How does the market view interests in jointly controlled entities? [*]

¿Cómo valora el mercado las entidades bajo control conjunto?

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ABSTRACT This study addresses whether the market views the venturer's share of the assets and liabilities of Jointly Controlled Entities (JCEs) as assets and liabilities of the venturer. The role of JCEs' assets and liabilities is a key question underlying the international debate on the appropriate reporting method for interests in JCEs. We estimate a cross-sectional valuation model based on that used in Landsman *et al.* (2008). Our valuation model is one that includes measures of the venturer's assets, liabilities and net income as well as measures of the venturer's share of JCEs' assets and liabilities. Findings are based on comparisons of assets and liabilities coefficients. They suggest that investors view the venturer's share of JCEs' assets and liabilities similarly to the assets and liabilities of the venturer. The findings thus provide some tentative support against the IASB's decision to eliminate proportionate consolidation from IAS 31.

KEYWORDS Jointly controlled entities; Equity method; Proportionate consolidation.

RESUMEN Este estudio examina si el mercado valora la proporción del partícipe en los activos y pasivos de las entidades bajo control conjunto (ECC) como activos y pasivos del propio partícipe. El papel desempeñado por los activos y pasivos de las ECC es una cuestión clave en el debate internacional sobre qué método de presentación de las participaciones en ECC es el más apropiado. Hemos estimado un modelo de valoración basado en el utilizado por Landsman *et al.* (2008). Nuestro modelo incluye mediciones de los activos y pasivos del partícipe y de su rendimiento neto, así como mediciones de su proporción en los activos y pasivos en las ECC. Los resultados sugieren que los inversores consideran la proporción del partícipe en los activos y pasivos de las ECC de forma similar a los activos y pasivos del partícipe. De esta forma se proporciona un primer apoyo en contra de la decisión del IASB de eliminar la consolidación proporcional de la NIC 31.

PALABRAS CLAVE Entidades bajo control conjunto; Procedimiento de puesta en equivalencia; Método de consolidación proporcional.

1. INTRODUCTION

Joint ventures are an important form of inter-organizational cooperation because they allow firms to accomplish complex mutual tasks that would otherwise be impossible using simple arm's length contracts without actually acquiring one another. Some literature provides explanations for the creation of joint ventures, most of which are based on the transaction costs theory (e.g. Hennart, 1988; Hennart, 1991; Hennart and Reddy, 1997; and Chen and Hennart, 2004).

In light of the recent trend of globalisation, this feature of joint ventures is very important to multinational companies. These firms have complex operations, making simple arm's length contracts inadequate. They are also very large, which makes acquisitions extremely expensive. Joint ventures are flexible mechanisms that allow partners to form a business which operates in one or more countries (Moskalev and Swensen, 2007).

Several empirical studies also demonstrate that the market views joint ventures as value enhancing for the venturer, be they domestic joint ventures (e.g. McConnel and Nantell, 1985; Koh and Venkatraman, 1991; Johnson and Houston, 2000) or international joint ventures (e.g. Lee and Wyatt, 1990; Prather and Min, 1998; Irwanto *et al.*, 1999).

When this kind of inter-organisational cooperation involves the creation of a separate business entity, the resulting joint venture is usually called a Jointly Controlled Entity (JCE). Two different approaches to accounting for interests in JCEs are required or allowed, respectively, by different standard setters around the world, namely the equity method and proportionate consolidation. While the equity method is or was usually required in Anglo-Saxon countries, proportionate consolidation is used in the majority of the continental European countries.

The IAS 31, *Interests in Joint Ventures* (2003), allows firms to choose between proportionate consolidation and the equity method, but the IASB has been involved in a project that aims to eliminate the proportionate consolidation option altogether. This change would have a significant impact in countries where proportionate consolidation is the most widely used method. The venturer's share of JCEs' assets and liabilities will be removed from the venturer's statement of financial position, which could have a significant impact on financial ratios and financial statement analysis. This change would be of particular importance for firms that do a large part of their business through joint ventures.

The majority of the Comment Letters in response to the IASB's Exposure Draft 9, Joint Arrangements, take a position against this decision. European venturers using the proportionate consolidation method highlight the importance of joint venturers to their core business and the use of this method for both internal and external reporting purposes. For example, the French Technip Group argues that «A very significant and strategic part of our business is organized through joint ventures [...] ED 9 will increase disconnection between internal and external reporting and will perturb the company's communication» (Comment Letter 12). The John Wood Group (UK) argues that «In such joint ventures, although we operate in a regime of joint control over all material matters, we have significant involvement in the day-to-day management of the business activities. We

believe that the proportionate consolidation method is the most appropriate accounting treatment to reflect the substance of the arrangements» (Comment Letter 57)[1].

In general, the comment letters argue that insufficient evidence is presented in Exposure Draft 9 to demonstrate that the equity method better reflects the substance and the economic reality of JCEs than the model that has been used for years in a considerable number of countries worldwide. They suggest that further conceptual analysis of this issue should be led by the IASB. However, despite some opinions to the contrary, IAS 31 was superseded in May 2011 by IFRS 11, *Joint Arrangements* (2011), which requires interests in JCEs to be recognized as an investment and to be accounted for using the equity method. This new standard will go into effect on 1 January 2013.

The little extant literature on financial reporting of interests in JCEs does not support the IASB decision of eliminating proportionate consolidation. Some previous studies provide empirical evidence of the incremental information content of financial statements prepared by using proportionate consolidation when compared to the equity method (e.g. Graham *et al.*, 2003; Stoltzfus and Epps, 2005; Bauman, 2007). Other studies provide empirical evidence on the value-relevance of the additional information presented by venturers about their interests in joint ventures (e.g. Lim *et al.*, 2003; Kothavala, 2003; Bauman, 2003; Soonawalla, 2005; O'Hanlon and Taylor, 2007).

The main argument used by the IASB in support of eliminating proportionate consolidation is that this method is not consistent with the framework definitions of assets and liabilities. In other words, proportionate consolidation leads to recognition of assets and liabilities that do not belong to the venturer. Discussion on the nature of the assets and liabilities of JCEs could benefit from an analysis of this issue from a capital market perspective. There is a gap in our knowledge of how the market views the venturer's share of JCEs' assets and liabilities. We address this gap by investigating whether the market views the venturer's share of JCEs' assets and liabilities similarly to the assets and liabilities of the venturer. We answer this question by estimating a cross-sectional valuation model based on that used in Landsman *et al.* (2008), which addressed a different but economically similar research question related to special purpose entities.

The empirical analysis relies on French listed firms, which have been required to apply the International Financial Reporting Standards (IFRS) since 2005. These firms are thus allowed to use either the equity method or proportionate consolidation, and they are also required to disclose the information that would be needed to compute the financial data if the alternative method was chosen in the notes section of the financial statements. In France, firms were required to use the proportionate consolidation method before mandatory adoption of the IFRS in 2005 and they are, in general, still applying this method under the IFRS. Lourenço and Curto (2010) found that listed firms in the United Kingdom use the equity method instead of proportionate consolidation as a way of avoiding debt covenant costs, which suggests that firms may engage in joint agreements as a way of off-balance-sheet financing. This would not be the case in France, given that the equity method has not been allowed in this country for long time. Therefore, French firms seem

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(1)   These Comment Letters are available at www.iasb.org/current+projects/IASB+projects/joint+ventures.htm.

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to engage in JCEs due to economic incentives rather than for the purpose of off-balance-sheet financing, which provides an appropriate setting for analysing the value relevance of the assets and liabilities of JCEs.

The empirical study is based on a valuation model including either measures of the venturer's assets, liabilities and net income or measures of the venturer's share of JCEs' assets and liabilities. Findings are based on comparisons of assets and liabilities coefficients and they suggest that the market views the venturer's share of JCEs' assets and liabilities similarly to the assets and liabilities of the venturer.

This study contributes to accounting research in several ways. First, it provides new evidence on the value relevance of JCEs' assets and liabilities. A few papers examine the incremental explanatory power of JCEs' liabilities in explaining stock prices, over the traditional summary measures as earnings and book value of equity, suggesting that joint venture amounts are associated with share prices (Bauman, 2003; O'Hanlon and Taylor, 2007). Our study adds to this literature by analyzing the value relevance of JCEs' assets and liabilities compared to those of the venturer. Second, we provide additional evidence on the value relevance of assets and liabilities of non-majority-owned investees. Landsman et al. (2008) investigate the value relevance of assets and liabilities held by special purpose entities (SPE) in order to find whether the market views such SPE assets and liabilities as belonging to the sponsor-originator. We extend this analysis to the issue of JCEs. Finally, we provide further empirical evidence supporting the use of proportionate consolidation. Few papers analyse the incremental information content of proportionally consolidated financial statements amounts as compared to the equity method amounts in explaining future return on equity (Graham *et al.*, 2003), bond risk (Stoltzfus and Epps, 2005) and bond rating (Bauman, 2007). We analyse this issue from a capital market perspective.

Our research could also provide a useful contribution to the international debate on the reporting method for interests in JCEs. Our results suggest that investors are aware of the significant involvement of venturers in joint venture activities, each contributing different critical assets to the success of the joint venture and, thus, interpret the JCEs' assets and liabilities as if they belong to the venturers. Therefore, we provide some tentative arguments against the IASB decision to eliminate proportionate consolidation from IAS 31. Although findings from the value relevance literature often have implications for issues of interest to non-academic constituents, value relevance studies typically do not draw normative conclusions or make specific policy recommendations (Barth et al, 2001). This study should therefore be viewed as an additional source of information when analysing this issue.

There are also implications for financial statement users. For firms that use the equity method, a set of assets and liabilities that are viewed by the market as belonging to the venturer are excluded from the statement of financial position and presented in the notes section of the financial statements. Investors sometimes undervalue disclosed amounts either through lack of expertise or due to the cost of processing note information (Jifri and Citron, 2009). Therefore, our results can act to remind financial statement users of

the importance of analysing the additional information on JCEs provided by the venturers in the notes.

The remainder of the paper is organized as follows. Section 2 provides an overview of the alternative reporting methods for interests in JCEs. Section 3 gives a review of previous literature. Section 4 describes the research design. Section 5 presents the findings. And finally, section 6 presents a summary and some concluding remarks.

2. REPORTING METHODS FOR INTERESTS IN JOINTLY CONTROLLED ENTITIES

There is no international consensus on the appropriate method for reporting interests in JCEs. Different procedures are required or allowed by different standards setters around the world, thus reducing the international comparability of financial statements.

In the United States (US), the APB Opinion 18, *The Equity Method of Accounting for Investments in Common Stock* (1971) requires firms to apply the equity method, except in the construction and extractive industries, where proportionate consolidation is permitted. In Australia, the AASB 1006, *Interests in Joint Ventures* (1998), also requires use of the equity method. However, in July 2004, the AASB created Australian equivalents to IASB standards in order to ensure that firms applying AASB standards will also be complying with IASB standards. The Australian equivalent to the IASB standard on joint ventures, the AASB 131, *Interests in Joint Ventures* (2004), started out by requiring the equity method, but an amendment included in 2007 allows JCEs to be accounted for using proportionate consolidation. In Canada, the Canadian Institute of Chartered Accountants Handbook, Section 3005, *Interests in Joint Ventures* (1994), requires proportionate consolidation.

The IAS 31, Financial Reporting of Interests in Joint Ventures (1998), recommends proportionate consolidation although it allows the equity method. However, the second version of this standard, the IAS 31, Interests in Joint Ventures (2003), allows firms to apply either proportionate consolidation or the equity method, without identifying any preference. The recently issued IFRS 11, Joint Arrangements (2011), which replaces IAS 31, requires firms to apply the equity method.

In Europe, in the pre-IFRS period there was a difference between the United Kingdom (UK) and the continental European countries. In the UK, the Financial Reporting Standard 9, Associates and Joint Ventures (1997), requires JCEs to be accounted for using the gross equity method [2], an extension of the equity method. By contrast, firms in continental Europe usually apply proportionate consolidation. This reporting method is required in some countries (e.g. France) and allowed by some others (e.g. Germany). Kvaal

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(2)   The gross equity method is a form of equity method under which the venturer's share of the aggregate gross assets and liabilities underlying the net amount included for the investment in the JCE is shown on the face of the balance sheet. Thus, the difference between the two methods lies in the presentation of the investment in the JCE. Under the gross equity method, the presentation expands the information provided by the traditional equity method without changing its nature. The gross assets and gross liabilities of the JCEs are memorandum figures only and they are not assets and liabilities of the venturer (Pierce and Brennan, 2003).

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and Nobes (2010) provide significant evidence that pre-IFRS national practice continues where this is allowed within the IFRS. Thus, the equity method would prevail in the United Kingdom in the post-IFRS period, while proportionate consolidation would be a typical practice in some continental European countries, as in the case of France.

According to the equity method, interests in JCEs should be reported as an asset on the venturer's balance sheet. They should be measured initially at cost and subsequently adjusted to reflect the venturer's share of changes in the JCEs' net assets. Under proportionate consolidation, the venturer's balance sheet should not report interests in the JCEs as an asset; on the contrary, the venturer's share of JCEs' assets and liabilities should be reported as assets and liabilities of the venturer. The gross equity method generally applied in the UK provides information in addition to that given by the traditional equity method but without changing its nature.

The two different approaches for reporting interests in JCEs, the equity method (or the gross equity method) and proportionate consolidation lead to a difference in the amounts presented in the financial statements as assets and liabilities, while equity and income remain the same. In the balance sheet prepared using the equity method, total assets include the venturer's assets and the interest in the JCE, measured by the venturer's net equity in the JCE, and total liabilities include only the venturer's liabilities. The venturer's share of the JCE's liabilities is offset by the venturer's share of the JCE's assets. Under proportionate consolidation, the venturer's share of the JCE's assets and liabilities is combined with the venturer's assets and liabilities, respectively, as separate line items or line-by-line. Thus, total assets and total liabilities will be higher than when the equity method is applied. These differences could also have a significant impact on financial ratios such as the return on assets and leverage.

Considering the lack of international consensus on this issue, a working group was created by the G4+1 [3] to analyze how venturers should report their interests in JCEs. This working group was asked to propose an appropriate conceptual and practical basis for the development of international consensus on the basic questions of accounting for and presentation and disclosure of interests in a JCEs. The output of this working group, a special report entitled *Reporting interests in joint ventures and similar arrangements* (1999), recommends adoption of the equity method as the sole method of presenting the interests of venturers in JCEs, but supplemented by appropriate disclosures. The main arguments in favour of this approach arise from the uncertainty about whether there is control over the venturer's share of the JCEs' assets and liabilities instead of control over just the interest in the JCEs' net assets.

In response to pressure to eliminate international differences, the IASB started a short-term project in 2002 to achieve convergence by removing the option of accounting for interests in JCE using either the equity method or proportionate consolidation from IAS 31. The Australia Accounting Standards Board (AASB) was asked to advance with an exami-

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[3]   The G4+1 was a group of accounting standard setters composed of representatives from Australia, Canada, New Zealand, the United Kingdom and the United States of America, with representatives from the IASB participating as observers.

nation of the advantages and disadvantages of the different methods of accounting for interests in JCEs.

Given the complexity and the importance of this topic, the IASB decided in 2003 not to act in the short-term but rather that the AASB should undertake a broader and long-term research project on joint venture arrangements. However, in 2004, the IASB asked the AASB to divide the project in two parts, *(i)* a short-term project aimed at obtaining convergence in accounting for interests in JCEs by removing the option of accounting for interests in JCEs from IAS 31 and *(ii)* a long-term research project dealing with issues identified in the research team's project proposal. The AASB expressed concern over its ability to carry out the short-term convergence project without having first completed the research project, because deciding on whether to retain the option to use the equity method or proportionate consolidation would depend on a proper understanding of the nature of interests in joint ventures. Finally, as a result of the strong pressure to eliminate international differences, the IASB decided to *(i)* remove the short-term convergence project from the AASB and conduct this project through the IASB and FASB joint convergence project team and *(ii)* ask the AASB to develop and accelerate the long-term and more fundamental review of joint venture arrangements.

Thus, in 2007, the IASB issued the Exposure Draft 9, *Joint arrangements*, which proposes eliminating proportionate consolidation from IAS 31. The IASB has received 113 letters commenting on this Exposure Draft, 67 of which oppose the removal of proportionate consolidation. The majority argue that the Exposure Draft 9 does not explain the reason why the equity method is better than proportionate consolidation. They also argue that considering proportionate consolidation inconsistent with the definitions of assets and liabilities is not a sufficient reason to eliminate this method. Finally, they advocate that joint control and significant influence are different concepts and, therefore, interests in JCEs and investments in associates should not be reported in the same way. Despite these criticisms, the IAS 31 was superseded by the IFRS 11, *Joint arrangements* (2011), which requires interests in JCEs to be recognized as an investment and to be accounted for using the equity method. This new standards will go into effect on 1 January 2013.

3. LITERATURE REVIEW

Despite the trend towards use of the equity method, some previous studies provide empirical evidence of the incremental usefulness of accounting information prepared according to the proportionate consolidation method as compared to the equity method (e.g. Graham *et al.*, 2003; Stoltzfus and Epps, 2005; Bauman, 2007). Graham *et al.* (2003) investigate the ability of financial statements presented by Canadian firms using proportionate consolidation versus *pro forma* financial statements prepared using the equity method to predict future return on equity. This study is based on differences in the incremental explanatory power of DuPont ratios computed by each method to predict the next year's return on equity in addition to the current period's return on equity. These authors found evidence that DuPont ratios better predict future return on equity when they are based on proportionate consolidation rather than the equity method.

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Stoltzfus and Epps (2005) and Bauman (2007) examine the association between bond risk premiums and bond ratings of US firms and accounting figures reported by the equity method or restated to conform to the proportionate consolidation method. Stoltzfus and Epps (2005) provide empirical evidence that accounting figures based on proportionate consolidation are more strongly associated with bond risk premiums when companies guarantee the debt of their joint ventures. Bauman (2007) uses a sample of manufacturing firms and provides empirical evidence that financial statements prepared using the proportionate consolidation method are more relevant than financial statements prepared using the equity method in explaining bond ratings, regardless of whether or not guarantees of investee obligations are included in the model. There are also some studies presenting evidence about the usefulness of additional information provided by venturers about their interests in joint ventures (e.g. Lim *et al.*, 2003; Kothavala, 2003; Bauman, 2003; Soonawalla, 2005; O'Hanlon and Taylor, 2007). Lim *et al.* (2003) investigate the effect of supplementary information about joint ventures disclosed by Singapore firms on information asymmetry among market participants as measured by bid-ask spreads. They find evidence that disclosure of supplementary information regarding joint ventures is associated with a significant decline in bid-ask spreads. Kothavala (2003) investigates whether knowing joint venture amounts provides incremental explanatory power for explaining market risk. Empirical evidence for a sample of Canadian firms suggests that failure to disclose disaggregated joint venture accounting amounts can mask risk relevant information.

Bauman (2003) and O'Hanlon and Taylor (2007) examine the value relevance of information on off-balance-sheet activities that are not fully reported under the equity method. Bauman (2003) examines US manufacturing firms reporting enough data to permit proportionate consolidation of equity method investees. He finds evidence that the market places a negative value on investee-guaranteed off-balance-sheet obligations. O'Hanlon and Taylor (2007) examine the value relevance of mandated disclosures by UK firms of the investor's share of liabilities of equity-accounted associates and joint ventures. They find evidence of a negative valuation impact of liability disclosures for joint venturers. Using Canadian, UK and US data, Soonawalla (2005) finds that aggregating joint venture and associate earnings components results in loss of forecasting and valuation relevant information.

There is also some literature on the determinants of the equity method and proportionate consolidation to account for interests in joint ventures (Whittred and Zimmer, 1994; Lourenço and Curto, 2010). Whittred and Zimmer (1994) use the case of accounting for joint ventures in the Australian extractive industries to demonstrate how accounting methods can be determined by the type of assets and by the manner in which they are financed. Lourenço and Curto (2010) examine the UK setting where, due to the transition to IFRS, firms had to change their reporting method for interests in JCE from the gross equity method to the equity method or to proportionate consolidation. They find that the type of JCE influences the management's choice to report interests in this kind of joint venture using the equity method or proportionate consolidation. More specifically, venturers are more likely to change to proportionate consolidation when the majority of its JCEs are cases of heterogeneous cooperation between venturers (Link JCEs). Additionally, they

provide empirical evidence supporting the importance of debt covenant costs and monitoring costs in choosing between alternative reporting methods.

In sum, the little extant literature on accounting for joint ventures highlights the importance of proportionate consolidation for reporting interests in JCEs. Some studies examine the relative information content of equity method and proportionally consolidated financial statements amounts to explain future return on equity, bond risk premiums or bond rating. Others analyse the information content of supplementary information about joint ventures to explain market risk. There are also few studies on the value relevance of the investor's share of liabilities of associates and joint ventures which are not fully reported under the equity method. They provide empirical evidence of the incremental explanatory power of JCEs' liabilities in explaining stock prices over traditional summary measures, such as earnings and book value of equity, which suggests that joint venture amounts are associated with share prices. Our study adds to this literature by examining the value relevance of the venturer's share of JCEs' assets and liabilities compared to those of the venturer.

There is very little extant literature on the value relevance of assets and liabilities of non-majority owned investees. Landsman *et al.* (2008) investigate the value relevance of assets and liabilities held by special purpose entities (SPE) in order to find whether the market views such SPE assets and liabilities as belonging to the sponsor-originator. We extend this analysis to the issue of JCEs by providing evidence on market perceptions of JCEs' assets and liabilities.

4. RESEARCH DESIGN

4.1. EMPIRICAL MODELS

Our research question is whether the market views the venturer's share of JCEs' assets and liabilities as assets and liabilities of the venturer or whether the risks and rewards associated with the venturer's share of JCEs' assets and liabilities reside with the JCEs. We address this question by estimating a cross-sectional valuation model based on that used in Landsman *et al.* (2008), which addresses a different but economically similar research question, i.e. whether the risks and rewards associated with the transferred assets and debt issues of special purpose entities reside with the sponsor-originator or with the special purpose entity.

As in Landsman *et al.* (2008), our analysis relies on the accounting-based valuation model developed in Ohlson (1995)[4]. This model shows that the market value of equity is a function of two summary measures of information reflected in financial statements, namely the book value of equity and earnings. Given our focus on assets and liabilities, we split the book value of equity into two components, total assets and total liabilities as reported in the

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(4) This approach is used in several empirical studies on the value relevance of financial and non-financial information (e.g. Bryant, 2004; Matolcsy and Wyatt, 2008; Landsman *et al., 2008).*

consolidated financial statements. Thus, we start by estimating a benchmark regression given by model *(1)*.

$$Price_{it} = \alpha_0 + \alpha_1 A\_PCM_{it} + \alpha_2 L\_PCM_{it} + \alpha_3 NI_{it} + \varepsilon_{it} \tag{1}$$

where *Price* is the share price at the fiscal year-end [5], *A_PCM* and *L_PCM* represent total assets and total liabilities computed by proportionate consolidation and *NI* is the net operating income. All the variables are on a per share basis, one of the solutions for dealing with scale problems in accounting research [see Barth and Clinch (2009) for a summary of the econometric issues related to scale effects on regression models].

In order to assess whether the market views the venturer's share of JCEs' assets and liabilities similarly to the assets and liabilities of the venturer, we use a new model, Model (2), which includes the venturer's share of JCEs' assets and liabilities.

$$Price_{it} = \alpha_0 + \underbrace{\alpha_1 A\_Venturer_{it} + \alpha_2 A\_JCE_{it}}_{A\_PCM} + \underbrace{\alpha_3 L\_Venturer_{it} + \alpha_4 L\_JCE_{it}}_{L\_PCM} + \alpha_5 N_{it} + \varepsilon_{it} \tag{2}$$

where *A_Venturer* is total assets excluding the venturer's share of JCEs' assets, *L_Venturer* is total liabilities excluding the venturer's share of JCEs' liabilities and, finally, *A_JCE* and *L_JCE* are the venturer's share of JCEs' assets and liabilities, respectively.

Following Landsman *et al.* (2008), our predictions are as follows: If the market views the venturer's share of JCEs' assets and liabilities in a similar way as it views the assets and liabilities of the venturer, then $\alpha_1 = \alpha_2$ and $\alpha_3 = \alpha_4$ in model *(2)*. If on the other hand the market does not view the venturer's share of JCEs' assets and liabilities as assets and liabilities of the venturer, then $\alpha_2 = 0$ and $\alpha_4 = 0$ in Model *(2)*. An intermediate case is also possible whereby the market views the venturer's share of JCEs' assets and liabilities as a different kind of venturer's assets and liabilities, for which we predict $|\alpha_1 - \alpha_2| > 0$ and $|\alpha_3 - \alpha_4| > 0$ in model *(2)*.

However, in order to minimize the multicollinearity impact on the comparison of coefficients resulting from a high correlation between *A_JCE* and *L_JCE*, we replace model *(2)* with two models, models *(3)* and *(4)*, each of which excludes one of these two variables.

$$Price_{it} = \alpha_0 + \underbrace{\alpha_1 A\_Venturer_{it} + \alpha_2 A\_JCE_{it}}_{A\_PCM} + \alpha_3 L\_PCM_{it} + \alpha_4 N_{it} + \varepsilon_{it} \tag{3}$$

$$Price_{it} = \alpha_0 + \alpha_1 A\_PCM_t + \underbrace{\alpha_2 L\_Venturer_{it} + \alpha_3 L\_JCE_{it}}_{L\_PCM} + \alpha_4 N_{it} + \varepsilon_{it} \tag{4}$$

It is also expected that, if the market views the venturer's share of JCEs' assets and liabilities in a similar way as it views the assets and the liabilities of the venturer, then $\alpha_1 = \alpha_2$ in model *(3)* and $\alpha_2 = \alpha_3$ in model *(4)*.

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(5)   Untabulated findings reveal that our inferences are not sensitive to using prices as of fiscal year-end or as of three months after fiscal year-end.

Following previous literature on the value relevance of accounting numbers (e.g. Barth *et al.*, 2008), control variables are used in this study to control for the firm's size, leverage, insider ownership, auditor, international listing and industry. Thus, models *(1), (2), (3)* and *(4)* are estimated including the following variables: *Size, Leverage, Close, Auditor, ExList* and *Industry*. We expect the variables Size, Auditor and ExList to be positively related and the variables *Leverage* and *Close* to be negatively related to the market value of equity.

The variable *Size* is the natural logarithm of market value of equity as of the end of the year, *Leverage* is the end-of-year total debt divided by end-of-year market capitalization, *Close* is the end-of-year percentage of shares held by insiders, *Auditor* is an indicator that equals 1 if the auditor is one of the Big-4 firms, *ExLIST* is an indicator that equals 1 if the firm is listed in a foreign stock exchange. There are three dummies for industry: the *Mining* dummy, which equals one in the case of SIC 1 and zero otherwise, the *Industrial* dummy, which equals one in cases of SIC 2, 3 and 5 and zero otherwise and the *Utilities* dummy, which equals one in the case of SIC 4 and zero otherwise.

Finally, due to the heteroscedasticity problems of the observed errors, and following Easton and Sommers (2003), we estimate the models via a weighted least squares regression (WLS - the weight variable is the share price).

4.2. SAMPLE AND DATA

The empirical analysis relies on French listed firms, which have been required to apply IFRS since 2005. These firms are therefore allowed to use either the equity method or the proportionate consolidation method, and they must also disclose the information needed to compute financial data as if the alternative method was chosen in the notes section of the financial statements. In France, firms were required to apply proportionate consolidation before the mandatory adoption of IFRS by 2005 (*Loi sur les Sociétés Commerciales,* art. 357-3) and they are, in general, still applying this method according to the IFRS. In contrast with Anglo-Saxon countries where the equity method —the most widely used method— might be used as a way of hiding debt, in France firms seem to engage in JCEs due to economic incentives and not as a way of off-balance-sheet financing. This is therefore an appropriate setting for analysing the value relevance of JCEs' assets and liabilities.

Our analysis relies on listed firms that were required to apply IFRS by the financial year beginning on or after 1 January 2005 and comprises the first four years of mandatory adoption of IFRS (2005-2008). The name and website of each of these firms are drawn from the Thomson Worldscope Database. We start by collecting the annual consolidated financial statements presented according to IFRS from the firms' websites. We then select those firms that report interests in JCEs in at least one of the years presented according to IFRS. We focus only on those venturers applying proportionate consolidation, but including the few cases of JCEs accounted for using the equity method would not affect our results. Two types of observations are excluded from the sample. First, we exclude a small number of observations that do not have data available for all the variables included in the estimated models. Second, in order to mitigate the effects of influential

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observations, we exclude all observations in which the value for at least one variable is higher than three standard deviations from the mean (excluding control variables) as well as those observations with studentized residuals greater than 2 in absolute value. The final sample is composed of 147 firm-year observations.

The accounting data used in the empirical analysis are taken from the firms' annual reports. Total assets and total liabilities computed by proportionate consolidation and net income are collected directly from the venturer's balance sheet and income statement. The venturer's share of JCEs' assets and liabilities is collected from the notes. Total assets (liabilities) excluding the venturer's share of JCEs' assets (liabilities) are computed as the difference between the previously declared variables. Finally, the data on share prices, the number of shares and control variables are from the Thompson Worldscope database.

5. FINDINGS

5.1. Descriptive statistics

Tables 1, 2 and 3 present descriptive statistics relating to the variables used in our analysis, considering 147 firm-year observations for the first four years of mandatory adoption of IFRS (2005-2008). Table I indicates that aggregation of the venturer's assets and liabilities with the venturer's share of JCEs' assets and liabilities has a significant economic effect. For example, the mean of the venturer's assets and liabilities excluding the venturer's share of JCEs' assets and liabilities is 179.981 and 155.718, respectively; the mean of the venturer's total assets and total liabilities computed by proportionate consolidation (including the venturer's share of JCEs' assets and liabilities) is 196.345 and 166.689, respectively. Thus, the mean percentage of the venturer's share of JCEs' assets and liabilities in relation to the venturer's total assets and total liabilities is around 10%. With regard to the control variables, the majority of the venturers are audited by a Big-4 firm and only a few venturers are listed on a foreign stock exchange. Untabulated findings show that including foreign exchange listing venturers in our sample does not change the results. The industrial is the predominant sector in our sample.

TABLE 1
DESCRIPTIVE STATISTICS

	Mean	Median	SD	Min.	Max.
Test Variables					
Price	57.989	40.746	89.534	0.900	700.000
A_PCM	196.345	90.565	373.649	0.493	2221.361
A_Venturer	179.981	73.790	357.720	0.448	2210.986
A_JCE	16.364	2.439	43.393	0.002	278.395
A_JCE (%)	0.101	0.036	0.151	0.000	1.072

(Continue in next page)

<center>TABLE 1 (CONT.)</center>
<center>DESCRIPTIVE STATISTICS</center>

L_PCM	166.689	59.617	358.127	0.261	2164.394
L_Venturer	155.718	52.173	348.979	0.216	2164.269
L_JCE	10.971	1.428	28.025	0.001	178.467
L_JCE (%)	0.098	0.038	0.165	0.000	1.367
NI	3.582	2.488	4.429	-3.866	26.437
Control variables					
Size	15.029	15.413	1.969	10.537	18.816
Leverage	1.491	0.517	4.030	0.001	40.977
Close	0.451	0.511	0.277	0.000	1.000
Auditora	0.612				
ExLista	0.177				
Mining[a]	0.102				
Industrial[a]	0.442				
Utilitiesa	0.218				
Othera	0.238				

Price is the market price at the fiscal year-end; *A_PCM* is total assets computed by proportionate consolidation; *A_Venturer* is total assets excluding the venturer's share of JCEs' assets; *A_JCE* is venturer's share of JCEs' assets; *A_JCE* (%) is the percentage of *A_JCE* on *A_Venturer*; *L_PCM* is total liabilities computed by proportionate consolidation; *L_JCE* is venturer's share of JCEs' liabilities; *L_venturer* is total liabilities excluding the venturer's share of JCEs' liabilities; *L_JCE* (%) is the percentage of *L_JCE* on *L_Venturer*; *NI* is net operating income; Size is the natural logarithm of market value of equity as of the end of the year; *Leverage* is end-of-year total debt divided by end-of-year market capitalization; *Close* is the percentage of shares held by insiders; *Auditor* is an indicator that equals 1 if the auditor is one of the Big-4; *ExLIST* is an indicator that equals 1 if the firm is listed in a foreign stock exchange. Industry variables: *Mining* (SIC 1); *Industrial* (SIC 2, 3 and 5); *Utilities* (SIC 4). Industry variables: *Mining* (SIC 1); *Industrial* (SIC 2, 3 and 5); *Utilities* (SIC 4); *Other* (SIC 6, 7 and 8).

The tested variables are expressed in euros and deflated by the number of shares outstanding. The variable *Size* is the natural logarithm of market value of equity that is expressed in thousands of euros. The sample period is from 2005 to 2008. The number of firm-year observations is 147 (2005: 40; 2006: 42; 2007: 37; 2008: 28).

[a] The mean values for these variables represent the percentage of firms for which the variable assumes the value 1.

Table 2 presents the mean values by industry. Aggregation of the venturer's assets and liabilities with the venturer's share of JCEs' assets and liabilities has a significant economic effect in all the industries. The percentage of the venturer's share of JCEs' assets and liabilities in relation to the venturer's total assets and total liabilities is higher in the mining and industrial sectors than it is in the utilities and other sectors. However, untabulated findings of the non-parametric Mann-Whitney test show that these differences are not statistically significant.

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TABLE 2

DESCRIPTIVE STATISTICS BY INDUSTRY

	Mining	Industrial	Utilities	Other	All Industries
Price	38.628	47.693	99.607	47.359	57.989
A_PCM	78.114	126.442	110.795	455.053	196.345
A_Venturer	71.169	109.817	100.870	429.251	179.981
A_JCE	6.945	16.626	9.925	25.801	16.364
A_JCE (%)	0.120	0.123	0.085	0.068	0.101
L_PCM	60.840	95.325	81.866	422.140	166.689
L_Venturer	54.483	84.843	73.713	405.704	155.718
L_JCE	6.356	10.482	8.153	16.436	10.971
L_JCE (%)	0.156	0.112	0.076	0.069	0.098
NI	2.547	3.293	4.017	4.164	3.582
N	15	65	32	35	147

Price is the market price at the fiscal year-end; *A_PCM* is total assets computed by proportionate consolidation; *A_Venturer* is total assets excluding the venturer's share of JCEs' assets; *A_JCE* is venturer's share of JCEs' assets; *A_JCE* (%) is the percentage of *A_JCE* on *A_Venturer*; *L_PCM* is total liabilities computed by proportionate consolidation; *L_JCE* is venturer's share of JCEs' liabilities; *L_venturer* is total liabilities excluding the venturer's share of JCEs' liabilities; *L_JCE* (%) is the percentage of *L_JCE* on *L_Venturer*; *NI* is net operating income; Industries: *Mining* (SIC 1); *Industrial* (SIC 2, 3 and 5); *Utilities* (SIC 4); *Other* (SIC 6, 7 and 8).

Variables are expressed in euros and deflated by the number of shares outstanding. The sample period is from 2005 to 2008. The number of firm-year observations is 147 (2005: 40; 2006: 42; 2007: 37; 2008: 28).

Table 3 presents correlations for the continuous variables used in our analysis. Most of the variables are statistically correlated with Price. As in Landsman *et al.* (2008), table 3 shows that each of the assets measures is highly correlated with the corresponding liabilities measures. However, this is not the case for the main variables under analysis. The venturer's assets/liabilities are not as highly correlated with the venturer's share of JCEs' assets/liabilities *(A_Venturer vs, A_JCE: 0.315; L_Venturer vs, L_JCE: 0.291)*. Furthermore, as stated in Section 4.1., we expect to minimize the multicollinearity impact on the coefficients comparison resulting from a high correlation between assets and liabilities by splitting model *(2)* into two models, *(3)* and *(4)*, each of which excludes, respectively, *L_JCE* or *A_JCE*.

5.2. REGRESSION RESULTS

Table IV presents regression summary statistics resulting from the WLS estimation of model *(1)*, the benchmark model, including the estimated coefficients for the control variables. The estimates for all the balance sheet coefficients are statistically significant and they have the expected sign, i.e., the *A_PCM* and *NI* coefficients are positive and the *L_PCM* coefficient is negative. Most of the control variables are also statistically significant and their sign is in accordance with the literature. For example, venturers audited by a Big-4 firm and venturers listed on a foreign stock exchange are associated with a higher market price. In contrast, venturers with greater leverage are associated with a lower market price.

TABLE 3
CORRELATIONS

	Price	A_PCM	A_Venturer	A_JCE	L_PCM	L_Venturer	L_JCE	NI	Size	Leverage
Price	1									
A_PCM	0.282***	1								
A_Venturer	0.262***	0.994***	1							
A_JCE	0.277***	0.417***	0.315***	1						
L_PCM	0.229***	0.997***	0.995***	0.382***	1					
L_Venturer	0.207***	0.991***	0.998***	0.313***	0.997***	1				
L_JCE	0.351***	0.400***	0.297***	0.991***	0.361***	0.291***	1			
NI	0.781***	0.466***	0.433***	0.443***	0.407***	0.379***	0.489***	1		
Size	0.092	0.183**	0.212**	-0.171**	0.198**	0.217***	-0.165**	0.029	1	
Leverage	-0.103	0.285***	0.282***	0.132	0.299***	0.299***	0.103	-0.121	0.011	1
Close	0.237***	-0.093	-0.121***	0.201**	-0.121	-0.140*	0.206**	0.247***	-0.382***	0.081

***, ** and * indicate significant at the 0.01, 0.05 and 0.10 levels respectively.

Price is the market price at the fiscal year-end; A_PCM is total assets computed by proportionate consolidation; A_Venturer is total assets excluding the venturer's share of JCEs' assets; A_JCE is venturer's share of JCEs' assets; L_PCM is total liabilities computed by proportionate consolidation; L_venturer is total liabilities excluding the venturer's share of JCEs' liabilities; L_JCE is venturer's share of JCEs' liabilities; NI is net operating income; Size is the natural logarithm of market value of equity as of the end of the year; Leverage is end-of-year total debt divided by end-of-year market capitalization; Close is the percentage of shares held by insiders.

The sample period is from 2005 to 2008. The number of firm-year observations is 147 (2005: 40; 2006: 42; 2007: 37; 2008: 28).

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TABLE **4**

BENCHMARK MODEL REGRESSION

Dependent variable: price

	Coefficient	t-stat	p-value
C	-14.086	-5.060	0.000
A_PCM	0.888	14.300	0.000
L_PCM	-0.905	-14.033	0.000
NI	2.885	8.926	0.000
Size	1.454	6.068	0.000
Leverage	-0.092	-2.992	0.003
Close	-3.950	-1.215	0.226
Auditor	1.275	2.334	0.021
ExList	-1.651	-0.891	0.375
Mining	3.508	2.884	0.226
Industrial	-0.588	-0.715	0.476
Utilities	4.487	2.163	0.032
Adj R^2	0.862		
F-value	84.213 (0.000)		

Price is the market price at the fiscal year-end; *A_PCM* is total assets computed by proportionate consolidation; *L_PCM* is total liabilities computed by proportionate consolidation; *NI* is net operating income; *Size* is the natural logarithm of market value of equity as of the end of the year; *Leverage* is end-of-year total debt divided by end-of-year market capitalization; *Close* is the percentage of shares held by insiders; *Auditor* is an indicator that equals 1 if the auditor is one of the Big-4; *ExLIST* is an indicator that equals 1 if the firm is listed in a foreign stock exchange; Industry variables: *Mining* (SIC 1); *Industrial* (SIC 2, 3 and 5); *Utilities* (SIC 4).

Parameters are estimated by weighted least squares and the weight variable is Price. The sample period is from 2005 to 2008. The number of firm-year observations is 147 (2005: 40; 2006: 42; 2007: 37; 2008: 28).

Table 5 presents regression summary statistics resulting from the WLS estimation of Model *(2)*, which allows the coefficients on *A_Venturer* and *L_Venturer* and on *A_JCE* and *L_JCE* to differ. Findings indicate that the market views the venturer's share of JCEs' assets and liabilities similarly to those of the venturer. The results of the Wald test carried out in order to test the equality restriction of the *A_Venturer (L_Venturer)* and *A_JCE (L_JCE)* coefficients points to the conclusion of equality. As we do not reject the null hypothesis that the estimates for the two coefficients are identical (*p-value* = 0.929 for the assets coefficients and *p-value* = 0.925 for the liabilities coefficients), we conclude that the marginal effect on the dependent variable is statistically the same for the two independent variables, in the case of both assets and liabilities.

These findings suggest that investors interpret JCE's assets and liabilities as if they belonged to the venturer. This view assumes that the JCE represents an implicit extension of the venturers (Stoltzfus and Epps, 2005). The operations of the venturers and the JCE

are so closely related that the venturers' share of JCE's assets and liabilities are implicitly assets and liabilities of the venturers.

Previous literature on inter-organisational cooperation could provide some insights on this issue. Hennart (1988) argues that joint ventures are undertaken to combine assets held by two or more separate firms. The need for joint ventures will be particularly strong in four instances: when the investee represents a diversification to the parent; when a firm enters a foreign country for the first time; to obtain access to resources that are controlled by local firms (for example, natural resources); to combine complementary inputs (for example know-how, especially tacit technology and country specific knowledge) held by two separate firms (Hennart, 1991). Joint ventures are viewed as the primary mechanism to obtain access to resources that are embedded in other organizations (Hennart and Reddy, 1997). Mohanram and Nanda (1998) show empirically that the stock market reacts positively to joint ventures that involve pooling of complementary resources. Our findings are consistent with this view of significant involvement of the venturers, each contributing with different assets critical to the success of the joint venture. It seems that investors are aware of this feature of joint ventures and, thus, they interpret the venturer's share of JCEs' assets and liabilities as if they belonged to the venturer.

Our findings are also consistent with Stoltzfus and Epps (2005), who show empirically that creditors of companies with investments in joint ventures interpret the joint venture debts as if they belonged to the co-venturer. By showing empirically that the investor's share of assets and liabilities of non-majority-owned investees could be seen by the market as belonging to the investor, we also provide evidence consistent with the findings of Landsman et al. (2008) for special purpose entities.

TABLE 5
VENTURERS *VERSUS* JCEs ASSETS AND LIABILITIES MODEL REGRESSION

Dependent variable: price

	Coefficient	t-stat	p-value
C	-14.041	-4.894	0.000
A_Venturer	0.887	11.407	0.000
A_JCE	0.861	2.885	0.005
L_Venturer	-0.905	-11.407	0.000
L_JCE	-0.859	-1.783	0.077
NI	2.879	7.915	0.000
Size	1.450	5.690	0.000
Leverage	-0.920	-2.815	0.006
Close	-3.974	-1.180	0.240
Auditor	1.274	2.313	0.022
ExList	-1.661	-0.887	0.377
Mining	3.462	0.242	0.242
Industrial	-0.584	-0.694	0.489
Utilities	4.504	2.127	0.035
Adj R2	0.860		
F-value	70.207 (0.000)		

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TABLE 5 (CONT.)
VENTURERS *VERSUS* JCEs ASSETS AND LIABILITIES MODEL REGRESSION

Restriction	Wald test	p-value
A_Venturer = A_JCE	0.008	0.929
L_Venturer = L_JCE	0.009	0.925

Price is the market price at the fiscal year-end; *A_Venturer* is total assets excluding the venturer's share of JCEs' assets; *A_JCE* is venturer's share of JCEs' assets; *L_venturer* is total liabilities excluding the venturer's share of JCEs' liabilities; *L_JCE* is venturer's share of JCEs' liabilities; *NI* is net operating income; *Size* is the natural logarithm of market value of equity as of the end of the year; *Leverage* is end-of-year total debt divided by end-of-year market capitalization; *Close* is the percentage of shares held by insiders; *Auditor* is an indicator that equals 1 if the auditor is one of the Big-4; *ExLIST* is an indicator that equals 1 if the firm is listed in a foreign stock exchange. Industry variables: *Mining* (SIC 1); *Industrial* (SIC 2, 3 and 5); *Utilities* (SIC 4).

Parameters are estimated by weighted least squares and the weight variable is Price. The sample period is from 2005 to 2008. The number of firm-year observations is 147 (2005: 40; 2006: 42; 2007: 37; 2008: 28).

Table 6 presents regression summary statistics resulting from the WLS estimation of models *(3)* and *(4)*, which allows the relationship between venturers and JCEs' assets to be analysed separately from the relationship between venturers and JCEs' liabilities. In the first regression we include total assets computed by PCM (*A_PCM*), total liabilities excluding the venturer's share of the JCE's liabilities (*L_Venturer*) and the venturer's share of JCE's liabilities (*L_JCE*). In the second regression, we include total assets excluding the venturer's share of the JCE's assets (*A_Venturer*), the venturer's share of the JCE's assets (A_JCE) and liabilities computed by PCM (*L_PCM*). The regression estimates for these coefficients are still statistically significant and we can assume that multicollinearity has no severe impact on the efficiency of these estimates. Additionally, we can conclude that the explanatory variables *A_PCM*, *L_Venturer* on the one hand and *A_Venturer*, *L_PCM* on the other hand, are not redundant, i.e., the importance of one explanatory variable is increased by the inclusion of another in the regression model (see Curto and Pinto, 2011 for details).

The results presented in table 6 are quite similar to those of table 5 but the *t-statistics* of the variables *A_JCE* and *L_JCE* increase due to the multicollinearity between *A_JCE* and *L_JCE* that was observed in model *(2)*. In terms of comparison of coefficients, the Wald test indicates non-rejection of equality. This means that the difference between the marginal effects on the dependent variable is not statistically significant when the variables *A_Venturer* (*L_Venturer*) and *A_JCE* (*L_JCE*) are considered.

It is also interesting to note that the *A_PCM* and *L_PCM* coefficients in table 4 are quite similar to those of *A_Venturer* and *L_Venturer* in Table 5. Thus, isolating *A_JCE* and *L_JCE* in the equity valuation model has little impact on assets and liabilities coefficients. In the same way as in Landsman et al. (2008), our findings suggest that although the market views *A_JCE* and *L_JCE* as belonging to the venturer, it also views the activities of the JCEs as being separable from those of the venturer. Therefore, it seems that investors see JCE activities as having characteristics quite different from those of the venturer. This finding is also consistent with the literature on joint ventures, which shows empirically that joint ventures are often in different lines of business from the venturer or they are formed to in order to undertake a risky project (Moskalev, 2005).

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TABLE VI

VENTURERS VERSUS JCES ASSETS AND LIABILITIES MODEL REGRESSIONS

(SEPARATELY FOR ASSETS AND LIABILITIES)

</div>

Dependent variable: price

	Coef.	t-stat	p-value	Coef.	t-stat	p-value
C	-14.092	-5.031	0.000	-14.091	-5.017	0.000
A_PCM	0.887	11.503	0.000			
A_Venturer				0.887	11.449	0.000
A_JCE				0.888	14.246	0.000
L_PCM				-0.904	-11.451	0.000
L_Venturer	-0.903	-11.478	0.000			
L_JCE	-0.901	-6.649	0.000			
NI	2.889	8.367	0.000	2.888	8.226	0.000
Size	1.455	5.883	0.000	1.455	5.831	0.000
Leverage	-0.092	-2.890	0.004	-0.092	-2.866	0.005
Close	-3.975	-1.185	0.238	-3.964	-1.182	0.239
Auditor	1.274	2.321	0.022	1.274	2.322	0.022
ExList	-1.655	-0.888	0.376	-1.653	-0.887	0.377
Mining	3.501	1.206	0.230	3.506	1.210	0.229
Industrial	-0.592	-0.710	0.479	-0.590	-0.707	0.481
Utilities	4.480	2.140	0.034	4.482	2.137	0.034
Adj R2	0.861			0.861		
F-value	76.624			76.623		
	(0.000)			(0.000)		

Restriction	Wald test	p-value
A_Venturer = A_JCE	0.000	0.986
L_Venturer = L_JCE	0.001	0.974

Price is the market price at the fiscal year-end; *A_PCM* is total assets computed by proportionate consolidation; *A_Venturer* is total assets excluding the venturer's share of JCEs' assets; *A_JCE* is venturer's share of JCEs' assets; *L_PCM* is total liabilities computed by proportionate consolidation; *L_venturer* is total liabilities excluding the venturer's share of JCEs' liabilities; *L_JCE* is venturer's share of JCEs' liabilities; *NI* is net operating income; Size is the natural logarithm of market value of equity as of the end of the year; *Leverage* is end-of-year total debt divided by end-of-year market capitalization; *Close* is the percentage of shares held by insiders; *Auditor* is an indicator that equals 1 if the auditor is one of the Big-4; *ExLIST* is an indicator that equals 1 if the firm is listed in a foreign stock exchange. Industry variables: *Mining* (SIC 1); *Industrial* (SIC 2, 3 and 5); *Utilities* (SIC 4).

Parameters are estimated by weighted least squares and the weight variable is Price. The sample period is from 2005 to 2008. The number of firm-year observations is 147 (2005: 40; 2006: 42; 2007: 37; 2008: 28).

5.3. RANDOMIZATION TESTS

We evaluate the robustness of our results by performing randomization tests. We use the bootstrapping procedure in which model *(2)* is re-estimated after *A_JCE* and *L_JCE* are randomly assigned from one venturer to another. table 7 presents the mean coefficients from the 1,000 estimations and the number of times the *A_JCE* and *L_JCE* coefficients in Model *(2)* differ from zero. Our findings indicate that randomly assigned venturer's

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share of JCEs' assets and liabilities are not viewed as belonging to the venturer. Even though the *t-statistics* are significant in a few regressions, the economic magnitudes of the mean coefficients are near zero, 0.004 and 0.007, respectively, for *A_JCE* and *L_JCE*. In addition, the number of significant randomly assigned *A_JCE* and *L_JCE* coefficients is approximately 17 percent. Therefore, randomly assigning *A_JCE* and *L_JCE* from one venturer to another, adjusting for scale differences between the venturers, indicates that scale is not a factor that can explain the findings in table 5.

TABLE VII

RANDOMISATION TESTS BASED ON 1,000 INDEPENDENT REGRESSIONS

	Coefficient	Fama-MacBeth t-stat	Nº Significant obs.
A_Venturer	0.826	5.345	
A_JCE	0.004	0.090	169
L_Venturer	-0.822	-5.212	
L_JCE	0.007	0.076	175
NI	2.301	2.625	
Size	1.346	3.936	
Leverage	-0.218	-3.309	
Close	5.409	1.135	
Auditor	1.283	1.922	
ExList	-0.451	-0.218	
Mining	7.077	2.001	
Industrial	1.949	1.545	
Utilities	7.812	2.646	

Price is the market price at the fiscal year-end; *A_PCM* is total assets computed by proportionate consolidation; *A_Venturer* is total assets excluding the venturer's share of JCEs' assets; *A_JCE* is venturer's share of JCEs' assets randomly assigned; *L_PCM* is total liabilities computed by proportionate consolidation; *L_venturer* is total liabilities excluding the venturer's share of JCEs' liabilities; *L_JCE* is venturer's share of JCEs' liabilities randomly assigned; *NI* is net operating income; *Size* is the natural logarithm of market value of equity as of the end of the year; *Leverage* is end-of-year total debt divided by end-of-year market capitalization; *Close* is the percentage of shares held by insiders; *Auditor* is an indicator that equals 1 if the auditor is one of the Big-4; *ExLIST* is an indicator that equals 1 if the firm is listed in a foreign stock exchange. Industry variables: *Mining* (SIC 1); *Industrial* (SIC 2, 3 and 5); *Utilities* (SIC 4).

Parameters are estimated by weighted least squares and the weight variable is Price. Fama-MacBeth t-statistics are t-tests for the mean of the estimated coefficients resulting from the 1,000 independent regressions. The sample period is from 2005 to 2008. The number of firm-year observations is 147 (2005: 40; 2006: 42; 2007: 37; 2008: 28).

N.º Significant obs. refers to the number of times the variable was significant at a *p-value* of 0.05 or higher for each individual regression.

6.   SUMMARY AND CONCLUSIONS

Our study addresses a gap in the accounting literature by investigating whether the market views the venturer's share of JCEs' assets and liabilities similarly to the assets and liabilities of the venturer. We answer this question by estimating a cross-sectional valua-

tion model based on that used in Landsman *et al.* (2008). Our analysis is based on firms listed in France, where proportionate consolidation is the most widely used method of reporting interests in JCEs.

The results are based on comparisons of assets and liabilities coefficients and they suggest that the market views the venturer's share of JCEs' assets and liabilities similarly to those of the venturer. This evidence is consistent with the previous findings of Stoltzfus and Epps (2005) and O'Hanlon and Taylor (2007) regarding the value relevance of JCE's information. However, we go further by showing empirically how the market views the venturer's share of JCEs' assets and liabilities as compared to the venturer's assets and liabilities. Our results seem to suggest that investors are aware of the significant involvement of the venturers in the joint venture activities, each contributing with different assets critical to the success of the joint venture. They therefore interpret the JCE's assets and liabilities as if they belonged to the venturers.

Knowing that no single value relevant study claims to be either necessary or sufficient for standard setters (Barth *et al.*, 2001), we expect to provide additional input to the international debate on whether it is appropriate to eliminate proportionate consolidation from IASB standards. By accounting for interests in JCEs using the equity method instead of proportionate consolidation, a set of assets and liabilities would cease to be reported in the venturers' statement of financial position and would be relegated to the notes section, even though the market perceives these assets and liabilities as belonging to the venturer. Disclosure of information regarding the venturer's share of JCEs' assets and liabilities in the notes could minimise this problem but does not entirely solve it.

The theory of efficient markets suggests that the markets adopt a substance over form approach and incorporate all publicly available information, irrespective of the way it is disclosed (Jifri and Citron, 2009). However, previous literature shows empirically that disclosure is not a substitute for recognition (e.g., Davis-Friday *et al.*, 1999; Espahbodi *et al.*, 2002; Ahmed *et al.*, 2006, Libby *et al.*, 2006). Costs of processing information and systematic biases in how investors process information, such as limited attention, contribute to the distinction between disclosure and recognition (Ahmed *et al.*, 2006). Audit partners require greater correction of misstatements in recognized amounts than in equivalent disclosed amounts (Libby *et al.*, 2006), making reliability another important issue when comparing recognized and disclosed amounts. Therefore, the elimination of proportionate consolidation would deprive investors of a set of information on recognized assets and liabilities, which might be not comparable to the information presented in the notes.

Future research efforts could address how the market values the venturer's share of JCEs' assets and liabilities in an environment where a significant number of firms apply either the equity method or proportionate consolidation. It would be interesting to analyse whether the market weighs the venturer's share of JCEs' assets and liabilities differently depending on the way they are reported by the venturers in their consolidated financial statements.

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