we first carried out a logit regression of the dependent variable 'Balance sheet format' on the following independent variables: 'Size', 'International auditor', 'Accounting standards', 'Foreign listing', 'International sales', 'Foreign institutional ownership', 'Leverage', and 'Economic sector'. We then applied a second logit regression of the dependent variable 'Income statement format' on the same

independent variables. Results for both regressions are presented in Table 7 (Panel A for 'Balance sheet format' and Panel B for 'Income statement format').

Insert Table 7 about here

All p-values associated with the chi-square of both models are lower than 0.01. Both models are statistically significant overall. We disclose the R-square as defined by Nagelkerke (1991) because this measure is widely used in practice and often reported in statistical software such as Stata or SPSS[16]. The resulting R-squares are relatively high, which is satisfactory. Finally, all Hosmer and Lemeshow tests[17] are non-significant (for the balance sheet: $\chi^2 = 3.57$, 8 df, p-value = 0.8936, for the income statement: $\chi^2 = 6.60$, 8 df, p-value = 0.5803), which indicates a good fit between the data and the models[18].

Table 7 shows that several variables have a positive influence on adoption of an alternative ('by term') balance sheet format: 'International auditor' (consistent with H2), 'Accounting standards' (H3), and 'Foreign listing' (H4) (all at the 0.05 level). 'Size', 'International sales', 'Foreign institutional ownership' and 'Leverage' do not appear to be significantly related to the adoption of an alternative balance sheet format. Hypotheses 1, 5, 6 and 7 are therefore not validated. The economic sector has no impact on the choice of an alternative format.

Turning to the income statement, several variables are significantly correlated with the outcome: 'Size' (H1), 'International auditor' (H2), 'Foreign listing' (H3) (all at the 0.05 level) and 'International sales' (H5) (at the 0.01 level). These are almost the same variables as those identified for the balance sheet, but with different significance levels. One sector seems to have a positive influence on the choice (compared to 'Industrial'): 'Information technology' (at the 0.05 level).

Generalized Ordered Logit Regression

Table 8 shows the results of this regression.

Insert Table 8 about here

The first equation (Panel A) shows that several variables can explain firms' decisions to opt for <u>at least one</u> alternative format. The following variables are positively significant: 'International auditor' (at the 0.05 level), 'Accounting standards' and 'Foreign listing' (both at the 0.01 level) and 'International sales' (at the 0.10 level). No economic sector has any impact. The second equation (Panel B) provides further enlightenment on the distinguishing features of companies that 'go fully-alternative'. For instance, 'Size' is significant (at the 0.05 level). Conversely, the 'Accounting standards' and 'Foreign listing' variables no longer play a role. 'International auditor' is now only significant at the 0.10 level. Two economic sectors also emerge as positively influencing the decision to adopt two alternative formats: 'Health

care' (influence compared to the 'Industrial' benchmark sector is significant at the 0.10 level), and 'Information technology' (significant at the 0.01 level).

Comparing these two equations suggests that the internationalization process is not the same if we consider the decision to use one or two alternative financial statements. The decision to use at least one alternative format (Panel A) is explained by 'International auditor', 'Accounting standards', 'Foreign listing' and 'International sales' (although to a lesser extent), while being 'fully-alternative' (Panel B) is more related to the 'Size', 'International auditor' (to a lesser extent) and 'International sales' variables. Interestingly, the role of the 'Accounting standards' and 'Foreign listing' variables disappears in the explanation of the 'fully-alternative' strategy.

LIMITATIONS

One limitation of our study is the fact that the data analyzed only covers one year (2002). As a consequence, the scope of the study does not encompass any changes made by firms in their financial statement formats. In future studies, it would be interesting to explore the determinants of these changes, such as a change in management team or a transformation of ownership structure. However, many determinant studies (Dumontier & Raffournier, 1998; Entwistle, 1999; Percy, 2000; Rowbottom, 2002) refer to a single year. The explanatory power of these one-year studies is no lower, since the sample observations for this type of study vary very little from one year to the next. The focus of determinant studies is always on strategic accounting decisions that companies apply continuously, for several reasons. Firstly, the consistency principle is applied worldwide: firms need a credible reason to justify any change in accounting policies. Secondly, auditors keep watch over the continuity of their clients' methods: any change must be mentioned in the audit report. We therefore believe that the result of our study using data for 2002 would not be significantly affected by the addition of one or two more years' data.

Another limitation of our paper is the lack of tested features concerning the corporate governance aspects of the firm, due to data unavailability. However, if we assume that the presence of foreign shareholders may encourage adoption of an alternative format, this factor is directly captured by 'Foreign institutional ownership' and at least partially captured by the 'Foreign listing' and 'Accounting standards' variables included in our study.

CONCLUSION AND FUTURE RESEARCH

In this study, we look into the use of alternative financial statement formats by large French listed firms as a signal of internationalization in financial communication. Our results confirm that opting for one or two alternative formats is related to internationalization, as might have been expected. More importantly, our study provides evidence on factors which explain the firms' decision to publish alternative-format financial statements. Those factors are size, international auditor, the decision to apply alternative accounting standards, foreign listing and international sales. Our results also introduce an interesting distinction between the factors explaining the use of at least one alternative-format financial statement, and the use of two alternative formats. The role of accounting standards and foreign listing is less important in the decision to adopt a 'fully-alternative strategy'.

We believe that this topic will remain pertinent even after the adoption of the IAS/IFRS in Europe in 2005, since the revised IAS 1 (IASB, 2003) does not impose one specific financial statement format. Meanwhile, the introduction of IAS/IFRS in Europe from 2005 will certainly bring European companies to focus more attention on alternative accounting practices. Once these international standards have been implemented, it will be interesting to see whether there is an increase in the number of firms adopting alternative financial statement formats (when this is not compulsory under the new accounting regulations).

NOTES

[1] These practices concern several aspects of the financial statements: balance sheet, income statement and cash flow statement format, voluntary disclosure of a statement of changes in stockholders' equity, indexing of notes, and more.

[2] Appendix 1 presents examples of a balance sheet and income statement based on the formats discussed, and Appendix 2 contains a table summarizing presentation rules under IASB, EU regulations and French regulations.

[3] This assertion essentially applies to the liabilities. In the assets, the difference between the 'by term' and 'by nature' formats is not apparent because the long-term/short-term classification usually coincides with the fixed assets/current assets distinction.

[4] This is also the case in France.

[5] Tagliabue (2000) mentions French firms' contempt for U.S. funds and investors and Alcaraz (2006) confirms the participation of U.S. pension funds in the ownership of large French firms.

[6] All hypotheses are summarized in table 4.

[7] We use the Stata software's 'logit' command.

[8] The 'ologit' command in Stata.

[9] Each equation models the odds of being in the first category(ies) mentioned as opposed to the second category(ies).

[10] As a robustness check, we tested whether the proportional odds assumption was valid with the approximate likelihood-ratio test of proportionality of odds across response categories ('omodel logit' command in Stata) and found a borderline situation: the chi-square equals $\chi^2 = 19.90$ (which represents a p-value of 0.0689). Depending on the level of significance, the parallel regression assumption is violated (at a level of 0.10) or unviolated (at a level of 0.05). Stata provides another method to test this assumption, through its 'Brant' command (after the 'ologit' command). Applying this led us to a similar conclusion. In addition, this 'Brant' test shows that the

assumption is violated for three variables: ‘accounting standards’, ‘health care’ and ‘information technology’. In short, the ordered logit’s assumptions are neither clearly validated nor invalidated. In this situation, we can use the generalized ordered logit regression.

[11] The ‘gologit2’ command in Stata.

[12] It has been used in the fields of sociology (e.g., Rao, Monin, & Durand, 2003), marketing (Chandon, 2002), health economics (Dusheiko, Gravelle, & Yu, 2004), medicine (Griffin, Bovenzi, & Nelson, 2003) and, to a lesser extent, financial accounting (Barton & Simko, 2002).

[13] The Shapiro-Wilk test for normality gave consistent results.

[14] Excluding ‘Economic sector’.

[15] The VIF measures the degree to which each explanatory variable is explained by the other explanatory variables. Traditionally, collinearity is not considered to be a problem when the VIF does not exceed 10 (Neter, Wasserman, & Kutner, 1983). In this case (results not tabulated), all the VIFs are lower than 1.5 and the absence of multicollinearity is confirmed.

[16] The Nagelkerke R-square is computed in Stata with the ‘fitstat’ command but appears under the name of Cragg & Uhler’s R-square.

[17] Obtained with the ‘estat gof’ command of Stata.

[18] The logit regression coefficients indicate the amount of change expected in the log odds when there is a one-unit change in the predictor variable, with all of the other variables in the model held constant. A coefficient close to zero suggests that there is no change due to the predictor variable. Column z contains the z-statistic testing the logistic coefficient. In the Stata ‘logit’ command, z equals the coefficient divided by the standard error (not displayed in Table 7). The ‘p’ column contains the two-tailed p-value for the z-test. (Although we have directional hypotheses, we display two-tailed, and not one-tailed, p-values, for the sake of simplicity).

REFERENCES

Agarwal, S. & Ramaswami, S. N. (1992). Choice of foreign market entry mode: Impact of ownership, location and internationalization factors. *Journal of International Business Studies, 23*(1), 1-27.

Alcaraz, M. (2006). Capital research & management en tête des étrangers. *Les Echos, 13 October*, 29.

AlHashim, D. D. (1994). International dimensions in accounting and implications for developing nations. *Management International Review, 34*(1), 28-35.

Archambault, J. J. & Archambault, M. E. (2003). A multinational test of determinants of corporate disclosure. *The International Journal of Accounting, 38*(2), 173-194.

Baker, C. R., Ding, Y. & Stolowy, H. (2005). Using "statement of intermediate balances" as tool for international financial statement analysis in airline industry. *Advances in International Accounting, 18*, 169-198.

Ball, R., Kothari, S. P. & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics, 29*, 1-51.

Barton, J. & Simko, P. J. (2002). The balance sheet as an earnings management constraint. *The Accounting Review, 77*(Supplement), 1-27.

Biddle, G. C. & Saudagaran, S. M. (1991). Foreign stock listings: Benefits, costs, and the accounting policy dilemma. *Accounting Horizons, 5*(3), 69-80.

Calof, J. L. (1994). The relationship between firm size and export behavior revisited. *Journal of International Business Studies, 25*(2), 367-387.

Chandon, P. (2002). Do we know what we look at? An eye-tracking study of visual attention and memory for brands at the point of purchase. Working paper, Insead.

Chen, C. J. P., Cheng, C. S. A., He, J. & Kim, J. (1997). An investigation of the relationship between international activities and capital structure. *Journal of International Business Studies, 28*(3), 563-577.

Choi, F. D. S. (1991). Accounting and control for multinational activities: Perspective on the 1990's. *Management International Review, 31*(1), 97-110.

COB (1998). Référence à des normes comptables étrangères par des entreprises françaises. *Bulletin of the Commission des opérations de bourse, 321*, 3.

Cooke, T. E. (1989). Disclosure in the corporate annual reports of Swedish companies. *Accounting and Business Research, 19*(74), 113-124.

Cooke, T. E. (1992). The impact of size, stock market listing and industry type on disclosure in the annual reports of Japanese listed corporations. *Accounting and Business Research, 22*(87), 229-237.

Craswell, A. T. & Taylor, S. L. (1992). Discretionary disclosure of reserves by oil and gas companies. *Journal of Business Finance & Accounting, 19*(2), 295-308.

Debreceny, R., Gray, G. L. & Rahman, A. (2002). The determinants of internet financial reporting. *Journal of Accounting and Public Policy, 21*(4-5), 371-394.

Depoers, F. (2000). A cost benefit study of voluntary disclosure: Some empirical evidence from French listed companies. *European Accounting Review, 9*(2), 245-263.

Ding, Y., Stolowy, H. & Tenenhaus, M. (2003). "Shopping around" for accounting practices: The financial statement presentation of French groups. *Abacus, 39*(1), 42-65.

DOT (2002). *Uniform system of accounts and reports for large certificated air carriers.* Washington, D.C.: Department of Transportation.

Doupnik, T. S. & Taylor, M. E. (1985). An empirical investigation of the observance of IASC standards in Western Europe. *Management International Review, 25*(1), 27-33.

Dumontier, P. & Raffournier, B. (1998). Why firms comply voluntarily with IAS: An empirical analysis with Swiss data. *Journal of International Financial Management and Accounting, 9*(3), 216-245.

Dumontier, P. & Raffournier, B. (2002). Accounting and capital markets: A survey of the European evidence. *European Accounting Review, 11*(1), 119-151.

Dusheiko, M., Gravelle, H. & Yu, N. (2004). The impact of budgets for gatekeeping physicians on patient satisfaction: Evidence from fundholding. The University of York - Centre for Health Economics.

Entwistle, G. M. (1999). Exploring the R&D disclosure environment. *Accounting Horizons, 13*(4), 323-341.

Eriksson, K., Johanson, J., Majkgard, A. & Sharma, D. D. (1997). Experimental knowledge and costs in the internationalization process. *Journal of International Business Studies, 28*(2), 337-360.

European Economic Community (1978). 4th directive on the annual accounts of certain types of companies no 78/660/eec. *Official Journal of the European Communities, August 14*, 11-31.

Fields, T. D., Lys, T. Z. & Vincent, L. (2001). Empirical research on accounting choice. *Journal of Accounting and Economics, 31*(1-3), 255-307.

Fjeld, E. I. (1936a). Balance-sheet form and classification in corporate reports. *The Accounting Review, 11*(3), 211-229.

Fjeld, E. I. (1936b). Classification and terminology of individual balance-sheet items. *The Accounting Review, 11*(4), 330-345.
Fu, V. K. (1998). Estimating generalized ordered logit models. *Stata Technical Bulletin Reprints, 8*, 160-164.
Giner, B. (1997). The influence of company characteristics and accounting regulation on information disclosed by Spanish firms. *European Accounting Review, 16*(1), 45-68.
Griffin, M. J., Bovenzi, M. & Nelson, C. M. (2003). Dose-response patterns for vibration-induced white finger. *Occupational & Environmental Medecine, 60*, 16-26.
Hirschey, M. & Weygandt, J. (1985). Amortization policy for advertising and research and development expenditures. *Journal of Accounting Research, 23*(1), 326-335.
Hirshleifer, D. & Teoh, S. H. (2003). Limited attention, information disclosure, and financial reporting. *Journal of Accounting and Economics, 36*(1-3), 337-386.
Hosmer, D. W. & Lemeshow, S. (2000). *Applied logistic regression.* 2nd edition, New York: John Wiley and Sons.
Hossain, M., Perera, M. H. B. & Rahman, A. R. (1995). Voluntary disclosure in the annual reports of New Zealand companies. *Journal of International Financial Management and Accounting, 6*(1), 69-85.
IASB (2003). *International accounting standard (IAS) No. 1: Presentation of financial statements (revised).* London: International Accounting Standards Board.
Jensen, M. & Meckling, W. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305-360.
Johanson, J. & Vahlne, J.-E. (1977). The internationalization process of the firm-a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies, 8*(1), 23-32.
Klammer, T. P. & Reed, S. A. (1990). Operating cash flow formats: Does format influence decisions? *Journal of Accounting and Public Policy, 9*(3), 217-235.
Kotha, S., Rindova, V. P. & Rothaermel, F. T. (2001). Assets and actions: Firm-specific factors in the internationalization of U.S. Internet firms. *Journal of International Business Studies, 32*(2), 769-791.
Kothari, J. & Barone, E. (2006). *Financial accounting - an international approach.* Harlow, England: Pearson.
Kwok, C. C. Y. & Reeb, D. M. (2000). Internationalization and firm risk: An upstream-downstream hypothesis. *Journal of International Business Studies, 31*(4), 611-629.
Kwok, H. (2002). The effect of cash flow statement format on lenders' decisions. *The International Journal of Accounting, 37*(3), 347-362.
Macharzina, K. (1992). Keeping score on the world's accounting firms and practice. *Management International Review, 32*(3), 195-197.
Maines, L. A. & McDaniel, L. S. (2000). Effects of comprehensive-income characteristics on nonprofessional investors' judgments: The role of financial-statement presentation format. *The Accounting Review, 75*(2), 179-207.
Marston, C. L. & Robson, P. (1997). Financial reporting in India: Changes in disclosure over the period 1982 to 1990. *Asia-Pacific Journal of Accounting, 4*(1), 109-139.
Mascarenhas, B. (1986). International strategies of non-dominant firms. *Journal of International Business Studies, 17*(2), 1-25.
Meek, G. K., Roberts, C. B. & Gray, S. J. (1995). Factors influencing voluntary annual report disclosures by U.S., U.K. And continental European multinational corporations. *Journal of International Business Studies, 26*(3), 555-572.
Moriarity, S. (1979). Communicating financial information through multidimensional graphics. *Journal of Accounting Research, 17*(1), 205-224.
Nadkarni, S. & Perez, P. D. (2007). Prior conditions and early international commitment: The mediating role of domestic mindset. *Journal of International Business Studies, 38*(1), 160-176.
Nagelkerke, N. J. D. (1991). A note on a general definition of the coefficient of determination. *Biometrika, 78*(3), 691-692.
Neter, J., Wasserman, W. & Kutner, M. (1983). *Applied linear regression models.* Homewood: Irwin.
O'Grady, S. & Lane, H. W. (1996). The psychic distance paradox. *Journal of International Business Studies, 27*(2), 309-333.
Patton, J. & Zelenka, I. (1997). An empirical analysis of the determinants of the extent of disclosure in annual reports of joint stock companies in the Czech republic. *European Accounting Review, 6*(4), 606-626.
Percy, M. (2000). Financial reporting discretion and voluntary disclosure: Corporate research and development expenditure in Australia. *Asia-Pacific Journal of Accounting and Economics, 7*(1), 1-31.
Prencipe, A. (2004). Proprietary costs and determinants of voluntary segment disclosure: Evidence from Italian listed companies. *European Accounting Review, 13*(2), 319–340.
Qureshi, M. A. (1979). Pragmatic and academic bases of international accounting. *Management International Review, 19*(2), 61-67.

Raffournier, B. (1995). The determinants of voluntary financial disclosure by Swiss listed companies. *European Accounting Review, 4*(2), 261-280.
Rao, H., Monin, P. & Durand, R. (2003). Institutional change in toque ville: Nouvelle cuisine as an identity movement in French gastronomy. *American Journal of Sociology, 108*(4), 795-843.
Rowbottom, N. (2002). The application of intangible asset accounting and discretionary policy choices in the UK football industry. *British Accounting Review, 34*(4), 335-355.
Saudagaran, S. M. (1988). An empirical study of selected factors influencing the decision to list on foreign stock exchanges. *Journal of International Business Studies, 19*(1), 101-127.
Saudagaran, S. M. & Biddle, G. C. (1995). Foreign listing location: A study of MNCs and stock exchanges in eight countries. *Journal of International Business Studies, 26*(2), 319-341.
Saudagaran, S. M. & Diga, J. G. (1997). Financial reporting in emerging capital markets: Characteristics and policy issues. *Accounting Horizons, 11*(2), 41-64.
Scott, W. R. (2003). *Financial accounting theory.* 3rd edition, Toronto: Pearson Education Canada.
Singhvi, S. & Desai, H. (1971). An empirical analysis of the quality of corporate financial disclosure. *The Accounting Review, 46*(1), 129-138.
Snedker, K., Glynn, P. & Wang, C. (2002). Ordered/ordinal logistic regression with SAS and STATA. http://staff.washington.edu/~glynn/olr.pdf, University of Washington.
Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics, 87*(3), 355-374.
Stock, D. & Watson, C. J. (1984). Human judgement accuracy, multidimensional graphics, and human versus models. *Journal of Accounting Research, 22*(1), 192-206.
Stolowy, H. & Ding, Y. (2003). Regulatory flexibility and management opportunism in the choice of alternative accounting standards: An illustration based on large French groups. *The International Journal of Accounting, 38*(2), 195-213.
Stolowy, H. & Lebas, M. (2006). *Financial accounting and reporting: A global perspective.* 2nd edition, London, England: Thomson.
Sullivan, D. (1994). Measuring the degree of internationalization of a firm. *Journal of International Business Studies, 25*(2), 325-342.
Sutton, T. (2004). *Corporate financial accounting and reporting.* 2nd edition, Harlow, England: Pearson.
Tagliabue, J. (2000). Contempt in France for U.S. Funds and investors. *New York Times, January 9*, 1.
Wallace, R. S. O. & Naser, K. (1995). Firm-specific determinants of comprehensiveness of mandatory disclosure in the corporate annual reports of firms listed on the stock exchange of hong kong. *Journal of Accounting and Public Policy, 14*(4), 311-368.
Wallace, W. A. (1987). International accounting and likely approaches to future inquiry: An overview of research. *Management International Review, 27*(2), 4-25.
Walton, P. & Aerts, W. (2006). *Global financial accounting and reporting.* London, England: Thomson Learning.
Watts, R. & Zimmerman, J. (1978). Towards a positive theory of the determination of accounting standards. *The Accounting Review, 53*(1), 112-134.
Watts, R. L. & Zimmerman, J. L. (1986). *Positive accounting theory.* Englewood Cliffs: Prentice-Hall.
X (1986). *Méthodologie relative aux comptes consolidés - arrêté du 9 décembre 1986 (methodology relating to consolidated accounts - arrêté of december 9, 1986).* Paris: National Accounting Council.
X (1999a). *Plan comptable général 1999 - arrêté du 22 juin 1999 portant homologation du règlement 99-03 du 29 avril 1999 du comité de la réglementation comptable (general accounting plan 1999 - arrêté of June 22, 1999, approving the regulation No. 99-03 of april 29, 1999, of the accounting regulation committee).* Paris: Accounting Regulation Committee.
X (1999b). *Règles et méthodes relatives aux comptes consolidés, arrêté du 22 juin 1999 portant homologation du règlement 99-02 du 29 avril 1999 du comité de la réglementation comptable (rules and methods relating to consolidated accounts - arrêté of June 22, 1999, approving the regulation No. 99-02 of april 29, 1999, of the accounting regulation committee).* Paris: Accounting Regulation Committee.
Xiao, J. Z., Yang, H. & Chow, C. W. (2004). The determinants and characteristics of voluntary internet-based disclosures by listed Chinese companies. *Journal of Accounting and Public Policy, 23*(3), 191-225.
Zarzeski, M. T. (1996). Spontaneous harmonization effects of culture and market forces on accounting disclosure practices. *Accounting Horizons, 10*(1), 18-37.

Appendix 1. Illustrative examples of formats

IAS 1 (IASB, 2003, § IG4) includes an illustrative balance sheet showing one way in which a balance sheet distinguishing between current and non-current items may be presented. This example corresponds to the 'by term' format.

IASB 'by term' balance sheet

XYZ Group – Balance sheet as at 31 December X2 (in thousands of currency units)	X2	X1
ASSETS		
Non-current assets		
Property, plant and equipment	x	x
Goodwill	x	x
Other intangible assets	x	x
Investments in associates	x	x
Available-for-sale investments	x	x
	x	x
Current assets		
Inventories	x	x
Trade receivables	x	x
Other current assets	x	x
Cash and cash equivalents	x	x
	x	x
Total assets	x	x
EQUITY AND LIABILITIES		
Equity attributable to equity holders of the parent		
Share capital	x	x
Other reserves	x	x
Retained earnings	x	x
	x	x
Minority interests	x	x
Total equity	x	x
Non-current liabilities		
Long-term borrowings	x	x
Deferred tax	x	x
Long-term provisions	x	x
Total non-current liabilities	x	x
Current liabilities		
Trade and other payables	x	x
Short-term borrowings	x	x
Current portion of long-term borrowings	x	x
Current tax payable	x	x
Short-term provisions	x	x
Total current liabilities	x	x
Total liabilities	x	x
Total equity and liabilities	x	x

Although IAS1 allows use of a 'by nature' format for the balance sheet, it does not include an example. We have adapted the example 'by term' balance sheet presented above to present a 'by nature' balance sheet. In practice, this makes no difference concerning the assets. Consequently, our example shows only the Equity and liabilities section of the balance sheet.

IASB (adapted from) 'by nature' balance sheet (Equity and liabilities)

XYZ Group – Balance sheet as at 31 December X2 (in thousands of currency units)	X2	X1
EQUITY AND LIABILITIES		
Equity attributable to equity holders of the parent		
Share capital	x	x
Other reserves	x	x
Retained earnings	x	x
	x	x
Minority interests	x	x
Total equity	x	x
Non-current liabilities		
Financial debts	x	x
Deferred tax	x	x
Provisions	x	x
Total non-current liabilities	x	x
Current liabilities		
Trade and other payables	x	x
Tax payable	x	x
Bank overdrafts	x	x
Total current liabilities	x	x
Total liabilities	x	x
Total equity and liabilities	x	x

With regard to the income statement, IAS 1 (IASB, 2003, § IG4) provides two income statements to illustrate the alternatives for classification of revenues and expenses: by nature and by function.

IASB 'by nature' income statement

Revenue	x
Other operating income	x
Changes in inventories of finished goods and work in progress	(x)
Work performed by the enterprise and capitalized	x
Raw material and consumables used	(x)
Employee benefits expense	(x)
Depreciation and amortization expense	(x)
Impairment of property, plant and equipment	(x)
Other expenses	(x)
Finance costs	(x)
Share of profit of associates	x
Profit before tax	x
Income tax expense	(x)
Profit for the period	x
Attributable to:	
Equity holders of the parent	x
Minority interest	x

IASB 'by function' income statement

Revenue	x
Cost of sales	(x)
Gross profit	x
Other income	x
Distribution costs	(x)
Administrative expenses	(x)
Other expenses	(x)
Finance cost	(x)
Share of profit of associates	x
Profit before tax	x
Income tax expense	(x)
Profit for the period	x
Attributable to:	
Equity holders of the parent	x
Minority interest	x

Appendix 2. Regulations and standards

The table below summarizes the rules regarding presentation of the balance sheet and income statement under international accounting standards, EU regulations and French regulations.

	Balance sheet Classification of liabilities and assets (Nature or Term)	Income statement Classification of expenses (Nature or Function)
IASB (IAS 1)	Nature or Term	Nature or Function
4th EU directive	Nature or Term	Nature or Function
French regulations (base of the empirical study)	Nature (Individual financial statements) Nature or Term (Consolidated financial statements)	Nature (Individual financial statements) Nature or Function (Consolidated financial statements)

Table 1. Presentation of the balance sheet (liabilities)

Panel A: 'By nature' balance sheet	Panel B: 'By term' balance sheet
Financial liabilities (regardless of their due date) - Debts to financial institutions (long-term and short-term portions) - Bank overdrafts Trading (or operating) liabilities (debt linked to trading and relations with other partners) - Advance payments received from customers on contracts to be delivered in the future - Accounts payable (debt contracted from suppliers in the course of business) - Debts to tax authorities.	Long-term (non-current) liabilities (amounts due after more than one year) - Financial debts (long-term portion) - Accounts payable (for payables due in more than one year) Short-term (current) liabilities (amounts due within one year) - Financial debts (short-term portion) - Bank overdrafts Accounts payable (for which the due date is typically less than one year from the balance sheet date)

Table 2. Presentation of the income statement

Panel A: 'By nature' income statement		Panel B: 'By function' income statement	
	Net sales		Net sales revenue
+	Other operating revenues	-	Cost of goods sold (cost of sales)
-	Purchases of merchandise	=	Gross margin
-	Change in inventories of merchandise	-	Commercial and distribution expenses
-	Labor and personnel expenses	-	Administrative expenses
-	Other operating expenses	-	Other operating expenses
-	Depreciation expense	=	Operating income
=	Operating income		

Table 3. Sample determination

Number of SBF 250 index companies	250
– Financial and real estate companies	-38
= Companies whose annual reports were studied	212
– Firms not referring to French GAAP at all (Adecco, Business Objects, Completel, Lycos Europe, STMicroelectronics, Trader Classified Media)	-6
– Firm not disclosing segment sales for France (Altadis, Equant, Gemplus International, Michelin, Schneider Electric, SOITEC and Zodiac)	-7
= Final sample	199

Table 4. Summary of hypotheses, variables, proxies and predicted signs

Hypotheses	Name of variables	Proxies (and sources)	Predicted signs
Dependent variable			
- Balance sheet format (Logit 1) - Income statement format (Logit 2) - Format (Generalized ordered logit)	Balance sheet format (Logit 1) Income statement format (Logit 2) Format (Generalized ordered logit)	- Dummy variable coded 1 if the balance sheet format is alternative (i.e. 'by term'), 0 otherwise - Dummy variable coded 1 if the income statement format is alternative (i.e. 'by function'), 0 otherwise. - Ordinal variable coded 2 if both financial statements have an alternative format (i.e., balance sheet 'by term' and income statement 'by function'), 1 if either one of the statements has an alternative format (i.e., balance sheet 'by term' or income statement 'by function'), 0 otherwise. Source: annual reports.	N/A
Explanatory variables			
H1 Size of the firm (all models)	Size	Natural logarithm of sales Source: Global (Standard and Poors) database (mnemonic: SALE).	+
H2 International auditor (all models)	International auditor	Dummy variable coded 1 if at least one of the two statutory auditors is a 'Big Four' accounting firm, 0 otherwise. Source: annual reports.	+
H3 Alternative set of accounting standards (all models)	Accounting standards	Dummy variable coded 1 if the firm has adopted 'alternative' accounting standards (such as IAS/IFRS or U.S. GAAP), 0 otherwise. Source: annual reports.	+
H4 Listing outside France (all models)	Foreign listing	Dummy variable coded 1 if the firm is listed outside France (NYSE, Nasdaq, Amex or London Stock Exchange), 0 otherwise. Source: stock exchange websites.	+
H5 Internationalization (all models)	International sales	International sales/Total sales. Source: Infinancials database and annual reports.	+
H6 International ownership (all models)	Institutional foreign ownership	Percentage of foreign institutional shareholders (in terms of voting rights). Source: annual reports.	+
H7 Leverage (all models)	Leverage	Ratio of financial debts (sum of total long-term debt plus debt in current liabilities) over total assets. Source: Global (Standard and Poors) database (mnemonic: DT and AT).	-
Control variable			
Sector (all models)	Economic sector	Dummy variables coded 1 if $firm_i$ belongs to: - Energy (GICS 10 and 55), and coded 0 otherwise - Materials (GICS 15), and coded 0 otherwise - Consumer (GICS 25 and 30), and coded 0 otherwise - Health care (GICS 35), and coded 0 otherwise - Information technology (GICS 45 and 50), and coded 0 otherwise. Source: Global (Standard and Poors) database (mnemonic: GSECTOR). The base sector is 'Industrial' (GICS code 20) as it had the lowest frequency of companies publishing two alternative formats.	N/A

Table 5. Descriptive statistics and normality test

Panel (A): Cross-tabulation of dependent variables	Income statement format				
Balance sheet format	Non-alternative	Alternative	Total		
Non-alternative	131	22	153		
Alternative	10	36	46		
Total	141	58	199		
Pearson χ^2 (1 df) = 69.889, p = 0.000					
Panel (B): Continuous variables	Number of observations	Mean	Standard deviation	Skewness/Kurtosis joint test for Normality	
				adj χ^2	Prob>χ^2
Size	199	6.9357	1.9851	0.10	0.950
International sales	199	0.4753	0.2933	50.81	0.000
Foreign institutional ownership	199	0.0365	0.1045	. (a)	0.000
Leverage	199	0.2471	0.1689	32.88	0.000
Panel (C): Dichotomous variables	Number of observations	Value 0	Value 1		
International auditor	199	43	156		
Accounting standards	199	176	23		
Foreign listing	199	174	25		

See the definition of variables in Table 4.
Hypothesis of normality rejected at the 0.01 level if Prob(χ^2) <0.01.
(a) Extremely high result.

Table 6. Univariate tests

Panel (A1): Balance sheet format – Continuous variables						
		Number of observations	Mean	Standard deviation	Student t-test	Mann-Whitney U-test
Size	Non-alternative	153	6.7395	1.8427	t= -2.578	
	Alternative	46	7.5880	2.3032	(p=0.0107)	
International sales	Non-alternative	153	0.4307	0.2913		z=-3.822
	Alternative	46	0.6239	0.2501		(p=0.0001)
Foreign institutional ownership	Non-alternative	153	0.0329	0.1082		z=-2.218
	Alternative	46	0.0488	0.0913		(p=0.0265)
Leverage	Non-alternative	153	0.2447	0.1683		z=-0.438
	Alternative	46	0.2550	0.1725		(p=0.6614)

Panel (A2): Balance sheet format – Dichotomous variables			
International auditor	Non alternative	Alternative	Total
Non-Big four	41	2	43
Big four	112	44	156
Total	153	46	199
	Pearson χ^2 (1 df) = 10.523, p = 0.001		
Accounting standards	Non alternative	Alternative	Total
French GAAP	142	34	176
Non-French GAAP	11	12	23
Total	153	46	199
	Pearson χ^2 (1 df) = 12.356, p = 0.000		
Foreign listing	Non alternative	Alternative	Total
No foreign listing	143	31	174
Foreign listing	10	15	25
Total	153	46	199
	Pearson χ^2 (1 df) = 21.887, p = 0.000		

Panel (B1): Income statement format – Continuous variables						
		Number of observations	Mean	Standard deviation	Student t-test	Mann-Whitney U-test
Size	Non-alternative	141	6.5761	1.6892	t=-4.1430	
	Alternative	58	7.8097	2.3629	(p=0.0001)	
International sales	Non-alternative	141	0.4068	0.2887		z=-5.065
	Alternative	58	0.6418	0.2329		(p=0.0000)
Foreign institutional ownership	Non-alternative	141	0.0323	0.1109		z=-3.121
	Alternative	58	0.0468	0.0872		(p=0.0018)
Leverage	Non-alternative	141	0.2483	0.1671		z=0.095
	Alternative	58	0.2440	0.1745		(p=0.9245)

Panel (B2): Income statement format – Dichotomous variables			
International auditor	Non alternative	Alternative	Total
Non-Big four	41	2	43
Big four	100	56	156
Total	141	58	199
Pearson χ^2 (1 df) = 15.937, p = 0.000			
Accounting standards	Non alternative	Alternative	Total
French GAAP	131	45	176
Non-French GAAP	10	13	23
Total	141	58	199
Pearson χ^2 (1 df) = 9.438, p = 0.002			
Foreign listing	Non alternative	Alternative	Total
No foreign listing	136	38	174
Foreign listing	5	20	25
Total	141	58	199
Pearson χ^2 (1 df) = 38.806, p = 0.000			
See the definition of variables in Table 4.			

Table 7. Logit regressions

	Panel A: Balance sheet			Panel B: Income statement		
	Coefficients	z	p	Coefficients	z	p
Size	0.083	0.709	0.479	0.233	1.968	0.049
International auditor	1.640	2.104	0.035	1.978	2.480	0.013
Accounting standards	1.282	2.373	0.018	0.868	1.533	0.125
Foreign listing	1.287	2.118	0.034	1.721	2.550	0.011
International sales	1.242	1.509	0.131	2.202	2.760	0.006
Foreign institutional ownership	0.449	0.256	0.798	0.487	0.304	0.761
Leverage	1.074	0.822	0.411	-0.543	-0.400	0.689
Control variables						
Energy	-0.198	-0.173	0.863	-0.024	-0.018	0.986
Materials	0.861	1.190	0.234	0.419	0.553	0.580
Consumer	-0.654	-1.127	0.260	0.504	0.909	0.363
Health care	1.061	1.124	0.261	0.356	0.330	0.742
Information technology	0.757	1.274	0.203	1.322	2.127	0.033
Constant	-4.725	-3.861	0.000	-6.300	-4.806	0.000
Chi square	49.921			68.963		
$p(\chi^2)$	0.000			0.000		
Number of observations	199			199		
Nagelkerke R-square	0.336			0.418		

See the definition of variables in Table 4.

Table 8. Generalized ordered logit regression

	Panel A Alternative statements ≥ 1 (One or two alternative statements)			Panel B Alternative statements = 2 (Two alternative statements)		
	Coefficients	z	p	Coefficients	z	p
Size	0.172	1.554	0.120	0.278	2.072	0.038
International auditor	1.706	2.508	0.012	1.896	1.745	0.081
Accounting standards	2.444	3.616	0.000	0.201	0.341	0.733
Foreign listing	2.028	2.767	0.006	0.983	1.494	0.135
International sales	1.314	1.769	0.077	1.913	1.908	0.056
Foreign institutional ownership	0.888	0.544	0.586	-0.016	-0.005	0.996
Leverage	-0.118	-0.083	0.934	-0.089	-0.054	0.957
Control variables						
Energy	-0.564	-0.426	0.670	0.926	0.745	0.456
Materials	0.794	1.132	0.257	1.112	1.255	0.209
Consumer	-0.297	-0.600	0.549	0.549	0.736	0.462
Health care	-0.795	-0.661	0.509	2.743	1.937	0.053
Information technology	0.308	0.520	0.603	2.389	2.853	0.004
Constant	-4.583	-4.069	0.000	-7.617	-4.261	0.000
Chi square			97.625			
$p(\chi^2)$			0.000			
Number of observations			199			
Nagelkerke R-square			0.469			

See Table 4 for the definition of variables.