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# HAVE IAS (INTERNATIONAL ACCOUNTING STANDARDS)/IFRS IMPROVED THE INFORMATION CONTENT OF INTANGIBLES IN FRANCE ?

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## Abstract

In this article, we study the information content of these assets under IAS/IFRS when compared to French GAAP for French companies listed on the SBF 250 index. We show that the transition to IAS/IFRS did not change the overall amount of intangible assets, even though it operated substitution effects in favour of goodwill. However, total intangible assets and goodwill gain greater accounting relevance when they are valued according to IAS/IFRS. By applying these standards, financial markets can better integrate such contributions into share prices and returns, especially for companies with a high intensity of intangible assets.

*Key Words: IFRS; IAS; GAAP; Intangible asset; Goodwill; Performance*

*JEL Classification: M41, O52, F33*

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## Introduction

The nature of investments made by companies has changed remarkably over the past few years. New trends in business practices and changes to the economic environment have brought about the emergence of new production function variables in which the role of intangibles, as both factor and product, is increasing (Sullivan and Sheffrin<sup>1</sup>). The most frequently cited factors driving the changes are the globalisation of financial markets, the development of the knowledge-based economy and the growing number of mergers and acquisitions. This new context has contributed to the rising importance of intangible assets such as brands, patents, training costs, R&D costs, organisational competences, etc. Faced with this growing wave of intangibles, traditional accounting standards systems, based on a 'transactional principle', are finding it increasingly difficult to fulfil their informative role in decision-making (Lev<sup>2</sup>). Furthermore, there was a problem of comparability and transparency of financial information particularly in Europe before 2005. Given the

diversity of choices and conditions of financial reporting of intangible investments offered by different accounting systems, there was a lack of clarity as to whether intangibles were to be capitalized or expensed.

IAS/IFRS, mandatory since 1<sup>st</sup> January 2005 for listed companies, aim to give more uniform, value-relevant information which better reflects a company's financial situation and asset. However, recent studies show the difficulty of forecasting the impact that changing some accounting rules will have on the quality of financial data due to the fact that the latter is influenced by several complex institutional factors (Ball, et al.<sup>3</sup>; Ding, et al.<sup>4</sup>). Accounting regulations exist within a mosaic of other institutional rules. Changing one element of this mosaic is not always the best solution when the other elements remain invariable (Hope, et al.<sup>5</sup>; Ding, et al.). Though studies already carried out on the French market have shown a relatively modest impact of IAS/IFRS on equity capital, or fixed assets (Bessieux-Ollier<sup>6</sup>), many questions remain unanswered about their effect on intangible assets which determine both the performance and the valuation

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The authors own full responsibility for the contents of the paper.

of companies and, in particular, of firms which are R&D intensive (Lantz and Sahut<sup>7</sup>). Moreover, the small size of samples looked at in these studies, in general CAC 40 companies, limits the scope of their conclusions.

This study looks at the transition to IAS/IFRS by French companies and, in particular, at the impact of the adoption of IAS 38 and IFRS 3 on the quality of financial information on intangibles. We complete the Bessieux-Ollier and Walliser study in two specific ways. We first look at the effect of the transition to IFRS on net income, equity capital and different sorts of intangible assets on a bigger sample of firms, then we analyse the impact of these standards on the share price and return of the firms concerned (Table 1).

**TABLE 1**  
**COMPOSITION OF THE PRELIMINARY SAMPLE**

Number of companies from the SBF index	250
- financial and real estate companies	- 38
- companies which ended their fiscal period after the 31/12/04	- 50
- companies publishing their financial statement according to IFRS before 2004	- 4
- companies which do not distinguish goodwill from other intangibles even in the footnotes	- 3
- companies not listed on the stock market in 2003	- 2
- companies which have not published their opening balance sheet on the 01/01/2004 to IFRS	- 29
- companies which have not published their consolidated accounts to 2004 IFRS	- 4
Companies making up the preliminary sample for statistical study	120

After a reminder of the main differences in regulations concerning intangibles between French GAAP and international standards, we point out the results of previous work on the information content of intangibles. Then, we present our research hypothesis concerning the issues involved when first applying the standards. Finally, we test our empirical models on a sample of French firms listed on the SBF 250 index, before presenting our conclusions.

#### Prelude

Over the last three decades, researchers have tried

to prove that intangible investments contribute to a company's future performance, that they should therefore be considered as assets, and thus necessitate some information content. Most studies focus either on R&D expenditure or on goodwill.

The first research carried out by Johnson<sup>8</sup> and Newman<sup>9</sup> on the information content of R&D did not unmask any significant relationship between future returns and investment in R&D. These first results have been contradicted by numerous subsequent studies which have highlighted the relevance of entering this type of expenditure as an asset. In particular, Aboody and Lev<sup>10</sup>, Lev and Sougiannis<sup>11</sup> and Sougiannis<sup>12</sup>, established there is a significant link between equity capital and earnings and stock market price and returns when R&D expenditure is capitalized. Similarly, show that software development costs are seen as assets in companies' share price and are significantly correlated to future returns. These results suggest, therefore, that R&D expenditure is, on average, considered by investors as amortizable assets rather than immediate costs. They contradict the main reason on which the FASB based its ban on their capitalization, namely, the lack of proof in the existence of a direct relation between R&D expenditure and future income.

However, these results were obtained from empirical studies based on American data. Nothing guarantees that the results and the relationships identified are transferrable to other environments (Ding, et al.) such as European countries and in particular France (Casta, et al.<sup>13</sup>) because of the regulatory and cultural differences, as well as differences in the structure of the markets (Ding, et al.<sup>14</sup>; Ball, et al.; Hope<sup>15</sup>, Hope, et al.; Ali et Hwang<sup>16</sup>; Pope and Walker<sup>17</sup>). In fact, studies looking at the international context tend, overall, to confirm the American results. Thus, Zhao<sup>18</sup>, in a comparative study of 4 countries (France, Great Britain, Germany and the U.S.A.) concludes that:

- the disclosure of information about total R&D expenditure increases the association between the market value and financial data such as the income statement and the equity capital in countries where the capitalization of costs is banned (Germany and the U.S.A.)
- the allocation of R&D expenditure between assets and costs increases the relevance of financial

information in countries which allow the practice (Great Britain and France).

Whilst studies carried out in the French context differ from the majority of previous results. Ding, et al., and Casavan-Jeny and Jeanjean<sup>19</sup> demonstrated that firms which capitalize their R&D expenditure have lower returns and are under-valued in comparison to those which expense their R&D costs. These results question the merit of capitalising R&D expenditure as advised in IAS 38, in countries such as France, where the level of shareholder protection is relatively weak compared to the U.S.A. (Cazavan-Jeny and Jeanjean).

Concerning goodwill, studies focussing on the USA dominate because changes to reporting methods far precede those observed in Europe. For many authors, the impairment of goodwill (according to SFAS 142 standards or IFRS 3) should reveal better information than systematic amortization as the latter can underestimate the loss in real value of goodwill (David<sup>26</sup>). Indeed, he observes that companies having implemented SFAS 142 did not all depreciate their goodwill. For those companies that did record a depreciation of their goodwill, it was higher than the amortization which they used previously. Recent studies by Henning, et al.<sup>20</sup>, Hirschey and Richardson<sup>21</sup>, Duangploy, et al.<sup>22</sup>, Schultze<sup>23</sup> also show the relevance of impairment tests on capitalized goodwill when it is not amortized.

However, the implementation of these impairment tests does have limitations. Indeed, it obliges corporate executives to make discretionary choices such as the rate of discounting, the evaluation of future cash flows, etc. In particular, it becomes possible to produce 'revaluation reserves' against reporting loss of value to acquired goodwill. These reserves enable the capitalization of internally generated goodwill up to the level of initially recognized goodwill. Inversely, the tests can be used for big bath accounting following a strategic error or a change of management (Sevin and Schroeder<sup>24</sup>). This practice was already possible with French GAAP via exceptional amortization. IFR 3 will surely have little impact on this aspect. Indeed, when the speculative dot.com bubble burst, Vivendi recorded an exceptional amortization of 15.7 billion euros in 2001, against 12.8 billion euros for France Telecom between 2002 and 2004 in order to depreciate their goodwill from numerous

acquisitions carried out during the technological bubble in the late 1990s. To summarize, these studies point out that IAS 38 and IFRS 3 have, overall, increased the information content of intangibles despite substantial sectoral and geographic differences. It is important therefore to check if their information content is more value-relevant in the French context considering the contrasting results observed for this country.

### Methodology Used

The conditions for entering intangible items under assets on the balance as defined by the IAS 38 standard are stricter than those under French GAAP, in particular regulation 99-02. IAS 38 standard imposes that an intangible asset must be identifiable to clearly distinguish it from goodwill, as well as defining its future economic benefits\*. These more restrictive conditions for capitalization as defined by this international standard should, on one hand, incite companies who adopt them to minimise the intangible assets on the balance sheet (Gatet, P. and Tassin, H.<sup>34</sup>) and, on another hand, generate a shift of unidentifiable intangible items towards goodwill. Consequently, accounting models to measure goodwill should reflect a combination of synergies, those of initial consolidation difference and those of non-homogenous items which could not be qualified as intangibles. From these reflections we formulated the following hypotheses:

**Hypothesis 1a:** IAS 38 incites companies to minimise intangible assets, other than goodwill, on their balance sheet.

**Hypothesis 1b:** The transition to IFRS increases goodwill under the combined effect of IFRS 3 and IAS 38. In particular, IAS 38 induces companies to subsume unidentifiable intangible items in goodwill.

**Hypothesis 1c:** The transition to IFRS has not made the overall amount of intangible assets vary in any significant way (effect of substitution between goodwill and other intangible assets.\*\*)

Moreover, data on intangible assets is often used by investors and financial analysts as forecast indicators of a firm's value and performance. Therefore, the financial statements under IAS/IFRS present, contrary to those under French GAAP, detailed information about the totality of intangible expenditure capitalized or expensed in the footnotes. Moreover, the banning of optional

\* This excludes fundamental research costs, training and advertising as well as brands.

\*\* In the continuation of the article, 'other intangible assets' will be defined as total intangible assets less the goodwill.

treatments and of derogation methods in the IAS/IFRS system of reference should not only reduce the risks of manipulative accounting practices but, by increasing the transparency and comparability of financial data between firms, should make such behaviour more easily detectable. This should reduce information asymmetry between corporate executives and investors, consequently relieve the problem of undervaluing R&D-intensive companies and thus increase the correlation between a company's accounting and stock market data. However, some researchers point out that international standards offer a wide margin of discretion allowing corporate executives to appreciate capitalizable intangible expenditure, and define the useful life of intangible assets in order to carry out goodwill impairment tests. This discretion makes it easier for corporate executives to 'manage' the profit and loss statement (Cazavan-jeny and Jeanjean).

It should be highlighted that managerial latitude has not been curtailed, at least for intangibles, under French GAAP. Firstly, optional treatment for several intangible costs offers the corporate executives the choice as to whether or not to capitalize the expenditure. Then, on choosing capitalization, they can manipulate the amount to capitalize. In particular, the propensity to capitalize R&D expenditure is higher for companies which have low profitability (Stolowy and Breton<sup>25</sup>). Finally, the amortization expense can equally be manipulated by under-estimating or over-estimating the useful life of assets as French GAAP gives no guidelines for determining the length of amortization of R&D expenditure capitalized. It only stipulates a maximum delay of 5 years. In fact, the restrictive conditions for capitalization specified under IAS/IFRS create a certain discrepancy in the treatment of some expenses (such as brands, market share and research costs) if they have been acquired or have been produced internally. Thus, companies which are experiencing internal growth must expense these costs and their accounting data becomes less value-relevant in comparison to companies which are growing through mergers and acquisition operations. This situation does little to improve the transparency and comparability of financial data. Despite these different contrary effects, we anticipate that the changes brought about by IAS/IFRS will improve the information content of

intangible assets.

**Hypothesis 2a:** The informational content of intangibles under IFRS is even higher when goodwill is disassociated from other intangible items. In other words, the explanatory capacity of the model will be improved if goodwill is distinguished from other intangible items under IFRS rather than if an overall level of intangible assets is considered.

**Hypothesis 2b:** Goodwill and other intangible items under IFRS are positively associated with trading prices.

**Hypothesis 2c:** Goodwill and other intangible items under IFRS are positively associated with higher returns.

Considering the chosen sample, the company profiles are very disparate both in size and in volume of intangible assets. The latter represent 3 per cent (Michelin) to 70 per cent (Sanaofi-Aventis) of the companies' balance sheet. Thus, there is a risk that the informational impact of IFRS 3 and IAS 38 on share prices and returns depends on how intangible-intensive the firms are. Hypothesis 2d: A high intensity of total intangibles under IFRS has a positive impact on share price and returns.

### Empirical Models

To establish the relevance of accounting information on intangibles by examining their impact on the financial market, we use a first model, frequently used in empirical research, which studies the relationship between the price of securities (P) and the book value of equity capital per ordinary share and the net income per share (NIPS)\*. The book value of equity capital is broken down into book value per adjusted share of capitalized intangible assets (EQUIPSA) and into book value per action of total intangible assets (INTTOTPS). Moreover, to isolate the relevance of the book value of goodwill and of other intangibles, the book value per share of total intangible assets (INTTOTPS) is broken down into book value per goodwill share (GWPS) and into book value per share of other intangibles (OINTPS). Firms whose total intangible assets are higher than the average\*\* for the sample are considered as having a high intensity of total intangibles (HDTI). Equally, the listing (C) of a company on British and American stock markets is integrated into the model. The unknown factor

\* This model was inspired by theoretical work on evaluation models (Ohlson<sup>26</sup>).

\*\* Total intangible assets, as a percentage of total assets, are on average 21.11% using French standards and 21.95% using IFRS standards. Companies which have total intangible assets higher than the average are considered as having a high intensity of intangible assets and vice versa.

$\varepsilon$  represents the unexplained element of the share price. Equations (1) and (2) of this first model are as follows:

$$P_{i,t} = \beta_0 + \beta_1 NIPS_{i,t} + \beta_2 EQUIPSA_{i,t} + \beta_3 INTTOTPS_{i,t} + \beta_4 HDTI_{i,t} + \beta_5 C_{i,t} + \varepsilon_{i,t} \quad (1)$$

$$P_{i,t} = \beta_0 + \beta_1 NIPS_{i,t} + \beta_2 EQUIPSA_{i,t} + \beta_3 IGWPS_{i,t} + \beta_4 OINTPS_{i,t} + \beta_5 HDTI_{i,t} + \beta_6 HC_{i,t} + \varepsilon_{i,t} \quad (2)$$

$P_{i,t}$  = price of a share in firm  $i$  3 months after the end date of fiscal period  $t$ .

$NIPS_{i,t}$  = Net Income per share of firm  $i$  in fiscal period  $t$ .

$EQUIPSA_{i,t}$  = book value of equity per share in firm  $i$  for fiscal period  $t$  adjusted of total intangible assets.

$INTTOT_{i,t}$  = book value of total intangible assets per share in firm  $i$  for fiscal period  $t$ .

$GWPS_{i,t}$  = Book value of the goodwill per share of firm  $i$  for the fiscal period  $t$ .

$OINCP_{i,t}$  = Book value of other intangible assets per share in firm  $i$  for the fiscal period  $t$ .

$HDTI_{i,t}$  = high intensity of total intangibles of firm  $i$  at the end of the fiscal period  $t$ : Dummy variable equal to 1 if the firm  $i$  has total intangible assets higher than the average of the sample (average = 21.11% using French standards and 21.95% using IFRS according to table 2) and 0 if not.

$C_{i,t}$  = Listing on the British and American stock market of firm  $i$  at the end of the fiscal period  $t$ : Dummy variable equal to 1 if the company is listed on the New York Stock Exchange (NYSE), the NASDAQ or the London Stock Exchange (LES) and at 0 if not.

The information on the book value of goodwill and of other intangibles is available only when the financial statements have been published, in other words three months after the end date of the fiscal period. Like Aboody and Lev, we consider that the dependant variable will be the share price three months after the end date of the fiscal period. This assessment model has the advantage of using the accounting data as an approximation of the discounted future cash flow hoped for by investors and of the market value of the firm.

Equations (1) and (2) of the first model will be subjected to two regressions: a first with the accounting data using French standards and a second with the financial data using IFRS.

## Research Findings

### Data Collection and Selection of Sample Group

Our sample is made up of companies listed on the SBF 250 index in October 2005. The accounting data under both French and international standards were obtained by direct consultation of published annual reports and a study of the consolidated financial statements published in the BALO (French official legal announcements publication)\*. The main difficulty was to identify firms which communicated their financial statements under IAS/IFRS. Firms whose financial year ended after the 31<sup>st</sup> December 2004, were not subjected to AMF recommendations to also publish their financial statements to international standards during the transition period. In order to keep the information relevant, only companies which had published their consolidated accounts according to IAS/IFRS were maintained in our sample group. Then, our final sample includes 120 companies. Stock market data was obtained from the DataStream database.

### Tests and Interpretations

Before testing our research hypotheses to determine the degree of relevance of accounting data under IAS/IFRS, it is essential to study the eventual change to the value of this data, expressed simultaneously under two different accounting systems of reference, on the same date, (the 31<sup>st</sup> December 2004), across the whole of our sample (hypotheses 1a, b and c). The descriptive analysis and the univariate results for all the firms included in the study are indicated in Table 2.

The adoption of IAS/IFRS for drawing up financial statements has really brought about modifications in the value of accounting data. Over the whole sample, the net income (NI) has increased on average by 3.95 per cent of total assets using French standards to 4.59 per cent of total assets using IFRS (the median rising from 3.84 per cent to 4.18 per cent) This 16 per cent rise is statistically significant.

The impact of IAS 38 on intangibles appears more pronounced. In fact, total intangible assets\*\* (INTTOT) have increased, on average, by nearly 4 per cent during

\* These are generally companies which have not published their financial statements under international standards in their annual report, which necessitated research into their accounting data under IFRS by looking in the BALO.

\*\* We specify once again, that total intangible assets are made up of goodwill and other intangibles.

**TABLE 2**  
**IMPACT OF THE FRENCH GAAP TO IFRS TRANSITION IN 2004**

% of Total Assets	French GAAP			IFRS		French GAAP		Wilcoxon Test (French GAAP versus IFRS)			
	N	Mean	Median	Mean	Median	T test	P value	Rank	N	Ztest	P value
GW	120	11,98%	8,60%	15,96%	13,96%	4,790	0,000	positive <sup>a</sup>	86	6,003	0,000
OINT	120	9,13%	3,52%	5,99%	2,31%	-2,641	0,000	negative <sup>b</sup>	74	-3,106	0,002
INTTOT	120	21,11%	19,36%	21,95%	20,05%	1,825	0,071	positive <sup>c</sup>	70	2,959	0,003
NI	120	3,95%	3,84%	4,59%	4,18%	4,124	0,000	positive <sup>d</sup>	86	4,675	0,000
EQUI	120	37,58%	36,78%	37,25%	34,71%	-0,764	0,446	negative <sup>e</sup>	69	-1,390	0,165

Notes : a. GW IFRS > GW French GAAP, b. OINT IFRS < OINT French GAAP, c. INTTOT IFRS > INTTOT French GAAP, d. NI IFRS > NI French GAAP, e. EQUI IFRS < EQUI French GAAP

**Variable definitions (data source)**

Sample consists of French listed firms where transition to IFRS was mandatory in 2004. GW is goodwill, OINT are other intangible assets, INTTOT are total intangible assets, NI is net income and EQUI is owners' Equity. All data were collected from the Datastream database.

the transition to the new accounting standards. More precisely\*, goodwill (GW) has increased from 11.98 per cent to 15.96 per cent of total assets (the median has increased from 8.6 per cent to 13.96 per cent), in other words a difference of 33.2 per cent which is statistically significant. Inversely, the average of other intangible assets (OINC) has decreased from 9.13 per cent to 5.99 per cent of total assets (the median from 3.53 per cent to 2.31 per cent). This decrease of 34.4 per cent is also statistically significant.

According to the Wilcoxon test\*\*, more than 71 per cent of companies in our sample (86 firms out of 120) have seen an increase in the value of goodwill when changing over to IFRS and more than 61 per cent of them have diminished the book value of other intangible assets. The Wilcoxon test has a significance threshold of 1 per cent, except for equity. A first interpretation of these results suggests that companies had transferred intangible assets that couldn't be separated over to goodwill. Under the more restrictive IFRS reporting conditions, intangible assets should no longer include unidentifiable intangibles. Only separable assets can be qualified as intangible items. Thus, in this initial analysis of the results, the book value of intangible assets which

are not individualised seem to have been integrated into goodwill. This shifting of unidentifiable intangibles to goodwill tends to confirm hypotheses 1a and 1b.

We specify that when applying the revised IFRS 3 and IAS 38 standards, goodwill and intangible assets with an indefinite useful life also undergo a supplementary revaluation because of the suppression of obligatory amortization which applied to them. This supplementary revaluation of goodwill and other intangible assets justifies an average rise of only 4 per cent in total intangible assets (INTTOT) of our sample and confirms our hypothesis 1c. The relative overall stability of intangible assets in total long-term assets was counterbalanced by substitution effects; some companies reclassified intangible assets as goodwill even if they no longer fit the definition given by IFRS such as market share. Besides observing these reclassifications of unidentifiable intangible items, originally recorded in other intangible assets, as goodwill, it is important to question how investors perceive the practice.

Globally, the quality of the adjustment and the overall significance of the model using IFRS are higher

\* The interpretation of this analysis is identical if the accounting data is shown per share and not as a percentage of total assets.

\*\* When the rank-sum of positive differences is higher than the rank-sum of negative differences, the values of financial data such as the net income, total intangible assets and goodwill, expressed as the percentage of total assets and valued according to international standards, are higher than those evaluated using French standards.

than those of the model using French GAAP (Table 3). The results of the model show the existence of a positive and significant relationship at the threshold of one per cent between goodwill per share and the price of the share. Thus, the financial information conveyed by capitalized goodwill appears to be as weak using IFRS as French GAAP. Indeed, the coefficient associated with GWPS is positive and statistically significant under the two accounting standards. Even if unidentifiable intangible items are lost within the heterogeneous whole which makes up goodwill, the accounting measurement of the latter under international standards is always a relevant source of information for investors.

When valued according to international standards, other intangible assets do not provide investors with more value-relevant information. The coefficient associated with INCPS is positive but does not show any significance either under French GAAP or under IFRS ( $p > 0.05$ ). Therefore, identified intangible assets capitalized on the companies' balance sheet do not provide any more value-relevant information for shareholders than unidentified intangible assets which have been transferred into goodwill. The standard-setters do not seem to have achieved their objectives with the application of IAS 38, in giving more importance to the reliability of information by banning the capitalization of

TABLE 3  
REGRESSION ANALYSIS OF STOCK PRICES: FRENCH GAAP & IFRS

	PRICE MODEL			
	French GAAP		IFRS	
	[1]	[2]	[1]	[2]
NIPS	4,647** (4,342)	4,921** (4,555)	5,983** (6,843)	5,99** (6,883)
EQUIPSA	1,236** (10,883)	1,201** (10,477)	1,025** (12,577)	1,03** (12,552)
INTTOTPS	0,597** (3,499)		0,524** (3,672)	
GWPS		0,65** (2,591)		0,596** (3,316)
OINTPS		0,468 (1,477)		0,314 (0,901)
HDTI	15,297 (1,877)	15,54 (1,823)	15,718* (2,060)	16,084* (2,097)
Cotation	-3,594 (-0,408)	-4,883 (-0,547)	-5,296 (-0,652)	-5,351 (-0,657)
Constant	10,42 (1,54)	10,517 (1,494)	6,948 (1,095)	6,816 (1,071)
No. of Observations	120	120	120	120
R-square	0,879	0,875	0,899	0,900
Adjusted R-squared	0,762	0,753	0,801	0,800
F	77,128	61,448	96,596	80,172
Prob>F	0,000	0,000	0,000	0,000

Notes : \*, \*\* and \*\*\* represent significance at 10%, 5% and 1% levels respectively. All data were collected from the Datastream database.

Source : Two regression models with P as the dependent variable. P is the stock price for firm i 3 months after fiscal year-end t. The sample consists of French listed firms under Local GAAP and IFRS in 2004. NIPS is the net income per share for firm i at time t. EQUIPSA is the book value of owners' equity per share, adjusted of total intangible assets, for firm i at time t. INTTOTPS are total intangible assets per share for firm i at time t. GWPS is the goodwill per share for firm i at time t. OINTPS are other intangible assets per share for firm i at time t.



several unidentifiable intangible items. These results partially disprove hypothesis 2b.

However, shareholders consider that a high intensity of total intangible assets is a source of future economic benefits, but only if they have been valued under international standards. The coefficient associated with HDTI is positive and significant at a threshold of 5 per cent, this result validates hypothesis 2d. We should also underline that shareholders consider the informational content of total intangible assets (INTTOTPS) as being value-relevant, without

making a distinction between goodwill and other intangible items. The coefficient associated with INTTOTPS is positive and significant ( $p > 0.01$ ). Hypothesis 2a is disproved as the explanatory power of the model is low with the distinction of two intangible assets rather than considering an overall level of intangible assets.

The results of model (2), shown on Table 4, enable us to partially corroborate hypothesis 2c. The improvement in the book value of goodwill under international standards has informative value for

TABLE 4  
REGRESSION ANALYSIS OF STOCK RETURNS: FRENCH GAAP & IFRS

	RETURN MODEL			
	French GAAP		IFRS	
	[3]	[4]	[3]	[4]
$\Delta$ NIPS	0,02766** 94,197)	0,02623** (4,175)	0,02633** (4,317)	0,02699** (4,253)
$\Delta$ EQUIPSA	0,006139** (2,721)	0,005104* (2,359)	0,005244** (2,611)	0,005082* (2,415)
$\Delta$ INTTOTPS	00,006002* (2,170)		0,006393** (2,170)	
$\Delta$ GWPS		0,006975* (2,109)		0,006908* (2,129)
$\Delta$ OINTPS		-0,002643 (-0,409)		0,004854 (0,868)
HDTI	-0,04812 (-1,273)	-0,04278 (1,196)	-0,07431* (-2,077)	-0,09175 (-2,495)
Cotation	-0,113** (-2,618)	-0,103* (-2,503)	-0,07263 (-1,782)	0,0832 (-1,927)
Constant	0,231** (8,586)	0,244** (9,529)	0,214** (8,078)	0,237** (8,694)
No. of Observations	103	103	103	103
R-square	0,529	0,525	0,564	0,569
Adjusted R-squared	0,243	0,230	0,283	0,282
F	7,536	6,083	9,069	7,737
Prob>F	0,000	0,000	0,000	0,000

Notes : \*, \*\* and \*\*\* represent significance at 10%, 5% and 1% levels respectively. All data were collected from the Datastream database.

Source : Two regression models with  $R_{it}$  as the dependent variable.  $R_{it}$  is the stock return for firm  $i$  3 months after fiscal year-end  $t$ . The sample consists of French listed firms under Local GAAP and IFRS in 2004.  $\Delta$ NIPS $_{it}$  is the variation of net income per share for firm  $i$  at time  $t$ .  $\Delta$ EQUIPSA $_{it}$  is the variation of the book value of owners' equity per share, adjusted of total intangible assets, for firm  $i$  at time  $t$ .  $\Delta$ INTTOTPS $_{it}$  are the variation of the total intangible assets per share for firm  $i$  at time  $t$ .  $\Delta$ GWPS $_{it}$  is the variation of the goodwill per share for firm  $i$  at time  $t$ .  $\Delta$ OINTPS $_{it}$  are the variation of the other intangible assets per share for firm  $i$  at time  $t$ .

explaining stock market returns. The coefficients associated with  $\Delta GWPS$  are positive and significant ( $p < 0.05$ ). However, this informative value is inexistent for investors when other intangible items are valued using French GAAP ( $p > 0.418$ ) or IFRS. They do not perceive identifiable intangibles as being a source of value for the firm. The overall quality of the model using IFRS is superior to that of the model using French GAAP (the adjusted R-squared increases from 23 per cent to 28.2 per cent). Considering the results of Tables 3 and 4, the low inflation factors of the variance ( $VIF < 2.0$ ) associated to low standard deviations from estimates of parameters shows the absence of problems of colinearity\*.

### Conclusions

The adoption of IAS/IFRS has really brought about changes in the value-relevance of financial data on SBF 250 companies. The effect, which professionals and researchers know well enough for net income, is even more marked for intangible assets. The relative stability of total intangible assets (4 per cent on average) hides strong substitution effects of other intangible assets (drop of 34 per cent) towards goodwill (rise of 33 per cent). Numerous companies have reclassified as goodwill their intangible assets which no longer fitted the definition given by IAS 38.

The empirical tests show that information conveyed by accounting data on goodwill and total intangible assets valued according to IFRS is more value-relevant. The effect being that total intangibles and goodwill are statistically significant under the two accounting reference systems, as opposed to other

intangible assets, but the quality of the adjustment and the overall significance of the model using IFRS is superior to that of the model using French GAAP.

Despite the tightening of criteria for entering assets in the category of other intangible assets (IAS 38), only goodwill explains the share price and the stock returns when the different types of intangible assets are separated for the model using IFRS. Investors therefore continue to only pay attention to goodwill. This phenomenon brings into question the investors' perception of goodwill considering the reclassification during the changeover to IAS/IFRS which made it increase in a significant manner. It also casts doubts on the usefulness for investors of IAS 38 which bans the entering of several unidentifiable intangible items on the balance sheet.

Moreover, when we differentiate firms according to the intensity of their intangible assets, we notice that this criterion explains their stock price and their return only when using international standards. From this perspective, shareholders consider that a high intensity of total intangible assets is a source of future economic benefits. Finally, whether a company is listed on the British or American stock market has no resulting impact on the share price.

Finally, we can conclude that goodwill under IAS/IFRS represents the synergies from business combinations and also from unidentifiable intangible assets reclassified under IAS 38. Doesn't this phenomenon risk changing investors' perception of goodwill?

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\* The indexes of conditioning are all below 5, in other words, well below the critical limit fixed at 30 (Besley, Kuh and Welsch<sup>27</sup>).

## REFERENCES

1. Sullivan, A., and Sheffrin, S.M., *Economics: Principles in Action*, Upper Saddle River, New Jersey: Pearson Prentice Hall (2003)
- 2 (i) Lev, B. and Zarowin, P., The Boundaries of Financial Reporting and How to Extend Them, *Journal of Accounting Research* (37:1999)
- (ii) Lev, B., R&D and Capital Markets, *Journal of Applied Corporate Finance* (11:1999)
- (iii) Lev, B., Bharat, S. and Sougiannis, T., R&D Reporting Biases and Their Consequences, *Contemporary Accounting Research* (22:2005)
3. Ball, R., Robin, A. and Wu, J.S. (2003). Incentives versus Standards: Properties of Accounting Income in Four East Asian Countries and Implications for Acceptance of IAS, *Journal of Accounting and Economics* (36: 2003)
4. Ding, Y., Stolowy, H. and Tenenhaus, M., R&D Productivity: An Exploratory International Study, *Review of Accounting and Finance* (6:2007)
5. Hope, O.K., Jin, J. and Kang, T., Empirical Evidence on Jurisdictions that Adopt IFRS, *Journal of International Accounting Research* (5:2006)
6. Bessieux-Ollier, C., Walliser, E. (2007). La transition et le bilan de la première application en France des normes IFRS : le cas des incorporels, *Comptabilité-Contrôle-Audit* (13:2007)
7. Lantz, J. and Sahut, J.M., R&D Investment and the Financial Performance of Technological Firms, *International Journal of Business* (8:2005)
8. Johnson, J., A consequential Approach to Accounting for R&D, *Journal of Accounting Research* (Autumn: 1967)
9. Newman, M., Equating Return from R&D Expenditures, *Financial Executive* (1968)
10. Aboody, D. and Lev, The Value Relevance of Intangibles: The Case of Software Capitalization, *Journal of Accounting Research* (36:1998)
11. Lev, B. and Sougiannis, T., The Capitalization, Amortization, and Value-relevance of R&D, *Journal of Accounting and Economics* (21:1996)
12. Sougiannis, T., The Accounting Based Valuation of Corporate R&D, *The Accounting Review* (69:1994)
14. Ding, Y., Jeanjean, T. and Stolowy, H., Why Do National GAAP Differ from IAS? The Role of Culture, *The International Journal of Accounting* (40:2005)
15. Hope, O. K. (2003). Disclosure Practices, Enforcement of Accounting Standards and Analysts' Forecast Accuracy: An International Study, *Journal of Accounting Research* (41:2003)
16. Ali, A. and Hwang, L., Country-specific Factors Related to Financial Reporting and the Value Relevance of Accounting Data, *Journal of Accounting Research* (38: 2000)
17. Pope, P. and Walker, M., International Differences in the Timeliness, Conservatism, and Classification of Earnings, *Journal of Accounting Research* (37:1999)
18. Zhao, R., Relative Value Relevance of R&D Reporting: An International Comparison, *Journal of International Financial Management and Accounting* (13:2002)
19. Cazavan-Jeny, A. and Jeanjean, T., The Negative Impact of R&D Capitalization: A Value Relevance Approach, *European Accounting Review* (15:2006)
20. Hennings, S.L., Lewis, B.L. and Shaw, W.H., Valuation of the Components of Purchased Goodwill, *Journal of Accounting Research* (38:2000)
- 21(i) Hirschey, M. and Vernon, J.R., Information Content of Accounting Goodwill Numbers, *Journal of Accounting and Public Policy* (21:2002)
- (ii) Hirschey, M. and Connolly, R., R & D, Market Structure and Profits: A Value-Based Approach, *The Review of Economics and Statistics* (66:1984)
- (iii) Hirschey, M., Intangible Capital Aspects of Advertising and R & D Expenditures, *The Journal of Industrial Economics* (30:1982)
22. Duangploy, O., Shelton, M. and Omer, K., The Value Relevance of Goodwill Impairment Loss, *Bank Accounting & Finance* (2005)
23. Schultze, W., The information Content of Goodwill- Impairments under FAS 142: Implications for External Analysis and internal control, *Schmalenbach Business Review* (57:2005)
24. Sevin, S. and Schroeder, R., Earnings Management: Evidence from SFAS n°142 Reporting, *Management Auditing Journal* (20:2005)
25. Stolowy, H. and Breton, G., La gestion des données comptables: une revue de la littérature, *Comptabilité- Contrôle- Audit* (9:2003)
26. Ohlson, J.A., Earnings, Book Values, and Dividends in Equity Valuation, *Contemporary Accounting Research* (18:2001)
27. Besley, D.A., Kuh, E. and Welsch, R.E., *Regression Diagnostic* (John Wiley & Sons, 1980)

**SUGGESTED READINGS**

- (i) Chan, K., Lakonishok, J. and Sougiannis, T., The Stock Market Valuation of Research and Development Expenditures, **Journal of Finance** (56:2001)
- (ii) Deng, Z. and Lev, B., In-process R&D: To Capitalize or Expense?, **Journal of Engineering and Technology Management** (23:2006)
- (iii) Jennings, R., Robinson J., Thompson, R.B. and Duvall, L., The Relation between Accounting Goodwill Numbers and Equity values, **Journal of Business Finance & Accounting** (23:1996)
- (iv) Johnson, J.T and Kimberley, R.P., Is Goodwill an Asset? **Accounting Horizons** (12:1998)
- (v) Schatt, A., Gross, E., Quelle est l'incidence des normes IAS/IFRS sur les capitaux propres des entreprises françaises ? **Revue Française de Comptabilité** (396:2007)

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