

Does IFRS adoption affect the use of comparable methods?

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Abstract

In takeover bids, acquirers often use two comparable methods to evaluate the target: the comparable companies method (CCM), and the comparable transactions method (CTM). This article analyzes how IFRS adoption has affected the use of comparable methods, the selection of peers (number of peers and localization of peers) and, ultimately, the fundamental value of the target obtained by these methods. The analysis of 330 targets' evaluations in France and Switzerland, over the period 1999 to 2014, highlights three main findings. First, IFRS adoption has not significantly affected the use of comparable methods by French acquirers, the selection of peers, but it has decreased very slightly the fundamental value of the targets. Second, previous results do not reflect the incentives of acquirers to manipulate targets' evaluations, because similar results are highlighted for French independent experts who disclose fairness opinions. Third, the choices of Swiss independent experts differ significantly from the practices of their French counterparts. These differences are, however, the result of the difference in size of the two stock markets, and not of the adoption of IFRS by the targets. Overall, our results show that the evaluation of takeover bids' targets with comparable methods, in France and Switzerland, has not really been affected by the adoption of IFRS.

Keywords

Evaluation, IFRS, Cash takeover bid, Comparable companies method, Comparable transactions methods; France; Switzerland.

1. Introduction

It is well documented that many experts (especially financial analysts and investment banks) use comparable methods to evaluate public firms. Results from surveys (Block, 2010; Bancel and Mittoo, 2014), or from the analysis of IPO prospectuses (Deloof et al., 2009; Rooseboom, 2007) and financial analysts' reports (Bradshaw, 2002; Asquith et al., 2005; Demirakos et al., 2004; Damodaran, 2006; Imam et al., 2008), show that experts frequently use various multiples (P/E, P/B, EV/EBITDA, etc.) of comparable companies (also called peers).

To implement comparable methods, the experts must define the number of peers and the characteristics of peers (Damodaran, 2006). Regarding the characteristics of peers, experts frequently select comparable companies based on the industry criteria (e.g., Alford, 1992; Liu, Nissim and Thomas, 2002). This choice, however, is questionable for three reasons. First, the assignment of a company to a specific industry is not an easy task, because there are various industrial classifications leading to different assignments, and no one classification is better than the others (e.g., Guenther and Rosman, 1994).¹ Second, the use of a single criteria is probably not relevant, because companies operating in the same industry can be quite different. To select peers, experts may therefore add other criteria, such as company size, growth, or profitability (e.g., Bhoraj and Lee, 2002; Lee et al., 2015).

In numerous countries, where the number of listed companies is relatively low, experts cannot always find enough peers based on the industry criteria, or other criteria. Therefore, they must select foreign peers, which do not use the same accounting standards. Such a choice raises the issue of the comparability of the accounting numbers used to calculate the peers' multiples (e.g., Earnings with the P/E, Book value of equity with P/B, or EBITDA with EV/EBITDA).

In Europe, the mandatory adoption of IFRS in 2005 has potentially reduced the latter difficulty. Indeed, international accounting harmonization should lead to a more efficient selection of peers. The academic literature shows, however, that this harmonization has only partially changed comparability of accounting numbers (Ahmed, Chalmers and Khelif, 2013; Brown, 2011; Brüggemann, Hitz and Sellhorn, 2013; ICAEW, 2014), although some studies

¹ Some well-known industrial classifications are SIC and NAICS in the United States, and ICB in Europe.

conclude that this harmonization leads to more comparable financial statements (e.g., DeFond et al., 2011; Wang, 2014). In fact, since other institutional differences (such as the quality of enforcement of accounting rules) remain different in European countries after the IFRS adoption, the comparability of financial statements seems limited (Ball, 2006; Brown, 2011; Christensen, Hail and Leuz, 2013).

To the best of our knowledge, no study has yet focused on the impact of IFRS adoption on the use of comparable methods, for which the selection of comparable companies is a key issue. Our article fills this gap. More precisely, we analyze the impact of IFRS adoption on the evaluation of takeover bids' targets in France and Switzerland, where experts usually use two comparable methods: the comparable companies method (CCM) and the comparable transactions method (CTM).

First, we focus on the frequency of use of these comparable methods. If the adoption of IFRS has increased the comparability of financial statements of companies operating in different countries, then the experts should encounter fewer difficulties in identifying peers. Therefore, we expect a more frequent use of comparable methods for targets using IFRS. Moreover, this effect should be more pronounced for the comparable transactions method (CTM) than for the comparable companies methods (CCM), especially in countries with a low number of listed companies and takeover bids.

Second, we analyze the number of peers used in the comparable methods, and the localization of the peers. If IFRS adoption has increased the comparability of financial statements of European public companies, then we expect that: (1) the number of peers selected increases after IFRS adoption; and (2) the percentage of foreign peers using IFRS also increases. Furthermore, we also expect that this effect is more pronounced for the comparable transactions method (CTM), compared to the comparable companies method (CCM), particularly in countries where the number of listed companies and takeover bids is relatively low.

Third, we study how a (potentially) different selection of peers, following IFRS adoption, has affected the price offered by acquirers to the target's shareholders. For this analysis, we first calculate the total premium, which equals the difference between the price offered by the acquirer and the target's market value before the announcement of the takeover bid. Then we decompose the total premium in an "objective premium" and a

“subjective premium”. The “objective premium” is the difference between the fundamental value of the target obtained with comparable methods and the target’s market value before the announcement of the takeover bid. The “subjective premium” is the difference between the price offered by the acquirer and the fundamental value of the target obtained with comparable methods. This “subjective premium” is related to the uncertainty surrounding the evaluation of the target.² Knowing that IFRS adoption should reduce this uncertainty by allowing a more efficient selection of peers, we therefore expect that experts should find less dispersed fundamental values. This lower dispersion (which measures lower uncertainty) may not modify the (average) fundamental value of the targets obtained with comparable methods. Hence, the “objective premium” may not change. The “subjective premium”, however, should be reduced. To sum-up, we expect that IFRS adoption has reduced the total premium through a decrease of the “subjective premium”.

At this stage, we insist on the fact that our expectations (regarding the use of comparable methods, the number and characteristics of peers, and the premiums offered by the acquirers) are based on two following underlying assumptions. First, experts consider the comparable methods important, for which the selection of peers is a key issue. Other methods of evaluation may prevail, however, especially the Discounted Cash Flow method (DCF). The latter seems better suited for the evaluation of targets, notably when compared to the comparable companies method (CCM), which may not be relevant in merger & acquisitions (e.g., Finnerty et al., 2004). Second, experts consider that the comparability of accounting numbers has increased (if they consider comparable methods important). Academic research, however, indicates that this is not obvious, because other institutional differences limit the comparability of financial statements (Ahmed, Chalmers and Khelif, 2013; Ball, 2006; Brown, 2011; Kvaal and Nobes, 2012; Yip and Young, 2012; Brüggemann, Hitz and Sellhorn, 2013; Christensen, Hail and Leuz, 2013). To summarize, it is possible that IFRS adoption has had no significant impact on the comparable methods, if experts prefer other evaluation methods, or if they consider that IFRS adoption is not synonymous with greater comparability of accounting numbers.

² A rational acquirer should offer a price corresponding to the fundamental value of the target (obtained with the various valuation methods) if there is no uncertainty about that value. If there is uncertainty, however, especially because it is difficult to identify an efficient set of comparable companies (or comparable transactions), then the acquirer must offer a price that is higher than the fundamental value of the target to encourage the target’s shareholders to sell their shares.

To assess the impact of IFRS adoption on comparable methods, we construct a first sample of 170 French targets of cash takeover bids between 1999 and 2014. The analysis of the French market is interesting for two reasons. First, each takeover bid prospectus is public and contains information about the evaluation of the target. In particular, it includes information on: (1) the valuation methods used by acquirers (DCF, CCM, CTM, etc.); (2) the names of the peers (i.e., comparable companies or transactions), when comparable methods are used; and (3) the fundamental values of the targets obtained with the various valuation methods. Second, since 2005, many targets still use French accounting standards. It reflects the fact that only French companies disclosing consolidated financial statements were obliged to adopt IFRS. Companies that produce individual (non-consolidated) financial statements must still use French accounting standards (French GAAP). Hence, unlike other studies on the economic consequences of IFRS adoption, for which some methodological limitations are well-known (Barth and Israeli, 2013), we are able to compare companies using IFRS and French GAAP in the same institutional environment.

For our first analysis, we collected (by hand) the accounting standards of 936 peers (comparable companies) identified in the prospectus with CCM, and 508 peers (comparable transactions) identified with CTM. We find that IFRS adoption has no significant effect on these two methods. Indeed, when targets use IFRS, we show that acquirers do not use more comparable methods; they do not select different peers (number and localization) when they use comparable methods; the premiums offered to targets' shareholders have not changed with CTM, but they are slightly reduced with CCM.

One could argue that our previous results reflect the incentives of acquirers to manipulate the valuation methods and, therefore, do not allow a clear conclusion regarding the consequences of IFRS adoption on comparable methods. In fact, acquirers can select peers to obtain the "desired" fundamental value (defined *ex ante*) of the target. Such strategic behavior by experts was recently highlighted by De Franco et al. (2015), for a sample of US financial analysts, and Paleari et al. (2014) for a sample of IPOs in Europe.³

To assess the significance of acquirers' incentives to manipulate valuation methods, we construct a second sample of 117 evaluations by independent experts producing fairness

³ None of these studies address the question of the consequences of IFRS adoption on the use and the implementation of comparable methods.

opinions. Since 2006 in France, the target's board of directors must hire such experts, when conflicts of interest exist between the acquirer's shareholders and the target's shareholders. These experts, who should care about their reputation, have no incentive to manipulate the evaluation. Unlike the United States, where the content of fairness opinions is not accessible, French independent experts are required to disclose information about their evaluation of the targets. Therefore, it is possible to compare the choices made by acquirers with those of independent experts for the period 2006-2014. For this second sample of 117 independent experts' evaluations, we collected (by hand) the accounting standards of 683 peers selected for CCM, and 260 peers selected for CTM. Our results for the independent experts confirm those obtained for the acquirers: IFRS adoption by French targets does not significantly affect the use of comparable methods. Hence, we conclude that our results are not driven by acquirers' incentives to manipulate valuation methods.

Finally, we study evaluations made by independent experts in Switzerland to understand the influence of the size of the stock market on the use of comparable methods. For this analysis, we construct a third sample, which consists of evaluations produced by Swiss independent experts. The Swiss market is interesting for three reasons: (1) it is smaller than the French market; (2) since 2004 the evaluations made by the independent experts have also been available in the takeover bid prospectus; and (3) some listed companies in Switzerland have adopted IFRS, which also allows the comparison of targets using different accounting standards (IFRS and Swiss GAAP) in the same institutional environment.

For our sample of 43 evaluations produced by independent experts in Switzerland, we collected (by hand) accounting standards for 438 peers identified for CCM, and 310 peers identified for CTM. We find that the Swiss experts retain more peers, especially foreign peers. These results, however, only reflect a difference in the stock market size. They are not driven by IFRS adoption by Swiss targets. Thus, our results confirm that it is more difficult to select peers based on traditional criteria (industry, size, growth, profitability) in a country (Switzerland) where the number of public companies and takeover bids is relatively low.

Overall, we contribute to the literature on the consequences of IFRS adoption (Ahmed, Chalmers and Khelif, 2013; Brown, 2011; Brüggemann, Hitz and Sellhorn, 2013). For the evaluation of cash takeover bids' targets, we highlight that the three groups of experts under scrutiny (French acquirers, French experts and Swiss experts) do not use different

comparable methods for targets using IFRS and for those using local GAAP. More precisely, these experts do not use more often comparable methods; they do not select more peers or a higher percentage of foreign peers using IFRS; they do not offer different premiums. We therefore conclude that IFRS adoption has not fundamentally influenced the choices of these experts. That said, we are not able to explain why these experts do not make different choices for targets using IFRS. Our results may reflect two facts. First, the experts may consider that the comparability of financial statements has not increased. Second, they may consider more important valuation methods, especially DCF. If these experts consider that comparable methods are not relevant, then the comparability of financial statements is not a real issue. More work is needed regarding the validity of these explanations.

We also contribute to the literature on the valuation methods, especially on the use of comparable methods (Kim and Ritter, 1999; Block, 2010; Bancel and Mittoo, 2014; Deloof et al, 2009; Rooseboom, 2007; Bradshaw, 2002; Asquith et al., 2005; Demirakos et al., 2004; Damodaran, 2006; Imam et al, 2008), and on the impact of IFRS on valuation methods (Young and Zeng, 2015). For our three samples, which include 330 evaluations (for a total of 3,135 peers with CCM and CTM), we show that accounting standards of the targets do not affect the use of comparable methods, or their implementation (the choice of the number of peers and their localization). In contrast, we find that the size of the stock market significantly influences experts' choices. In particular, we show that independent experts, who produce fairness opinions, seem to adjust their valuation methods to the stock market size.

The rest of this paper is structured as follows. In the second section, we present our empirical design. The third section is devoted to the analysis of the evaluations produced by French acquirers. In the fourth section, we analyze French independent experts' evaluations. The fifth section is dedicated to the evaluations of Swiss independent experts. Finally, we conclude in a closing section.

2. Empirical design

2.1. The samples

To understand how IFRS adoption has affected the use of comparable methods, we construct three different samples. The first sample allows us to analyze the use of these methods by French acquirers. It includes evaluations of French targets bid between 1999 and 2014. In France, takeover bids' prospectuses produced by acquirers provide information on the methods used, on their implementation and on the targets' fundamental values obtained with these methods.

To construct this first sample, we first identified all cash takeover bids announced in France between January 1999 and December 2014 on the website of the Financial Market Authority (AMF). We then removed the transactions involving financial targets (banks and insurance), as well as transactions with missing financial data in Worldscope/Datastream. We finally removed some transactions for which the acquirer did not use at least one of the three valuation methods generally used in such transactions (DCF, CCM or CTM).

The second sample allows us to control for acquirers' incentives to manipulate the valuation methods. This sample includes evaluations produced by French independent experts, from 2006 to 2014. Since 2006, such experts are required to issue a fairness opinion if conflicts of interest exist between the acquirer's shareholders and the target's shareholders. Contrary to the acquirers, who are encouraged to manipulate the valuation methods to obtain the "desired" value (defined *ex ante*) of the target, independent experts do not have such incentives. Hence, the latter should select the valuation methods and the peers in a more effective way, in order to protect their reputation. The second sample includes 117 evaluations, which are also available in the takeover bids' prospectuses. Thus, we are able to directly compare the use of comparable methods by acquirers and independent experts.

The third sample includes evaluations from 2004 onwards, delivered by Swiss independent experts, who also produce a fairness opinion when conflicts of interest exist between acquirers' shareholders and targets' shareholders. The construction of this third sample allows us to compare the effect of IFRS adoption on comparable methods in a relatively large stock market (France) and in a relatively small stock market (Switzerland). To

select our Swiss sample, we first identified all cash takeover bids announced between January 2004 and December 2014 on the Swiss Takeover Commission's website. We then removed the transactions involving financial targets, as well as those for which financial data were missing in Worldscope/Datastream, and those for which the targets are using US GAAP (which is permitted in Switzerland). Finally, we excluded the transactions for which there is no independent expertise, or for which the expert has not used at least one of the three main valuation methods (DCF, DCF or CCM). The final sample includes 43 evaluations of Swiss targets. The smaller sample in Switzerland, compared to France, perfectly reflects the different size of the two stock markets.

Table 1 shows the distribution of targets' evaluations for each sample analyzed. We find that cash takeover bids are unevenly distributed over time in France. In fact, 77 of 170 transactions (45% of the cases) occurred in the last four years (2011-2014), while the number of transactions is relatively low during the financial crisis (2008-2010). In addition, we show that 40.6% of the targets use IFRS, but 59.4% of them use French GAAP. An interesting result in itself concerns the IFRS/French GAAP distribution after the mandatory IFRS adoption in 2005. Indeed, for the years 2006-2014, only 69 of 117 targets use IFRS (59.4% of cases), and 48 targets continue to use French GAAP (40.6% of cases). This reflects the fact that some companies do not produce consolidated financial statements and these companies are required to use the French accounting standards. For Switzerland, we note, however, that 35 takeover targets of 43 use IFRS (81.4% of the cases), and a minority of them (18.6%) use Swiss accounting standards.

[INSERT TABLE 1]

2.2. The valuation methods

For each of the cash takeover bid identified in our three samples, we collected (by hand) the information about targets' evaluations in the prospectus. First, we extracted the valuation methods used by the acquirers and the experts. The Discounted Cash Flow method (DCF), the Comparable Companies Method (CCM), and the Comparable Transactions method (CTM) are the three methods generally used. For the two methods of comparable (CCM and CTM), many multiples are used (P/E, P/B, EV/EBITDA, P/Sales, etc.). Second, for these two methods, the list of peers (name and country) was also extracted. We then searched the accounting standards of these peers in various databases (Worldscope, Orbis), for the year

preceding the takeover bid for which these peers were identified. Third, the target values obtained with each method were collected. Generally, three values are provided: a final (or average) value, a minimum value and a maximum value by method.

Table 2 shows the valuation methods used by the three groups of experts. In panel A, we show that the Discounted Cash Flow method (DCF) is widely used by French acquirers (87% of the cases), French independent experts (99%) and Swiss independent experts (100%). The frequency of use is quite similar for the Comparable Companies method (CCM) with 87%, 89% and 93%, respectively, for the three groups of experts. Finally, we find that the Comparable Transactions method (CTM) is also frequently used in these operations: the percentages are 44%, 44% and 65%, respectively. We note that these figures are different from those obtained for the evaluation of companies that go public (IPOs). Indeed, the analysis of French IPOs (Rooseboom, 2007) and Belgian IPOs (Deloof et al., 2009) show that investment banks never use the Comparable transactions method, but they frequently use a Discounted Dividend method (DDM), which is not the case in takeover bids.⁴ A common point between IPOs and cash takeover bids lies in the non-use of the Residual Income Model (RIM), developed by Ohlson (1995) and Feltham and Ohlson (1995, 1996), which may produce better estimates of the intrinsic value than DCF (e.g., Courteau, Kao and Tian, 2015). In addition, we show that experts typically use two or three methods simultaneously to evaluate targets. Only 13% of the French acquirers use a single evaluation method (DCF, CCM or CTM). This percentage is even lower for French independent experts (9%) and Swiss ones (7%). Moreover, Swiss experts tend to more systematically use the three methods simultaneously (65% of cases) compared to French experts (42%) and acquirers (34%).

Panel B compares the use of the valuation methods by accounting standards of the targets. No major difference appears. French acquirers more frequently use the DCF method and at least two valuation methods for targets using IFRS, compared to targets using French GAAP. For French independent experts, we find very small differences between the two groups of targets (IFRS vs French GAAP). Finally, in Switzerland, it is difficult to comment on the differences due to the low number of targets using Swiss GAAP. The comparison

⁴ To avoid clutter in our tables, we do not report the numbers for other methods (e.g., the dividend discount method) because their use is very low in France and Switzerland.

between the Swiss and French independent experts, however, highlights a more frequent use of the CTM method (68.6% vs 42%) and three valuation methods (68.6% vs 42%) in Switzerland, for targets that have adopted IFRS.

[INSERT TABLE 2]

Table 3 completes the previous findings. It provides information about the peers used in comparable methods. The first column provides information on peers used with CCM by French acquirers. In Panel A, we show that CCM is used in 150 cases, for which 936 peers have been identified, which means an average of 6.2 peers (the median equals to 6). With regard to the geographic location of peers, we find that 55% are French companies. With regard to peers' accounting standards, we find that 65% use the same standards as the target, but from other countries only 12% are using the same standard.

For French independent experts, the average number of peers (6.6) and the median (6) are similar to those of French acquirers. Compared to French acquirers, however, we show that independent experts use a smaller percentage of peers with the same accounting standards (43%), but a higher percentage of foreign peers using the same accounting standards (20% vs 12%). Finally, for the takeover bids in Switzerland, independent experts use a higher number of peers than their French counterparts, with an average of 11 peers (the median is equal to 10), in the 40 cases where CCM is used. Moreover, the percentage of foreign peers is significantly higher (72% of companies), as expected.

Regarding the selection of peers with CTM, we find quite similar results. In particular, the number of peers selected by the French acquirers is almost identical (average of 6.9), as well as for Swiss experts (average of 11.1). The number of peers selected by the French independent experts, however, is lower with CTM (average of 5 and median equal to 4). A difference also appears for peers' localization for the three expert groups. They all identify more transactions outside their own country, but this fact is more pronounced in Switzerland. It confirms that Swiss experts are obliged to select more foreign peers (95%) because the Swiss stock market is small.

[INSERT TABLE 3]

Panel B of Table 3 describes the selection of peers according to the accounting standards of the targets (IFRS or Local GAAP). We find that the average number of peers is

no different for both methods (CCM and CTM) for the three groups of experts (French acquirers, French independent experts and Swiss ones). The percentage of peers using the same accounting standards as the target, however, is significantly higher when the target uses IFRS. For example, for French targets firms using IFRS, we show that the percentages are 68% for targets using IFRS and 30% for targets using French standards. This is also consistent with our expectations.

2.3. The models

In the rest of this paper, we test six different models. Three models are related to the use of comparable methods, and three models are related to the fundamental value of targets obtained with comparable methods.

2.3.1. Models for the use of comparable methods

Our first model tests whether the experts retain more frequently comparable methods for targets using IFRS, compared to targets using local GAAP. A first variable indicates whether the expert uses CCM (*CCM_used*). This dummy variable is equal to 1 if CCM is used and equal to 0 otherwise. A second variable indicates whether the expert uses CTM (*CTM_used*). This dummy variable is equal to 1 if CTM is used and equal to 0 otherwise. In this model, the IFRS variable is a dummy variable, which is equal to 1 if the target adopted IFRS and equal to 0 otherwise. We expect $\beta_1 > 0$ in the following model:

$$\text{Use_comparable}_i = \beta_0 + \beta_1 \text{IFRS} + \sum \beta_k \text{Controls}_k + \varepsilon_i \quad (1)$$

Where: Use_comparable = CTM_used or CCM_used

And i = evaluation 1 to 330.

In all models, we retain various control variables related to the characteristics of the targets (size, debt, profitability, growth opportunities, ownership structure) and the acquirers (hostile takeover, foreign acquirer, acquirer operating in the same industry). These variables are described in Section 2.4. To control for various unobservable factors, we also include industry fixed effects and year fixed effects.

The second model tests whether the number of peers used in comparable methods is higher for targets using IFRS compared to targets using local GAAP. A first variable measures

the number of peers used with CCM (N_Peers_CCM). A second variable measures the number of peers used with CTM (N_Peers_CTM). We expect $\alpha_1 > 0$ in the following model:

$$N_peers_i = \alpha_0 + \alpha_1 IFRS + \sum \alpha_k Controls_k + \varepsilon_i \quad (2)$$

Where: $N_peers = N_Peers_CCM$ or N_Peers_CTM

And $i = \text{evaluation 1 to 330}$.

Our third model tests whether experts select a higher number of foreign peers using IFRS. A first variable measures the percentage of foreign peers using IFRS with CCM ($\%IFRS_FOR_CCM$). A second variable measures the percentage of foreign peers using IFRS with CTM ($\%IFRS_FOR_CTM$). The percentage of foreign peers using IFRS should be higher when the targets use IFRS. Hence, we expect $\delta_1 > 0$ in the following model:

$$\%IFRS_i = \delta_0 + \delta_1 IFRS + \sum \delta_k Controls_k + \varepsilon_i \quad (3)$$

Where: $\%IFRS = \%IFRS_FOR_CCM$ or $\%IFRS_FOR_CTM$

And $i = \text{evaluation 1 to 330}$.

2.3.2. The models for the fundamental value of targets

To analyze the impact of IFRS adoption on the fundamental values of the targets, we decompose the total premium proposed by the acquirer in two specific premiums (an “objective” premium and a “subjective” premium). To do so, we define three variables: the price offered by the acquirer to the shareholders of the target (P_o); the market price of the target one month before the announcement of the takeover bid (P_m); the target value obtained with a comparable method (V_o). P_o and V_o are provided in the takeover bid’s prospectus and the market prices (P_m) are extracted from Datastream. We then calculate the three premiums:

- $(P_o - P_m) / P_m$ is the total premium offered by the acquirer to the shareholders of the target. It is also the sum of the “subjective” premium and the “objective” premium and premium $[(P_o - P_m) / P_m = (P_o - V_o) / P_m + (V_o - P_m) / P_m]$;
- $(V_o - P_m) / P_m$ is the “objective” premium;
- $(P_o - V_o) / P_m$ is the “subjective” premium, which measures the additional amount that has to be paid by acquirers because there is some uncertainty surrounding

the evaluation of the targets. This uncertainty is notably associated with the choice of one, two or three valuation methods, and to the implementation issues (in particular the number of peers and the localization of peers) for each method.

Our fourth model tests the impact of IFRS adoption on the objective premium (*Obj_Prem*). Our variable *IFRS_Peers* indicates the percentage of peers who use IFRS, and our interaction variable [*IFRS * IFRS_Peers*] measures the marginal effect of selecting peers using IFRS when the target uses IFRS. We expect that the coefficients of the independent variables are positive if IFRS adoption increases the value of the targets ($\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 > 0$), or nil if the values of the targets are not affected by IFRS adoption ($\beta_1 = 0$, $\beta_2 = 0$, $\beta_3 = 0$). This model writes:

$$\text{Obj_prem}_i = \beta_0 + \beta_1 \text{IFRS} + \beta_2 \text{IFRS_Peers} + \beta_3 \text{IFRS} * \text{IFRS_Peers} + \sum \beta_k \text{Controls}_k + \varepsilon_i \quad (4)$$

Where: Obj_prem = Objective premium with CCM or CTM

And i = evaluation 1 to 330.

The fifth model tests the impact of IFRS adoption on the subjective premium (*Subj_Prem*). The coefficients of the variables of interest should be negative if IFRS adoption has reduced the uncertainty surrounding the targets' evaluations. Hence, we expect $\alpha_1 < 0$, $\alpha_2 < 0$, $\alpha_3 < 0$ in the following model:

$$\text{Subj_prem}_i = \alpha_0 + \alpha_1 \text{IFRS} + \alpha_2 \text{IFRS_Peers} + \alpha_3 \text{IFRS} * \text{IFRS_Peers} + \sum \alpha_k \text{Controls}_k + \varepsilon_i \quad (5)$$

Where: Subj_prem = Subjective premium with CCM or CTM

And i = evaluation 1 to 330.

Finally, our last model tests the impact of IFRS adoption on the range of values obtained by the experts. For CCM and CTM, we collected the maximum value (*VMAX*) and the minimum value (*VMIN*) obtained by the expert. The range is calculated as follows: $(VMAX - VMIN) / P_m$. A larger range reflects greater uncertainty about the fundamental value of the target. The coefficients of the independent variables should be negative if IFRS adoption has reduced the range of values and, therefore, the uncertainty surrounding the evaluation of targets. We expect $\delta_1 < 0$, $\delta_2 < 0$, $\delta_3 < 0$ in the following model:

$$\text{Range}_i = \delta_0 + \delta_1 \text{IFRS} + \delta_2 \text{IFRS_Peers} + \delta_3 \text{IFRS} * \text{IFRS_Peers} + \sum \delta_k \text{Controls}_k + \varepsilon_i \quad (6)$$

Where: Range = Range obtained with CCM or CTM

And i = evaluation 1 to 330.

2.4. The variables

In this section, we define and present the descriptive statistics of our variables.

2.4.1. The premiums

Table 4 describes our three premiums. We must remember that the evaluations of the targets with comparable methods are not included in the calculation of the total premium. Hence, the first column is not relevant for the rest of the paper. In panel A, the premiums are computed with the market prices (P_m) one month before the takeover bid. In panel B, we consider the market prices two months before, and the premium is computed with the market price six months before in panel C. Panel D presents the six months premiums by accounting standards.

[INSERT TABLE 4]

The results in panels A, B and C highlight some interesting results regarding the total premium. First, this premium is much lower in panel A (one month premiums) than in panel C (six months premiums). It reflects the fact that market prices incorporate new information every day, especially information about a (potential) takeover bid. Thus, the market prices increase during the weeks before the official announcement of the takeover bid and, therefore, the difference between the offer price (P_o) and the market price (P_m) declines over time. Second, there is no difference between the methods. Indeed, the total premiums calculated with DCF, CCM and CTM are always very close. Finally, in all panels, the total premiums are much lower in Switzerland than in France.

The decomposition of the total premium into an “objective premium” and a “subjective premium” allows us to highlight other interesting results. First, in Panel A, we show that CCM generates the lowest objective premiums in the three groups of experts, with is expected (Finnerty et al., 2004). Second, the total and subjective premiums are very low in Switzerland. In Panel B, we show that six months premiums⁵ do usually not differ between companies using IFRS and companies using local GAAP. All average difference tests

⁵ In the rest of the paper, we refer to the six months premiums, which are close to those generally found in the takeover bid prospectuses. The use of the one month premium does not change our results (the significant variables), but it affects the level of the coefficient in our regressions.

are not significant, except in two cases for French acquirers: the total premium is higher for targets using Local GAAP compared to those using IFRS. This difference is associated with a higher subjective premium.

2.4.2 Control variables

Size of the target

The size of the target may influence the use of comparable methods, the peers' selection, and the fundamental value of the target. We use the variable *Size*, which is the logarithm of total assets. Table 5 shows that the average of the average size of French targets is about 500 million of euros and 721.3 million of CHF for Swiss targets.

Leverage of the target

We also control for the debt level of the target. We use the variable *LEVERAGE*, which is the ratio between total debt and total assets. We find that the French targets have higher leverage than Swiss targets, with average ratios of 28.7% and 19.4%, respectively.

Profitability of the target

To control for the profitability of the target, we use the return on assets (*ROA*). Descriptive statistics show that French and Swiss targets have similar profitability (3.1% and 2.9% on average, respectively).

Growth opportunities of the target

We also control for the targets' growth opportunities, which are measured with the Market-to-book (*MTB*). It corresponds to the market capitalization divided by the book value of equity (at the end of the year preceding the announcement of the takeover bid). We find similar MTB for French targets (average of 2.247) and for Swiss targets (average of 2,393).

Ownership structure of the target

In France, if the acquirer holds more than 50% of the shares or the voting rights of the target, then the fairness opinion of an independent expert is required. In Switzerland, a conflict of interest is also suspected in such a case, which also leads to the production of a fairness opinion by an independent expert. It is therefore appropriate to control for this factor. The variable *Ownership* measures the percentage of shares of the target held by the acquirer before the announcement of the transaction. The average percentage of shares

held by the acquirer before the takeover announcement is 54.4% in France and 42% in Switzerland.

Hostile takeover bid

To control for the hostility of the takeover bid, we introduce a dummy variable *Hostile* is equal to 1 if the takeover bid is hostile and 0 otherwise. Our final sample consists of nine hostile bids, including six in Switzerland and three in France.

Financial acquirer

We also control for some specific characteristics of the acquirer. We use a dummy variable *Financial*, which is equal to 1 if the acquirer is in the financial sector (bank or investment company) and zero otherwise. The percentage of financial acquirers is 40% in France and 30% in Switzerland.

Acquirer and target in the same industry

For an acquirer, it is easier to evaluate a target that operates in the same industry. Based on the European industrial classification (ICB - Industry Classification Benchmark), we define *same_ind*, which is a dummy variable equal to 1 if the acquirer is operating in the same industry as the target and equal to 0 otherwise. The acquirers and the targets are operating in the same industry in 27% of cases in France and 39% of cases in Switzerland.

Acquirer and target in the same country

It is also easier for an acquirer from the same country to evaluate a target. Therefore, we introduce in our models the variable *Cross_Country*, which is a dummy variable equal to 1 if the acquirer is from the same country and equal to 0 otherwise. The acquirers and the targets are operating in the same country in 69% of cases in France and 58% of cases in Switzerland.

Industry and year fixed effects

To take into account unobservable factors, we introduce industry and year fixed effects in our models. For the industry, we refer to the Industry Classification Benchmark (ICB): Basic materials (ind1) Consumer goods (ind2) Consumer Services (IND3), Healthcare (IND4), Industrials (IND5) Oil and Gas (ind6) Technology (ind7), Telecommunications (iIND8) and Utilities (ind9).

[INSERT TABLE 5]

3. The use of comparable methods by French acquirers

In this section, we present and discuss the results of our regressions regarding the impact of IFRS adoption by French targets on the use of comparable methods by French acquirers.

3.1. The use of CCM and CTM, and the peers' selection by French acquirers

Table 6 shows the results for our first three models, for both methods (CCM and CTM). Regarding CCM, we find that the use of IFRS by the targets does not affect: (1) the frequency of use of this method (model 1); (2) the number of peers selected by French acquirers (model 2); and (3) the percentage of foreign peers using IFRS (model 3). These results are not expected. Indeed, the adoption of IFRS should allow experts to use CCM more frequently, and to select more comparable peers, especially foreign peers using IFRS.

[INSERT TABLE 6]

Other variables, however, are significant in these three models. In particular, results in model 1 show that acquirers use more frequently CCM when the targets are more leveraged and when the acquirer does not hold a large fraction of the targets' shares before the takeover bid. In model 2, we find that acquirers use more peers when targets are larger (Size) and have a lower performance (ROA), and when the acquirer is from another country (Cross_country). Finally, acquirers select more foreign peers using IFRS when the targets are larger (Size) and when the acquirer is also from France (Cross_country).

Regarding CTM, the results of models 4, 5 and 6 show that IFRS adoption by a French target does not influence the frequency of use of this method, or the number of peers selected by French acquirers, or the percentage of foreign companies using IFRS. A limited number of variables explain acquirers' choice. Using CTM is more common when companies are larger (Size). The number of peers is higher when growth opportunities of the target are higher (MTB) and the performance is lower (ROA), and when a financial acquirer is involved in the takeover bid (Financial). Finally, the percentage of foreign peers using IFRS is higher when the acquirer and the target operate in the same industry.

Overall, for CCM method, acquirers' choices seem mainly associated with the size (size) and the performance (ROA) of the targets, and with the geographic origin of the

acquirer (Cross_country). For CTM, acquirers' choices are mainly linked to the performance (ROA) of the targets. For these two comparable methods, however, the use of IFRS by French targets is not a key determinant of acquirers' choices.

3.2. The fundamental values of the targets

In table 7 shows, we analyze the impact of IFRS adoption on the fundamental values of the targets. In model 7, we find that the "objective premium" depends on IFRS adoption by the targets and on the peers selected by French acquirers. More precisely, the value of the target (objective premium) is lower when the targets adopted IFRS. This effect is even more pronounced when many peers are using IFRS (IFRS_peers), regardless of the target's GAAP. The negative coefficient on the interaction variable (IFRS * IFRS_peers), however, means that the "objective premium" is higher when the target uses IFRS and a higher percentage of peers are using IFRS. Overall, the adoption of IFRS has a negative effect on the objective premium, as shown in Figure 1. For targets using French GAAP, an increase of the percentage of peers using IFRS decreases (strongly) the objective premium. For targets using IFRS, however, we show that the increase in the number of peers using IFRS slightly reduces the negative objective premium. In addition to the accounting standards of the target, leverage also affected (negatively) the objective premium.

[INSERT TABLE 7]

[INSERT FIGURE 1]

Table 7 also shows that IFRS does not affect the subjective premiums (Model 8 and 11) and the range of values (Model 9 and 12) with CCM. These values are, however, influenced by other variables. In particular, the subjective premium is higher when more peers are using IFRS, regardless of the targets' GAAP, and when the takeover bid is hostile. Regarding the range of values (measure of dispersion or uncertainty), we find that it becomes lower when the target's size increases.

For the second comparable method (CTM), the results are different. In particular, we find that the accounting standards of the targets do not significantly influence their fundamental values. IFRS adoption does not change the objective premium, the subjective premium and the range of values. The key variable that influences these numbers is the target size (Size). If the targets are larger, then the objective premiums are larger and the

subjective premiums are smaller. Furthermore, the proportion of the target's shares held by the acquirer before the takeover bid (OWN) negatively affects the subjective premium and the range of values. Finally, the subjective premium decreases with debt, and the range of values increases when the performance of the target (ROA) decreases.

4. The use of comparable methods by French independent experts

In this section, we present and discuss the results regarding the impact of IFRS adoption on the use of comparable methods by French independent experts. This section notably allows us to have a better understanding of the differences that may exist between the French acquirers, who have incentives to manipulate the valuation methods, and the French independent experts, who want to protect their reputation.

4.1. The use of CCM and CTM, and the peers selection by French independent experts

Regarding the impact of IFRS on the use of comparable methods and the selection of peers, the results in Table 8 are similar to those provided in Table 6. In other words, when targets have adopted IFRS, independent experts are not more likely to select more comparable methods. This result holds for CCM (model 1) and CTM (model 4). In addition, for CCM (model 2) and CTM (model 5), the number of peers selected by independent experts is not affected by the targets' accounting standards. Finally, if the target uses IFRS, then the percentage of foreign companies using IFRS increases slightly with CTM (the variable IFRS is significant at the 10% threshold in the model 6).

[INSERT TABLE 8]

Other variables are significant in these models. In particular, OWN is significant in 4 models over 6. This result can be explained by the fact that French independent experts must produce a fairness opinion in situations where conflicts of interest exist between the acquirers and the targets. This is notably the case when the acquirer already holds a high proportion of the target's shares before the takeover bid (OWN). When such conflicts exist, we show that independent experts use less comparable methods, either CCM (model 1) or CTM (model 4). It is therefore probable that the DCF method becomes more important in such contexts. Moreover, when these experts use CCM, they choose a smaller number of peers (model 2). Finally, when experts use CTM, they choose a higher percentage of foreign companies using IFRS (model 6).

We also note that the performance of the target (ROA) is significant in three models (1, 4 and 5), which is quite similar to the results found in Table 6. The variable Cross_country influences the use of CCM (model 1). The variable Hostile influences the selection of peers with CCM (models 2 and 3). The target size (Size) is positively associated with the percentage of foreign companies using IFRS (in models 4 and 6), but the coefficients are only significant at the 10% level. Finally, with CTM, a decrease of the leverage increases the percentage of foreign peers using IFRS.

4.2. The fundamental values of the targets

Table 9 shows the fundamental values of the targets obtained by French independent experts. With CCM and CTM, the accounting standards of the targets do not affect these values. IFRS adoption does not impact the objective premiums (model 7 and 10) and the range of values (model 9 and 12). We have not tested the model for subjective premiums, because independent experts have no influence on this premium, unlike acquirers who decide which price they offer. For CCM, we find that the range of values (and therefore the uncertainty surrounding the evaluation of the target) increases when the percentage of peers using IFRS increases.

Among the other significant variables, we show that the target size influences the range of values. With CCM (model 9) and CTM (Model 12), the range is smaller for larger targets. Furthermore, the leverage of the target has a different role according to the method. With CCM, increased debt reduces the objective premium (model 7), whereas the premium increases with debt using CTM (model 10). Finally, higher performance (ROA) of the target decreases the ranges obtained by experts with CCM (model 9).

[INSERT TABLE 9]

5. The use of comparable methods by Swiss independent experts

In this section, we present and discuss the results regarding the impact of IFRS adoption on the use of comparable methods by Swiss independent experts. This section notably allows us to understand how IFRS adoption affects the use of comparable methods in a small stock market compared to a (relatively) large stock market.

5.1. The use of CCM, and the peers selection by Swiss independent experts

The results in Table 10 only show the results for two models with CCM, because the other samples are too small to test our models. We find that the number of peers selected by these experts is not affected by IFRS adoption by the targets. When the targets have adopted IFRS, we do, however, find that Swiss independent experts select a lower percentage of foreign companies using IFRS (model 3).

Among the other variables that influence the choice of Swiss experts, we find that higher growth opportunities (variable MTB in model 2) increase the number of peers (model 2), but decreases the percentage of foreign peers using IFRS (model 3). Moreover, the number of peers selected by Swiss experts is higher for large targets (Size) and financial buyers (Financial), as shown in model 2.

[INSERT TABLE 10]

5.2. The fundamental values of the targets

We finally analyze the impact of IFRS adoption on the objective premium and the range of values obtained by Swiss experts. Model 7 of table 11 shows that IFRS adoption by the target does not affect the objective premium. The percentage of peers using IFRS slightly increases (IFRS _peers is significant at the 10% threshold) the objective premium and the interaction between IFRS and IFRS _peers slightly decreases the objective premium.

[INSERT TABLE 11]

Regarding the range of values, IFRS adoption by the target (IFRS) and the percentage of peers using IFRS (IFRS _peers) have a positive and significant impact on the range. This effect is mitigated, however, by the interaction variable (IFRS * IFRS_peers) that has a negative coefficient. Figure 2 shows that the overall effect is positive (the values are greater than 0). For targets using local GAAP, the range increases (strongly) when the percentage of peers using IFRS increases, while the range decreases for the targets using IFRS.

Other variables affect the fundamental values of the Swiss targets. Hostile takeover bids are associated with higher objective premiums. The latter also increase when foreign acquirers are involved (Cross_country) and when the acquirer and the target operate in the same industry. Finally, the fraction of the target's shares held by the acquirer increases the range of values.

6. Conclusion

Some academic papers highlight that the mandatory adoption of IFRS in Europe (in 2005) had economic consequences on capital markets participants, because this accounting harmonization is synonymous with greater comparability of financial statements disclosed by public companies. More precisely, IFRS adoption has led to an increase in cross-border investments (DeFond et al., 2011), a decrease in the cost of capital (Hail and Leuz, 2007), an increase of foreign analysts following (Tan, Wang and Welker, 2011), and an improvement of the quality of accounting figures reported in the financial statements (e.g., Ahmed, Chalmers and Khlif, 2013). Other papers, however, show that the effects of IFRS adoption greatly vary between countries, because other institutional differences exist, like enforcement of accounting standards (Daske, Hail, Leuz and Verdi, 2013; Barth, 2013), which limits the comparability of financial statements.

Our study focuses on some particular capital market participants in France and Switzerland, namely acquirers and independent experts who produce fairness opinions. These participants frequently use two comparable methods (CCM and CTM) to determine the fundamental value of takeover bid's targets. We find that IFRS adoption has not really changed the choices made by these experts. Indeed, French acquirers and the independent experts in France and Switzerland do not more frequently use the two comparable methods when evaluating targets using IFRS. Furthermore, they do not select more peers, or a higher fraction of foreign peers using IFRS, to evaluate the targets using IFRS. Finally, the fundamental values of the targets using IFRS are not different from those of targets using local GAAP.

Overall, our results cast doubt on the existence of significant economic consequences associated with IFRS adoption for these capital markets participants. In this paper, however, we are not able to explain this result. On the one hand, it is possible that these experts attach little importance to the comparable methods. They may prefer other valuation methods, in particular DCF. In this case, the comparability of financial statements is not a key challenge for these participants. On the other hand, it is possible that these experts believe that accounting harmonization is not synonymous with greater comparability of financial statements. In this case, they have no reason to base the selection of peers on

accounting standards. Thus, further work is needed to determine which explanation reflects the behavior of these participants.

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Table 1. Number of evaluations provided by acquirers and independent experts

This table describes the number of evaluations produced by acquirers and independent experts to evaluate targets of cash takeovers bids. Independent experts produce fairness opinions in both countries. The samples consist of 170 acquirers in France (1999-2014), 117 independent experts in France (2006-2014), and 43 independent experts in Switzerland (2004-2014).

Year	French Acquirers			French independent Experts	Swiss independent experts		
	TOTAL	IFRS	French GAAP		TOTAL	IFRS	Swiss GAAP
1999	2	-	2	-	-	-	-
2000	9	-	9	-	-	-	-
2001	9	-	9	-	-	-	-
2002	8	-	8	-	-	-	-
2003	5	-	5	-	-	-	-
2004	6	-	6	-	2	0	2
2005	14	-	14	-	6	5	1
2006	2	0	2	2	5	4	1
2007	18	9	9	18	4	3	1
2008	8	1	7	8	3	2	1
2009	4	3	1	4	5	4	1
2010	8	3	5	8	1	1	0
2011	27	13	14	27	8	8	0
2012	16	11	5	16	1	1	0
2013	19	15	4	19	4	3	1
2014	15	14	1	15	4	4	0
Total	170 <i>100%</i>	69 <i>40.6%</i>	101 <i>59.4%</i>	117 <i>100%</i>	43 <i>100%</i>	35 <i>81.4%</i>	8 <i>18.6%</i>

Table 2. Description of the valuation models used in French and Swiss cash takeover bids

This table describes the type and the number of methods used to evaluate targets of cash takeovers bids. The methods generally used are Discounted Cash Flow (DCF), Comparable Companies Method (CCM) and Comparable Transactions Method (CTM). These methods are disclosed by 170 acquirers in France (1999-2014), 117 independent experts in France (2006-2014) and 43 independent experts in Switzerland (2004-2014). Independent experts produce fairness opinions in both countries.

	Acquirers in France (N = 170)		Independent experts in France (N = 117)		Independent experts in Switzerland (N = 43)							
	Number	%	Number	%	Number	%						
Panel A. Methods used (full sample)												
<i>DCF</i>	149	87%	116	99%	43	100%						
<i>CCM</i>	150	88%	104	89%	40	93%						
<i>CTM</i>	74	44%	52	44%	28	65%						
1 method	22	13%	11	9%	3	7%						
2 methods	91	54%	57	49%	12	28%						
3 methods	57	34%	49	42%	28	65%						
Panel B. Methods used by Accounting standard												
	IFRS N=69		Local GAAP N=101		IFRS N=69		Local GAAP N=48		IFRS N=35		Local GAAP N=8	
	Number	%	Number	%	Number	%	Number	%	Number	%	Number	%
<i>DCF</i>	69	100%	82	81.2%	69	100%	47	97.9%	35	100%	8	100%
<i>CCM</i>	59	85.5%	91	90.1%	60	87.0%	44	91.7%	33	94.3%	7	87.5%
<i>CTM</i>	26	37.7%	48	47.5%	32	46.4%	20	41.7%	24	68.6%	4	50.0%
1 method	5	7.2%	17	16.8%	6	8.7%	5	10.4%	2	5.7%	1	12.5%
2 methods	43	62.3%	48	47.5%	34	49.3%	23	47.9%	9	25.7%	3	37.5%
3 methods	21	30.4%	36	35.6%	29	42.0%	20	41.7%	24	68.6%	4	50.0%

Table 3. Description of the peers' characteristics used in comparable methods

The table describes the frequency of use of two comparable methods used to evaluate targets of cash takeovers bids: Comparable Companies Method (CCM) and Comparable Transactions Method (CTM). It also describes two peers' characteristics: the accounting standards used and the localization. Panel A presents the numbers for the full sample and Panel B presents the numbers by accounting standards (IFRS or local GAAP) of the targets. The samples consist of 170 acquirers in France (1999-2014), 117 independent experts in France (2006-2014), and 43 independent experts in Switzerland (2004-2014). Independent experts produce fairness opinions in both countries.

	Acquirers in France (N = 170)				Independent experts in France (N = 117)				Independent experts in Switzerland (N = 43)			
	CCM	%	CTM	%	CCM	%	CTM	%	CCM	%	CTM	%
Panel A. Peers selection - Full sample												
Number of reports that use the method	150	88%	74	44%	104	89%	52	44%	40	93%	28	65%
Total number of peers	936	100%	508	100%	683	100%	260	100%	438	100%	310	100%
Average number of peers	6.2		6.9		6.6		5.0		11.0		11.1	
Median number of peers	6.0		6.0		6.0		4.0		10.0		9.5	
<i>Peers with same standards</i>	424	65%	163	32%	295	43%	107	41%	218	50%	58	19%
<i>Peers from other country</i>	518	55%	356	70%	419	61%	167	64%	317	72%	293	95%
<i>Peers from other country and with same GAAP</i>	114	12%	39	8%	139	20%	51	20%	127	29%	48	15%
Panel B. Peers selection by accounting standards												
	IFRS N = 59	Local N = 91	IFRS N = 26	Local N = 48	IFRS N = 60	Local N = 44	IFRS N = 56	Local N = 24	IFRS N = 33	Local N = 7	IFRS N = 24	Local N = 4
Number of peers used (average)	6.57	6.02	7.23	6.67	6.65	6.43	4.97	5.05	10.97	11.0	9.8	22.3
% of peers with same standards	68	30	30	33	71	5	57	16	59	6	24	0
% of peers from other country	56	55	79	66	63	61	71	54	71	79	95	95
% of peers from other country and with same GAAP	30	0	22	0	35	0	32	0	35	0	18	0

Table 4. Premiums paid by the acquirer

This table describes three types of premiums offered by acquirers involved in cash takeover bids. The total premium is equal to $(Po-Pm)/Pm$ and to the total of the objective premium and the subjective premium. The objective premium is equal to $(Vo-Pm)/Pm$. The subjective premium is equal to $(Po-Vo)/Pm$. Po is the price offered by the acquirer to the targets' shareholders. Vo is the fundamental value of the target that is obtained with the three valuation methods (DCF, CCM and CTM). Pm is the market price of the target defined six months before the announcement of the cash takeover bid (Panel A). Panel B presents the premiums by accounting standards of the targets. The samples consist of 170 acquirers in France (1999-2014), 117 independent experts in France (2006-2014), and 43 independent experts in Switzerland (2004-2014). Independent experts produce fairness opinions in both countries.

	Total premium		Objective premium		Subjective premium	
	Average	Median	Average	Median	Average	Median
Panel A. Six months premiums by valuation method						
French acquirers						
With DCF (N = 149)	38.2%	33.3%	19.4%	19.0%	18.8%	12.8%
With CCM (N = 150)	37.1%	33.4%	8.8%	3.3%	28.2%	24.1%
With CTM (N = 74)	40.1%	33.4%	20.9%	13.6%	19.2%	21.1%
French independent experts						
With DCF (N = 116)	42.9%	35.5%	29.8%	24.4%	13.1%	10.6%
With CCM (N = 104)	46.0%	35.8%	18.0%	10.4%	28.0%	23.4%
With CTM (N = 52)	41.0%	32.9%	18.5%	14.0%	22.5%	25.6%
Swiss independent experts						
With DCF (N = 43)	19.5%	24.0%	20.1%	21.3%	-0.6%	1.5%
With CCM (N = 40)	21.1%	27.8%	16.2%	14.0%	4.9%	4.7%
With CTM (N = 28)	19.6%	21.2%	21.5%	17.3%	-1.9%	0.0%
Panel B. Six months premiums by accounting standard						
French acquirers						
Total sample (N = 170)	37.3%	33.2%	15.1%	9.5%	22.2%	21.1%
The target uses IFRS (N =69)	45.4%	35.3%	23.2%	10.3%	22.2%	24.5%
The target uses Local GAAP (N =101)	31.8%	30.9%	9.6%	7.9%	22.2%	18.8%
French independent experts						
Total sample (N = 117)	42.8%	35.3%	23.0%	16.2%	19.8%	17.5%
The target uses IFRS (N = 69)	45.4%	35.3%	25.1%	15.2%	20.3%	16.4%
The target uses Local GAAP (N = 48)	39.0%	33.4%	20.0%	16.5%	19.0%	18.2%
Swiss independent experts						
Total sample (N = 43)	19.5%	24.0%	20.1%	22.2%	-0.6%	1.4%
The target uses IFRS (N = 35)	20.6%	29.8%	20.5%	22.2%	0.0%	1.4%
The target uses Local GAAP (N = 8)	14.7%	12.9%	18.0%	21.4%	-3.3%	3.8%

Table 5. Descriptive statistics

This table describes our control variables, which are defined as follows. Size: the total assets of the target. Leverage: total debt divided by total assets. ROA: return on assets. MTB: market capitalization divided by the book value of equity. OWN: percentage of the targets' shares held by the acquirer before the cash takeover bid. The samples consist of 170 acquirers in France (1999-2014), and 43 independent experts in Switzerland (2004-2014). Independent experts produce fairness opinions.

Variables	French targets (N =170)			Swiss targets (N = 43)		
	Average	Median	SD	Average	Median	SD
Size (mil. EUR/CHF)	496.5	76.9	1'618.4.3	721.3	351.5	1'309.0
Leverage	0.287	0.212	0.252	0.194	0.189	0.151
ROA	0.031	0.040	0.134	0.029	0.040	0.109
MTB	2.247	1.630	4.968	2.393	1.640	3.085
OWN	0.544	0.592	0.266	0.420	0.440	0.331

Table 6. Peers selection by French acquirers

The sample consists of 170 evaluations produced by French acquirers. The dependent variable is the use of the method CCM or CTM (model 1 and 4), the number of peers (model 2 and 5), and the percentage of foreign peers using IFRS (model 3 and 6). The variables are defined as follows: IFRS is a dummy variable, which is equal to 1 if the target uses IFRS and 0 otherwise; SIZE is the logarithm of the total assets of the target firm; OWN is the percentage of shares owned by the acquirer before the cash takeover bid; Hostile is a dummy variable, which is equal to 1 if the takeover bid is hostile and 0 otherwise; MTB is the target's market-to-book ratio; Leverage is the ratio of total debt to total assets for the target; ROA is the return on assets of the target; Cross_country is a dummy variable, which is equal to 1 if the acquirer is from a different country and 0 otherwise; Financial is a dummy variable, which is equal to 1 if the acquirer is from the financial sector and 0 otherwise; Same_ind is a dummy variable, which is equal to 1 if the acquirer and the target are from the same industry, and 0 otherwise. In column (1) and (4), we use a Probit model. Robust standard-errors are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% or 10% thresholds respectively.

Model	(1)	(2)	(3)	(4)	(5)	(6)
Method	CCM	CCM	CCM	CTM	CTM	CTM
Dependent variable	Use of the method	Number of peers used	Percentage of foreign peers using IFRS	Use of the method	Number of peers used	Percentage of foreign peers using IFRS
IFRS	-0.13 (0.46)	0.25 (0.29)	0.00 (0.04)	0.27 (0.33)	0.39 (0.29)	-0.03 (-0.46)
SIZE	0.13 (1.50)	0.47** (2.30)	0.04*** (3.25)	0.25*** (0.09)	0.61 (1.58)	0.00 (0.28)
OWN	-1.83** (0.90)	-0.21 (-0.18)	0.08 (1.23)	-0.23 (0.47)	-1.03 (-0.47)	0.04 (0.41)
Hostile	- -	3.33 (1.23)	-0.02 (-0.12)	- -	-2.65 (-0.80)	-0.16 (-1.11)
MTB	0.03 (0.02)	0.17 (1.02)	-0.01 (-1.41)	0.00 (0.02)	1.06*** (3.44)	-0.00 (-0.19)
Leverage	2.09** (0.97)	-2.68 (-1.42)	-0.04 (-0.35)	0.25 (0.62)	-3.40 (-1.10)	-0.02 (-0.18)
ROA	1.69 (1.30)	-4.84* (-1.81)	0.16 (1.14)	2.06 (1.38)	-14.14** (-2.16)	0.22 (0.75)
Cross_country	-0.08 (0.40)	1.24* (1.82)	-0.06* (-1.75)	-0.38 (0.28)	1.12 (0.87)	0.01 (0.19)
Financial	0.72 (0.49)	-0.64 (-0.87)	-0.03 (-0.69)	-0.12 (0.29)	2.63* (1.94)	0.07 (1.21)
Same_ind	0.29 (0.43)	-1.02 (-1.23)	0.11** (2.42)	0.21 (0.34)	-0.86 (-0.58)	0.16** (2.43)
Constant	3.96 (232.94)	-1.49 (-0.29)	-0.49* (-1.84)	-2.87** (1.33)	-0.93 (-0.14)	-0.10 (-0.34)
Observations	170	150	150	170	74	74
R-squared	0.35	0.23	0.57	0.25	0.36	0.55
Time FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
F-statistic	-	1.102	4.774	-	0.800	1.771

Table 7. Analyse des valeurs des cibles obtenues par les acquéreurs français

The sample consists of 170 evaluations produced by French acquirers. The dependent variable is the objective premium (model 7 and 10) calculated as $(V0-Pm)/Pm$, the subjective premium (model 8 and 11) calculated as $(Po-V0)/Pm$ and the valuation range (model 9 and 12) calculated as $(Max\ value-Min\ value)/Pm$. The variables are defined as follows: IFRS is a dummy variable, which is equal to 1 if the target uses IFRS and 0 otherwise; SIZE is the logarithm of the total assets of the target firm; OWN is the percentage of shares owned by the acquirer before the cash takeover bid; Hostile is a dummy variable, which is equal to 1 if the takeover bid is hostile and 0 otherwise; MTB is the target's market-to-book ratio; Leverage is the ratio of total debt to total assets for the target; ROA is the return on assets of the target; Cross_country is a dummy variable, which is equal to 1 if the acquirer is from a different country and 0 otherwise; Financial is a dummy variable, which is equal to 1 if the acquirer is from the financial sector and 0 otherwise; Same_ind is a dummy variable, which is equal to 1 if the acquirer and the target are from the same industry, and 0 otherwise. Robust standard-errors are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% or 10% thresholds respectively.

Model	(7)	(8)	(9)	(10)	(11)	(12)
Method	CCM	CCM	CCM	CTM	CTM	CTM
Dependent variable	OBJECTIVE PREMIUM	SUBJECTIVE PREMIUM	RANGE	OBJECTIVE PREMIUM	SUBJECTIVE PREMIUM	RANGE
IFRS	-0.63*** (-3.01)	0.23 (1.23)	-0.10 (-0.80)	-0.03 (-0.22)	-0.02 (-0.15)	0.21 (1.59)
IFRS_peers	-0.70*** (-3.17)	0.36* (1.80)	-0.18 (-1.34)	-0.26 (-0.74)	-0.07 (-0.25)	-0.24 (-0.74)
IFRS*IFRS_peers	0.83*** (2.84)	-0.38 (-1.43)	0.19 (1.04)	-0.09 (-0.19)	0.44 (1.25)	0.09 (0.22)
Size	-0.01 (-0.29)	0.00 (0.18)	-0.03* (-1.72)	0.07** (2.05)	-0.07*** (-2.62)	0.03 (1.06)
Own	0.11 (0.72)	-0.20 (-1.48)	-0.01 (-0.06)	0.05 (0.27)	-0.28* (-1.72)	-0.33* (-1.78)
Hostile	0.30 (0.89)	-0.58* (-1.89)	-0.09 (-0.42)	0.06 (0.19)	-0.18 (-0.76)	0.06 (0.21)
MTB	0.00 (0.15)	0.01 (0.36)	0.00 (0.23)	0.01 (0.19)	0.02 (1.01)	0.01 (0.49)
Leverage	-0.46* (-1.91)	0.16 (0.75)	0.06 (0.41)	-0.46 (-1.51)	0.50** (2.05)	-0.18 (-0.67)
ROA	-0.49 (-1.44)	-0.11 (-0.35)	-0.23 (-1.10)	-0.73 (-1.20)	-0.11 (-0.22)	-1.54*** (-2.76)
Cross_country	0.01 (0.14)	0.07 (0.92)	-0.00 (-0.05)	-0.09 (-0.79)	-0.03 (-0.35)	0.01 (0.13)
Financials	-0.01 (-0.13)	-0.10 (-1.16)	-0.06 (-1.07)	0.07 (0.59)	-0.12 (-1.22)	0.14 (1.21)
Same_ind	-0.03 (-0.31)	-0.06 (-0.68)	-0.06 (-0.91)	-0.19 (-1.27)	-0.04 (-0.33)	-0.21 (-1.54)
Constant	0.61 (1.16)	0.52 (1.08)	0.77** (2.39)	-0.58 (-0.86)	0.86 (1.59)	0.03 (0.05)
Observations	150	150	150	74	74	74
R-squared	0.27	0.19	0.25	0.77	0.84	0.87
Time FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
F-statistic	1.190	0.787	1.074	3.978	6.261	8.092

Table 8. Peers selection by French independent experts

The sample consists of 117 French fairness opinions. The dependent variable is the use of the method CCM or CTM (model 1 and 4), the number of peers (model 2 and 5), and the percentage of foreign peers using IFRS (model 3 and 6). The variables are defined as follows: IFRS is a dummy variable, which is equal to 1 if the target uses IFRS and 0 otherwise; SIZE is the logarithm of the total assets of the target firm; OWN is the percentage of shares owned by the acquirer before the cash takeover bid; Hostile is a dummy variable, which is equal to 1 if the takeover bid is hostile and 0 otherwise; MTB is the target's market-to-book ratio; Leverage is the ratio of total debt to total assets for the target; ROA is the return on assets of the target; Cross_country is a dummy variable, which is equal to 1 if the acquirer is from a different country and 0 otherwise; Financial is a dummy variable, which is equal to 1 if the acquirer is from the financial sector and 0 otherwise; Same_ind is a dummy variable, which is equal to 1 if the acquirer and the target are from the same industry, and 0 otherwise. In column (1) and (4), we use a Probit model. Robust standard-errors are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% or 10% thresholds respectively.

Model	(1)	(2)	(3)	(4)	(5)	(6)
Method	CCM	CCM	CCM	CTM	CTM	CTM
Dependent variable	Use of the method	Number of peers used	Percentage of foreign peers using IFRS	Use of the method	Number of peers used	Percentage of foreign peers using IFRS
IFRS	-1.42 (1.06)	-0.81 (-0.97)	-0.02 (-0.25)	0.09 (0.32)	-1.19 (-0.82)	0.19* (1.80)
Own	-7.09*** (2.48)	-2.98** (-2.14)	0.13 (1.22)	-1.12* (0.60)	-3.10 (-1.43)	0.32** (2.00)
Hostile	- -	-6.35* (-1.72)	0.57** (2.01)	- -	- -	- -
MTB	0.00 (0.14)	-0.00 (-0.01)	-0.00 (-0.19)	-0.06 (0.07)	0.41 (1.35)	0.03 (1.29)
Leverage	4.12* (2.37)	0.79 (0.32)	-0.18 (-0.99)	0.36 (0.92)	-1.77 (-0.47)	-0.46* (-1.66)
ROA	7.02** (3.00)	5.54 (1.62)	0.19 (0.73)	5.03** (2.03)	-13.77* (-1.68)	-0.55 (-0.92)
Size	-0.13 (0.26)	0.37 (1.41)	0.04* (1.94)	0.17* (0.10)	0.38 (1.14)	0.05* (1.89)
Cross_country	-2.13** (1.02)	-0.77 (-0.85)	-0.06 (-0.89)	-0.32 (0.36)	-0.15 (-0.11)	0.05 (0.51)
Financials	0.62 (1.07)	-0.87 (-0.92)	-0.02 (-0.34)	-0.42 (0.42)	-0.29 (-0.20)	0.12 (1.11)
Same_ind	2.07* (1.14)	-1.08 (-1.16)	0.03 (0.39)	0.18 (0.38)	0.48 (0.37)	0.04 (0.44)
Constant	22.87 (1059.19)	2.40 (0.51)	0.03 (0.09)	-1.56 (1.42)	-4.61 (-0.82)	-0.69 (-1.64)
Observations	117	104	104	117	52	52
R-squared	0.55	0.26	0.41	0.24	0.41	0.53
Time FE	YES	YES	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES	YES	YES
F-statistic		1.099	2.195		0.849	1.376

Table 9. Analyse des valeurs des cibles obtenues par les experts français

The sample consists of 117 French fairness opinions. The dependent variable is the objective premium (model 7 and 10) calculated as $(V0-Pm)/Pm$, and the valuation range (model 9 and 12) calculated as $(Max\ value-Min\ value)/Pm$. The variables are defined as follows: IFRS is a dummy variable, which is equal to 1 if the target uses IFRS and 0 otherwise; SIZE is the logarithm of the total assets of the target firm; OWN is the percentage of shares owned by the acquirer before the cash takeover bid; Hostile is a dummy variable, which is equal to 1 if the takeover bid is hostile and 0 otherwise; MTB is the target's market-to-book ratio; Leverage is the ratio of total debt to total assets for the target; ROA is the return on assets of the target; Cross_country is a dummy variable, which is equal to 1 if the acquirer is from a different country and 0 otherwise; Financial is a dummy variable, which is equal to 1 if the acquirer is from the financial sector and 0 otherwise; Same_ind is a dummy variable, which is equal to 1 if the acquirer and the target are from the same industry, and 0 otherwise. Robust standard-errors are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% or 10% thresholds respectively.

Model	(7)	(9)	(10)	(12)
Method	CCM	CCM	CTM	CTM
Dependent variable	OBJECTIVE PREMIUM	RANGE	OBJECTIVE PREMIUM	RANGE
IFRS	0.01 (0.03)	0.17 (1.26)	-0.32 (-1.05)	-0.12 (-0.65)
IFRS_peers	-0.05 (-0.23)	0.33** (2.26)	-0.09 (-0.31)	-0.02 (-0.10)
IFRS*IFRS_peers	-0.10 (-0.35)	-0.28 (-1.49)	0.49 (1.24)	-0.02 (-0.08)
Own	-0.13 (-0.80)	-0.07 (-0.68)	-0.19 (-0.81)	-0.13 (-0.93)
Hostile	0.21 (0.48)	-0.27 (-0.98)	- -	- -
MTB	-0.01 (-0.35)	-0.01 (-1.11)	0.01 (0.44)	0.01 (0.27)
Leverage	-0.64** (-2.31)	-0.07 (-0.38)	0.75* (1.83)	-0.04 (-0.16)
ROA	-0.38 (-0.95)	-0.53** (-2.12)	0.55 (0.63)	0.82 (1.52)
Size	-0.02 (-0.68)	-0.03* (-1.77)	-0.02 (-0.63)	-0.05** (-2.33)
Cross_country	0.01 (0.06)	0.04 (0.68)	0.11 (0.77)	-0.12 (-1.34)
Financials	-0.00 (-0.04)	0.03 (0.50)	-0.05 (-0.34)	0.12 (1.29)
Same_ind	0.01 (0.06)	0.04 (0.64)	-0.05 (-0.32)	-0.03 (-0.31)
Constant	0.54 (0.90)	0.46 (1.23)	0.71 (0.98)	0.54 (1.21)
Observations	104	104	52	52
R-squared	0.21	0.29	0.33	0.60
Time FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES
F-statistic	0.728	1.139	0.502	1.548

Table 10. Sélection des peers par les experts suisses

The sample consists of 43 Swiss fairness opinions. The dependent variable is the number of peers used (model 2) and the percentage of foreign peers using IFRS (model 3). The variables are defined as follows: IFRS is a dummy variable, which is equal to 1 if the target uses IFRS and 0 otherwise; SIZE is the logarithm of the total assets of the target firm; OWN is the percentage of shares owned by the acquirer before the cash takeover bid; Hostile is a dummy variable, which is equal to 1 if the takeover bid is hostile and 0 otherwise; MTB is the target's market-to-book ratio; Leverage is the ratio of total debt to total assets for the target; ROA is the return on assets of the target; Cross_country is a dummy variable, which is equal to 1 if the acquirer is from a different country and 0 otherwise; Financial is a dummy variable, which is equal to 1 if the acquirer is from the financial sector and 0 otherwise; Same_ind is a dummy variable, which is equal to 1 if the acquirer and the target are from the same industry, and 0 otherwise. Robust standards-errors are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% or 10% thresholds respectively.

Model	(2)	(3)
Method	CCM	CCM
Dependent variable	Number of peers used	Percentage of foreign peers using IFRS
IFRS	-0.93 (-0.43)	-0.33*** (-2.61)
Own	-2.80 (-0.88)	0.07 (0.39)
Hostile	-2.63 (-1.13)	-0.16 (-1.18)
MTB	2.78*** (3.10)	-0.16*** (-3.13)
Leverage	-2.10 (-0.30)	1.14*** (2.82)
ROA	13.29 (0.62)	0.99 (0.78)
Size	2.47*** (3.93)	-0.01 (-0.31)
Cross_country	-1.97 (-1.03)	-0.00 (-0.04)
Financials	5.06*** (2.61)	0.13 (1.17)
Same_ind	0.42 (0.14)	0.03 (0.18)
Constant	-28.07*** (-3.13)	0.35 (0.66)
Observations	40	40
R-squared	0.66	0.67
Time FE	YES	YES
Industry FE	YES	YES
F-statistic	0.966	1.001

Table 11. Analyse des valeurs des cibles obtenues par les experts suisses

The sample consists of 43 Swiss fairness opinions. The dependent variable is the objective premium (model 7) calculated as $(V0-Pm)/Pm$, and the valuation range (model 10) calculated as $(Max\ value-Min\ value)/Pm$. The variables are defined as follows: IFRS is a dummy variable, which is equal to 1 if the target uses IFRS and 0 otherwise; SIZE is the logarithm of the total assets of the target firm; OWN is the percentage of shares owned by the acquirer before the cash takeover bid; Hostile is a dummy variable, which is equal to 1 if the takeover bid is hostile and 0 otherwise; MTB is the target's market-to-book ratio; Leverage is the ratio of total debt to total assets for the target; ROA is the return on assets of the target; Cross_country is a dummy variable, which is equal to 1 if the acquirer is from a different country and 0 otherwise; Financial is a dummy variable, which is equal to 1 if the acquirer is from the financial sector and 0 otherwise; Same_ind is a dummy variable, which is equal to 1 if the acquirer and the target are from the same industry, and 0 otherwise. Robust standard-errors are in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% or 10% thresholds respectively..

Model	(7)	(10)
Method	CCM	CCM
Dependent variable	OBJECTIVE PREMIUM	RANGE
IFRS	0.27 (0.86)	0.34*** (2.65)
IFRS_peers	0.76* (1.74)	0.50*** (2.83)
IFRS*IFRS_peers	-0.95* (-1.87)	-0.59*** (-2.83)
Own	0.12 (0.51)	0.23** (2.33)
Hostile	0.28* (1.67)	0.01 (0.12)
Mtb	-0.03 (-0.45)	-0.02 (-0.59)
Leverage	0.08 (0.15)	0.21 (0.97)
Roa	1.74 (1.08)	0.62 (0.94)
Size	-0.02 (-0.37)	0.00 (0.02)
Cross_country	0.34** (2.50)	0.08 (1.54)
Financials	0.07 (0.52)	0.04 (0.65)
Same_ind	0.57*** (2.59)	0.10 (1.16)
Constant	-0.95 (-1.47)	-0.76*** (-2.87)
Observations	40	40
R-squared	0.70	0.65
Time FE	YES	YES
Industry FE	YES	YES
F-statistic	0.928	0.723

Figure 1. Impact of target’s accounting standard on the “objective premium” (with CCM for French acquirers)

This figure shows how the percentage of peers using IFRS affects the objective premium computed for French acquirers using CCM, depending on the accounting standards used by the target (IFRS or Local GAAP).

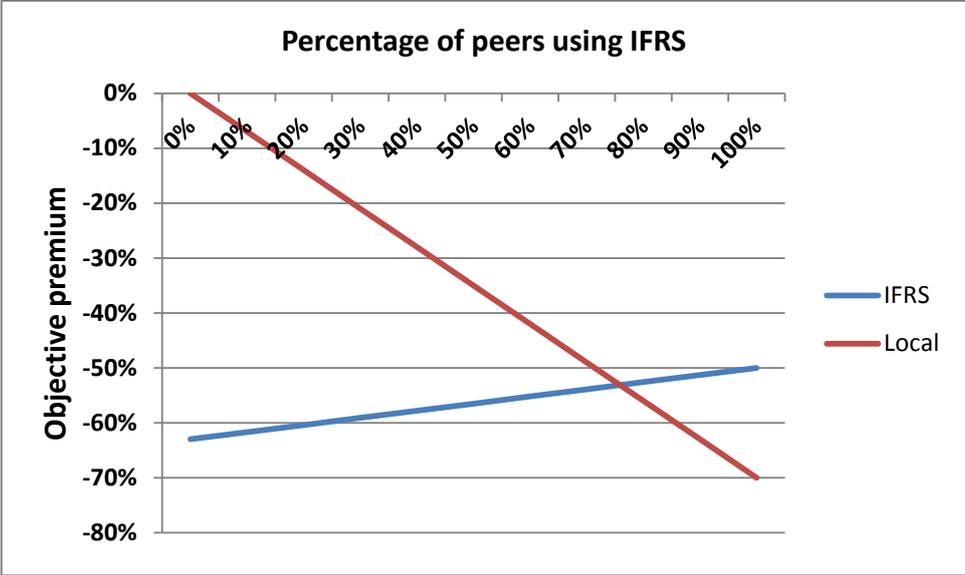


Figure 2. Impact of target’s accounting standard on the range (with CCM for Swiss experts)

This figure shows how the percentage of peers using IFRS affects the range computed for Swiss independent experts using CCM, depending on the accounting standards used by the target (IFRS or Local GAAP).

