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**FINANCIAL REPORTING QUALITY IN PRIVATE EQUITY BACKED  
COMPANIES: THE IMPACT OF OWNERSHIP CONCENTRATION**

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## **ABSTRACT**

We argue and empirically show on a sample of 270 unquoted, private equity backed companies that the shareholder structure of private companies influences the quality of their accounting information. We show that companies in which private equity (PE) investors have a higher equity stake produce accounting information that is of lower quality than companies in which PE investors have a lower equity stake, controlling for company size and age. We argue that this is evidence that a large equity stake is a substitute for high earnings quality.

## INTRODUCTION

It is well documented that getting private equity<sup>1</sup> (PE) has a profound influence on the way entrepreneurial companies operate. PE investors are active financial intermediaries (Bottazzi, da Rin and Hellmann, 2004), since they operate in an environment characterized by extensive information asymmetries and hence large problems of adverse selection and moral hazard (Brander, Antweiler and Amit, 2002). Problems of illiquidity and non-diversifiability of their investments, creating high idiosyncratic and market risk, enhance the need for active oversight.

Private equity investors have two distinct roles: that of monitoring the progress of the portfolio company and that of supporting the portfolio company, thereby creating value (Manigart and Sapienza, 1999). There is ample evidence that especially the highly respected PE firms have a positive contribution to their portfolio companies (Bottazzi et al., 2004): they give strategic, business and financial advice (Sapienza, Manigart and Vermeir, 1996), they are instrumental in the recruitment of top management team members (Hellmann and Puri, 2002), and they act as a source of professional and industry contacts (Sapienza et al., 1996). PE backed companies contribute more to innovation (Kortum and Lerner, 2000) and put their products faster on the market than non-PE backed companies (Hellmann and Puri, 2000).

Although our understanding of the value adding role of PE companies rapidly increases, relatively little is known on how they monitor the performance of their portfolio companies (Pruthi, Wright and Lockett, 2003; Beuselinck, Manigart and Van Cauwenberge, 2005). The European Venture Capital and Private Equity Association (EVCA) Book of Guidelines (chapter 4, p. 40) states that “*monitoring should allow the manager to confirm that the investment is progressing in accordance with the relevant business plan and should provide sufficient information to identify any failures to meet targets or milestones and to formulate remedial plans where necessary*”.

Monitoring is important for PE investors, as PE backed entrepreneurs have incentives to manipulate the short term performance of the venture, especially when the venture is performing poorly (Sapienza and Korsgaard, 1996) or when capital is invested in stages

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<sup>1</sup> We define the term “private equity” as the provision of (quasi) equity to unquoted companies by professional intermediaries. Venture capital provided to early stage companies is thus a subset of private equity as defined here.

(Cornelli and Yosha, 2003). Hence, agency conflicts between entrepreneurs and investors may arise. Monitoring is also important for other stakeholders, as PE investors have a certifying role towards third parties such as banks, suppliers, customers and employees. Monitoring efforts by PE investors may create positive externalities for their portfolio companies, resulting in a higher level of professionalism (Hellmann and Puri, 2002). An important but often overlooked feature of the enhanced professionalism is the quality of financial reporting of portfolio firms (Beuselinck, Deloof and Manigart, 2004). Hand (2005), e.g., illustrates that monitoring efforts in a PE process indeed impacts the value relevance of financial statements of PE-backed companies, especially when they are more mature.

PE investors acknowledge that one of their important roles is to organize a reliable internal and external control and audit system (Falconer, Reid and Terry, 1995; Kaplan and Strömberg, 2004). Representatives of PE investors therefore often have a seat on the board of directors (Kaplan and Strömberg, 2001) where the progress of the venture is regularly assessed. They further have informal contacts with the entrepreneur and key managers (Sapienza et al., 1996) and they require structured interim information between board meetings (Beuselinck, et al., 2005). This information is supplemented with ad-hoc communication when specific events take place. The focus of the control mechanisms is on the accounting and financial figures, rather than on the operational issues, especially for later stage portfolio companies (Falconer, et al., 1995; Beuselinck et al., 2005).

This paper contributes to the rather novel literature on the interaction between PE governance and the quality of external financial reporting in unquoted companies. It has been shown that PE investors, as informed financial intermediaries, not only improve information production within the entrepreneurial company, but also influence the accounting information presented by their portfolio companies (Beuselinck et al., 2004). In this study, we examine the relation between PE shareholdership and the quality of financial reporting of their portfolio companies. We argue and empirically show on a sample of 270 unquoted PE backed Belgian companies that the quality of the accounting information presented by entrepreneurial companies depends on the equity percentage held by the PE investor. More specifically, the quality of the accounting information is highest when PE investors have low equity stakes, and the information quality decreases when the equity stakes of the PE investors is high.

We measure earnings quality through two of its vital attributes: the extent of earnings management and the timeliness of loss reporting. We define earnings management as the intentional modification of a firm's performance by insiders to either mislead stakeholders or to influence contract terms. In general, more earnings management is associated with lower quality financial information (Francis et al., 2003). The second attributed used to study earnings quality, namely the timeliness of loss reporting, is a measure of the conservatism of the reported earnings. Reporting losses in a timely manner, rather than spreading the losses over future periods, is an additional indicator of earnings quality (Francis et al., 2003 ).

Our findings are important, as different groups of stakeholders rely on accounting information provided by private companies. For banks, accounting information is important for credit decisions and for their monitoring of the entrepreneurial companies, but it is equally important for employees, suppliers and customers, as all these stakeholders are interested in the financial health of the focal company. Hence, knowing the corporate governance and shareholder structure of the company is important to assess the quality of the reported financial and accounting information. The current findings suggest that it is important for external stakeholders to consider the shareholder structure of unlisted firms since this inherently influences the quality of the disclosed financial reporting. This study is unique in that it is one of the first examinations of the extent of PE ownership and control and its impact on the financial reporting quality of portfolio companies.

## **THEORY DEVELOPMENT**

Although most of the studies on earnings quality relate to publicly quoted companies, there is recent evidence that the quality of reported earnings of private companies is lower than that of quoted companies (Ball and Shivakumar, 2005). This is explained by the observation that private companies have a lower need to produce high quality information, as they do not have to report to external shareholders and are not followed by financial analysts (Ball and Shivakumar, 2005). Beuselinck et al. (2004) have shown, however, that the quality of reported earnings is higher for unlisted PE-backed companies than for comparable companies that did not receive PE. This is a consequence of the fact that PE investors have strong incentives to closely monitor the performance of their portfolio companies in order to minimize potential moral hazard problems between entrepreneurs and investors (Sapienza and Korsgaard, 1996; Cornelli and Yosha, 2003). Enhanced monitoring by PE investors reduces

post-investment financial reporting flexibility and, as such, increases the quality of the reported earnings. While PE investors especially focus on the quality of the internally reported information (Falconer, et al., 1995; Kaplan and Strömberg, 2004), one may argue that improved quality of internal information leads to improved quality of externally presented accounting information. Indeed, while presenting two sets of performance figures - one for internal use and one for external use - is common practice in large companies, this practice induces higher accounting and audit costs which may be excessive for small companies. High quality internal figures thus leads to high quality externally reported figures.

We argue that PE ownership concentration, i.e. the equity percentage held by the PE investor in its portfolio company, influences the quality of the earnings reported by the portfolio company, due to the specific events and contractual relations that govern the PE process. First, given the nature of the contracts between the PE investors and the entrepreneurial companies, entrepreneurs have incentives to manipulate the short term performance of the venture, especially when the venture is performing poorly (Sapienza and Korsgaard, 1996; Cornelli and Yosha, 2003). When predefined milestones are not achieved, PE investors often have the possibility to acquire a higher equity stake and more control in the company (Kaplan and Strömberg, 2004) or deny further financing when financing is contracted in stages (Cornelli and Yosha, 2003). In order to minimize the probability of not attaining milestones, entrepreneurs may engage in earnings management activities. Hence, PE monitoring is a natural response to the agency problems inherent to this PE process and restrains the financial reporting flexibility of portfolio companies. Kaplan and Strömberg (2004) have shown that the higher the equity percentage that a PE investor holds in a portfolio company, the tighter the governance and control of the venture will be. To the extent that this increased governance is a complement of financial reporting quality, tighter control would lead to closer monitoring of the reported accounting figures in order to minimize agency conflicts between entrepreneurs and investors, and thus to increased earnings quality.

Second, most portfolio firms have a high demand for additional external financing, as they are growth oriented, requiring large investments or are operating with negative cash flows. The initial PE investment is not sufficient to cover their external financing needs in most companies. Therefore, after having received PE, PE backed companies frequently issue significant amounts of bank debt or equity to the existing or to new investors (Baeyens and Manigart, 2005). Recent studies have shown that, in the long run, quoted companies are able

to attract more financing at better terms, leading to lower cost of capital and enhanced value, when the quality of the reported earnings is higher (Bharat, Sunder and Sunder, 2004; Francis et al., 2003). Given the professionalism of PE investors and given that they have more influence when holding larger equity stakes, a higher equity stake of the PE investor will lead to higher quality accounting information of the portfolio company.

Foregoing arguments lead to Proposition 1:

P1: The quality of the reported earnings of a PE backed company is positively related to the equity percentage a PE investor holds.

Alternatively, one may argue that the portfolio companies where the PE investors hold a higher equity percentage may have a lower quality of their reported earnings, because pursuing a policy of high quality financial reporting may result in significant costs for the portfolio companies. Following this reasoning, a high equity percentage substitutes for earnings quality, as the fact that the PE investor has a large equity stake in itself is already a positive signal towards external stakeholders, such as financiers or potential acquirers. Moreover, pursuing a high quality financial reporting potentially results in significant costs for the portfolio companies.

First, high earnings quality may increase the cost of financing in the short run. By not managing the financial figures and recognizing losses in a timely manner, debt covenant restrictions are potentially violated, thereby leading to a higher cost and lower availability of financing. Reporting an upwardly managed performance and delaying loss reporting may enhance the *short term* probability of getting bank or equity financing at better terms and conditions (Healy and Wahlen, 1999) or may enable firms to avoid violations of their existing debt covenants, resulting in a lower (re)financing cost (DeFond and Park, 1994). The high external financing needs of PE backed companies may thus lead them to manage their earnings or delay reporting losses, thus resulting in a lower quality of their earnings. Given that a high equity ownership percentage of the PE investor may be a signal of the seriousness of the entrepreneurial venture towards external stakeholders, PE ownership concentration may substitute for high earnings quality.

Second, the PE investors themselves may impact the reported earnings, as PE investors are exit oriented. They seek to sell their shares with considerable capital gains after

typically five to seven years. Typical exit routes for successful ventures are IPOs and trade sales, although the latter are more common in Continental Europe (EVCA, yearbooks). Selling shares to a third party is again an event around which earnings management may be beneficial. Acquirers typically perform extensive due diligence on the target company and are thus likely to detect the poor earnings quality. They may, however, expect that the earnings of a company that is up for sale are managed upwards, following the argument of Shivakumar (2000). If the target firm cannot credibly signal the high quality of the reported earnings, acquirers will treat all firms equal as having overstated their earnings. This leads acquirers to discount the price of all firms up for sale. Firms seeking an exit should therefore overstate their current earnings to a level, expected by acquirers. Since acquirers anticipate this behavior, no-one is fooled and low earnings quality is a natural outcome of this prisoner's dilemma game (Shivakumar, 2000). Again, as PE investors with high equity stakes have a stronger influence on the reported accounting information, they will push to lower earnings quality. Hence, Proposition 2 states:

P2: The quality of the reported earnings of a PE backed company is inversely related to the equity percentage a PE investor holds.

## **DESCRIPTION OF THE SAMPLE**

The sample consists of a unique hand-collected dataset of financial and non-financial data of 270 unquoted Belgian PE backed companies, covering the period 1985-1999. We focus on Belgian companies, as all Belgian companies are required by law to make their yearly financial statements public, enabling us to study the relation between financial reporting quality and PE governance at the time a firm is not publicly listed (yet).<sup>2</sup> As the accounting information of start-ups is often incomplete or not meaningful, we included only firms that were at least two years old when they first received PE. Companies that received PE were identified through annual reports of PE investors, investment reports and press releases. Financial statements of the sample firms are supplied by the National Bank of Belgium and retrieved from Belfirst DVD, a financial database supplied by Bureau Van Dijk. The yearly financial statements from the investment year up to maximally 10 years after the

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<sup>2</sup> Hellmann and Puri (2002) document that the effect that PE investors have on their portfolio companies is strongest when firms are not publicly listed. This dataset provides an excellent opportunity to analyze the under-explored impact that PE governance has on the financial reporting behavior of their unlisted portfolio firms.

investment are used in the analyses. Next to financial statement information, we collect the equity stake initially held by the PE investor.<sup>3</sup>

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Insert Table 1 about here

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Table 1 shows the characteristics of the sample firms. Panel A shows the frequency distribution of the equity stake of the lead investor. It is clear from Table 1, panel A, that the average equity percentage held by PE investors is low, but that there is a high variation with a minimum of 5.7% and a maximum of 82.9%. PE equity investors hold less than 20% of the shares in almost one in four of the portfolio companies, less than 28% in half of the companies, and less than 40% in three quarters of the companies. PE investors hold a majority stake of 50% or more in only 1.9% of the sample firms.

Table 1, panel B, shows the distribution of the age of the portfolio companies when they received their first PE investment. A substantial number of firms is relatively young. 10% of the sample firms are only two years old when they received PE, about half of the sample firms are less than five years old and about 60% are younger than seven years when they receive PE financing for the first time. The variation in age again is large, as almost 30% of the firms in the sample are more than 10 years old when receiving PE.

With respect to industry classification (measured by one-digit NACE classification and reported in Table 1, panel C), most sample firms are active in metal manufacturing and electronic devices (21%), in business services (17%) and in distribution, trade and retail (17%).

For the purpose of our analyses, we split the sample into PE backed companies in which the PE investor holds relatively low equity stakes (defined as less than 40 %) and those in which the PE investor holds relatively high equity stakes (more than 40%). This corresponds to comparing the subset of firms in the highest PE ownership quartile compared to all other PE backed firms and results in 1,435 (75%) PE-backed companies with low equity stakes and 455 (25%) PE-backed companies with high equity stakes. We did sensitivity analyses with other cut-offs for low and high equity stakes, which did not alter the results.

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<sup>3</sup> We consider the equity stake of the lead investor when more than one PE investor invested in the company.

The dummy variable HighEquity% takes a value of 1 if the PE investor holds more than 40% of the shares and 0 if the investor holds less than 40% of the shares.

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Insert Table 2 about here

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Table 2 shows the variables used in the multivariate analyses, for the two groups of low equity percentage and high equity percentage firms. High equity percentage firms are significantly smaller (with size measured as total assets) than low equity percentage firms, both with respect to mean and median values. This finding is intuitively clear, as it is easiest for PE investors to have high equity ownership stakes in smaller firms. Low equity percentage firms are significantly older (mean of 14.8 years) than high equity percentage firms (mean of 13.4 years), although the difference is not important in real terms. The other variables are not significantly different between the two subsets of firms: the EBIT, the cash flow, the change in profits before and after taxes and the accounting accruals are comparable for low equity percentage and high equity percentage firms.

## METHODS OF ANALYSIS

We measure earnings quality through two of its vital attributes: the extent of earnings management and the timeliness of loss reporting.

### **Tests of earnings management**

Consistent with earlier research, we define earnings management as the intentional modification of a firm's performance by insiders to either mislead stakeholders or to influence contract terms. Mainstream accounting research measures the extent of earnings management through the accruals components in a company's financial statements. Accruals are accounting elements that distinguish a firm's cash flow from operation from its reported earnings. Part of these accruals follow inherently from the growth of business activities, but managers have some flexibility in reporting accruals so as to influence the bottom line reported earnings (Leuz, Nanda and Wysocki, 2003). Accounting research generally considers accruals related to working capital and depreciation policy. By definition, accruals are computed as:

$$\begin{aligned} \text{Accruals} = & \Delta (\text{Accounts Receivable} + \text{Inventory} + \text{Other Current Assets}) \\ & - \Delta (\text{Accounts Payable} + \text{Other Current Liabilities}) - \text{Depreciation} \end{aligned} \quad (1)$$

The basic role of accruals is to mitigate noise in operating cash flow and to construct an earnings variable that is less noisy over time than the realized cash flow figure. As a result, through the incorporation of accruals, earnings figures should be more closely related to the real underlying firm performance than cash flow figures are (Dechow, 1994; Ball and Shivakumar, 2005). Hence, it is clear that accruals and cash flow are both contemporaneously and serially negatively correlated over time. However, larger magnitudes of this correlation do not reflect a firm's underlying economic performance and are considered to be a signal of earnings management (Leuz et al., 2003). We therefore test the intrinsic relation between accruals and cash flow and differentiate our analyses for high versus low equity ownership percentages. This results in the following model:

$$\begin{aligned} TA_{i,t} = & \alpha_{i,t} + \beta_1 OCF_{i,t} + \beta_2 \text{HighEquity}\%_i + \beta_3 \text{HighEquity}\%_i \times OCF_{i,t} + \\ & \beta_4 \log(\text{TotalAssets})_{i,t} + \beta_5 \log(\text{Age})_{i,t} + \Theta \text{IND}_i + \varepsilon_{i,t} \end{aligned} \quad (2)$$

with  $i$  = a firm indicator and  $t$  = a time indicator

$TA$  = total accruals

$\text{High Equity}\%$  (dummy variable) = 1 if PE investors have equity stake higher than cut-off level, 0 otherwise

$OCF$  = operational cash flow

$\ln(\text{TotalAssets})$  = natural logarithm of total assets

$\ln(\text{Age})$  = natural logarithm of the firms' age

$IND$  = industry dummies (one-digit sector codes)

Because of the intrinsic negative relation between total accounting accruals and operational cash flow, we expect  $\beta_1$  to be significantly negative. Next to the OCF variable, we include the HighEquity% dummy and the interaction between the HighEquity% dummy and OCF. If there is a difference in earnings management behavior between high and low equity ownership firms, this will result in a significant coefficient for  $\beta_3$  the coefficient of interest. A significantly positive coefficient of the interaction term supports Proposition 1, while a negative coefficient supports Proposition 2. Further, total assets and age are included as control variables, given that the bivariate analyses have shown that companies in which PE

investors have a high equity stake are typically smaller and younger. Finally, *IND* controls for industry fixed effects (one-digit sector codes).

### Tests of timely loss recognition

The second characteristic used to study earnings quality, namely the timeliness of loss reporting, is a measure of the conservatism of the reported earnings. Reporting losses in a timely manner, rather than spreading the losses over future periods, leads to more conservative earnings (Ball and Shivakumar, 2005). It is an indicator of earnings quality, since conservative financial statements are more reliable for creditors, shareholders, managers and other external parties to assess the proper value of the company (Watts, 2003). Following the Ball and Shivakumar model (2005), earnings are of a higher quality if bad news is reported as a transitory shock (i.e. a one-time dip) in current earnings. We measure timely loss reporting in accounting income by focusing on the tendency for income decreases to reverse. If prior-period decreases show a higher tendency to reverse than prior-period earnings increases, this is evidence of a higher willingness to recognize losses timely and corresponds to a higher earnings conservatism. Transitory gain and loss components are estimated by following model:

$$\Delta NI_t = \beta_0 + \beta_1 NEG(\Delta NI)_{t-1} + \beta_2 \Delta NI_{t-1} + \beta_3 NEG(\Delta NI)_{t-1} * \Delta NI_{t-1} + \varepsilon_t, \quad (3)$$

with:  $\Delta NI_t$  = income level change at time  $t$ , scaled by beginning-of-the-year book value of total assets  
 $\Delta NI_{t-1}$  = income level change at time  $t-1$ , scaled by beginning-of-the-year book value of total assets  
 $NEG(\Delta NI)_{t-1}$  = dummy variable taking the value of 1 when prior-period earnings changes are negative

By making the estimation model dependent on prior period earnings decreases, we are able to study the reversion tendency of losses and gains separately. If losses are recognized in a timely manner, then the coefficient ( $\beta_2 + \beta_3$ ) will be negative. Further, losses are recognized in a more timely way than gains if  $\beta_3 < 0$ . To test the relationship between the equity percentage of the PE investor and timely loss recognition, we supplement model (3) with the HighEquity% (HEP) dummy.

This results in the model (4):

$$\Delta NI_t = \alpha_0 + \beta_1 NEG(\Delta NI)_{t-1} + \beta_2 \Delta NI_{t-1} + \beta_3 NEG(\Delta NI)_{t-1} * \Delta NI_{t-1} + \beta_4 HEP + \beta_5 HEP * NEG(\Delta NI)_{t-1} + \beta_6 HEP * \Delta NI_{t-1} + \beta_7 HEP * NEG(\Delta NI)_{t-1} * \Delta NI_{t-1} + \varepsilon_t \quad (4)$$

with:  $\Delta NI_t$  = income level change at time  $t$ , scaled by beginning-of-the-year total assets  
 $\Delta NI_{t-1}$  = income level change at time  $t-1$ , scaled by beginning-of-the-year total assets  
 $NEG(\Delta NI)_{t-1}$  = dummy for prior-period negative income level change  
 $HEP$  = dummy variable = 1 if PE investors have equity stake higher than cut-off level, 0 otherwise

When interpreting the coefficients, we are mainly interested in differences in timely loss reporting between companies with high equity percentages of the PE investors and those with low equity percentages of the PE investors. Therefore, our discussion will primarily focus on  $\beta_6 + \beta_7$  which measures the compound effect for differences in timely loss reporting between both sub samples. If  $\beta_6 + \beta_7 < 0$  (resp.  $> 0$ ), then HighEquity% companies recognize losses more timely (resp. less timely) compared to LowEquity% companies. Remark that, if  $\beta_7 < 0$  (resp.  $> 0$ ), then HighEquity% firms recognize losses more timely (resp. less timely) than gains, compared to LowEquity% firms.

## MULTIVARIATE FINDINGS

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Insert Table 3 about here

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Table 3 reports the accruals – cash flow models. Regression (1) models the accruals as a function of the operational cash flow and the size and age control variables. In regression (2), we condition for high versus low equity percentage firms, without taking the control variables into account. Regression (3) is the full model and is similar to regression (2) but additionally incorporates the control variables for size and age. All models are highly significant.

Table 3 clearly shows that accounting accruals and cash flows are negatively correlated. This is consistent with general findings in the accounting literature (e.g. Ball and Shivakumar, 2005). The coefficient of the interaction term ( $\beta_2$ ), which is the coefficient of

interest for our propositions, is significant and negative in all regressions. This supports Proposition 2, as it indicates that the accruals of companies in which PE investors hold large equity stakes are more negatively related to the operational cash flows than in companies in which PE investors hold small equity stakes. Further, the coefficients of the control variables (age and size) are significant and positive.

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Insert Table 4 about here

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Table 4 reports the timeliness of loss reporting models. We test for earnings conservatism using two different income levels, namely profit before taxes (regressions (1) and (2)) and profit after taxes (regressions (3) and (4)). The first and third column show the estimation results of the base model (3), while the second and fourth column show the estimation of the full model (4) including the HighEquity% (HEP) variables. All models are significant and adding the HighEquity% variables significantly improves the fit of the models.

The coefficient of  $D(\Delta NI)_{t-1} \times \Delta NI_{t-1}$ , ( $\beta_3$ ) is significant and negative in Regressions (1) and (3), without taking equity percentages into account. This indicates that losses are recognized more timely than gains by all firms in the sample. Further, ( $\beta_2 + \beta_3$ ) is significant and negative in Regressions (1) and (3), strengthening the finding of timely recognition of losses. When adding the HighEquity% dummy variable and interaction terms in Regression (2) and (4),  $\beta_7$  is significantly positive, indicating that high equity percentage companies recognize losses less timely than gains, compared to low equity percentage companies. Results hold for both profit before and after taxes. This finding again supports Proposition 2: companies in which PE investors hold a large equity stake recognize losses less timely than those with a small equity stake.

Both the accruals-cash flow and the timeliness of loss reporting analyses support Proposition 2 rather than Proposition 1, suggesting that the quality of reported earnings is higher for companies in which PE investors have a low equity stake.

## CONCLUSION AND DISCUSSION

The governance and shareholder structure of an unquoted company has impact on how that company functions (Cowling, 2003). We have provided further evidence on how shareholders impact one aspect of the professionalization of a portfolio company, namely the quality of its financial accounts provided to the outside community. While previous research has shown that the quality of the financial accounts of an unquoted company significantly improves when a PE investor becomes a shareholder, our study provides evidence that the equity percentage held by the PE investor has a moderating impact on the quality of the financial accounts. The quality improvement is lower when the PE investor holds a large equity stake, while it is higher when the PE investor holds a small equity stake. More precisely, the earnings management is larger and the timeliness of the reported losses is lower in portfolio companies in which PE investors hold a large equity stake, compared to those in companies in which PE investors hold a smaller equity stake.

We interpret this as evidence that the quality of the financial accounts of an unquoted company and the proportional equity stake of an external PE investors are substitutes rather than complements. Although having a PE investor as a shareholder results in high earnings quality on average, a higher PE equity stake typically corresponds to higher monitoring and control efforts and substitutes for the need of high earnings quality. Pursuing a high earnings quality reporting strategy might be beneficial in prospect of a future (trade) sale, but results in a higher probability of missing short term earnings targets. As a consequence, financing costs are typically higher and the probability of getting additional financing may decrease. Professional PE investors are aware of the costs associated with this strategy and might attempt to substitute for this quality signal. The current results indicate that the proportional equity stake a PE investor holds, as an indicator of their monitoring impact, serves as a substitute for an – often expensive – high earnings quality reporting strategy.

This finding is important for external stakeholders that intensively rely on financial accounts of companies in their decision making process. These include parties such as banks, who often rely on the financial accounts for their loan granting decisions, suppliers, customers and employees, but also new later-round equity investors or acquirers. These parties all should realize that the quality of the reported financial performance should not be taken at face value. Although the quality of the accounting figures of PE backed companies is, in general, better

than that of comparable companies that are not backed by PE investors, it is further important to know the percentage of the equity held by the PE investor. Higher equity stakes are associated with lower quality of the reported earnings.

Our study has some limitations. First, we focus on the reporting quality of Belgian PE backed companies. Belgium has a bank-centered financial system; therefore, the results may not be transferable to economies with a more equity-centered financial system such as the UK or the US. However, this Belgian institutional context is unique since it allows to do accounting quality analyses on unquoted PE backed companies. This is a subset of firms that have largely been neglected in the accounting literature, given the difficulties of getting these data in other countries. Further, since we looked at quality attributes of the financial accounts of unquoted companies, we could only focus on two attributes of this quality. These attributes are, however, very important earnings quality attributes. Third, the nature of the data prevented more fine-grained analyses. For example, a more direct measurement of the monitoring efforts of the PE firm and its impact on the reporting quality of the portfolio company might yield additional insights. Nevertheless, the present study provided one more piece of hard evidence on how PE investors influence the professionalization of their portfolio companies.

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**TABLE 1****Characteristics of sample companies (N=270)****Panel A: Frequencies of ownership percentage of the lead PE investor**

OWNERSHIP %	Percentage of sample firms	Cumulative percentage of sample firms
Minimum	5.7	-
5% < X < 10%	6.8	6.8
10% < X < 20%	17.9	24.7
20% < X < 25%	20.1	44.8
25% < X < 30%	16.1	60.9
30% < X < 40%	15.0	75.9
40% < X < 50%	22.2	98.1
50% < X < 60%	1.2	99.3
> 60%	0.7	100.0
Maximum	82.8	-

**Panel B: Age of the portfolio company at initial PE investment**

AGE in years	Percentage of sample firms	Cumulative percentage of sample firms
2	10.0	10.0
2 < X < 3	25.2	35.2
3 < X < 4	10.5	45.7
4 < X < 5	6.7	52.4
5 < X < 7	8.2	60.6
7 < X < 10	11.2	71.8
More than 10	29.2	100.0

**Panel C: Industry concentration of portfolio companies (Top 3 Broad Sector Definitions)**

INDUSTRY	N	Percentage
Metal Manufacture and Electronic Devices	57	21.2
Business Services	46	17.1
Distribution, Trades and Retail	46	17.1

**TABLE 2****Summary statistics of variables across high and low equity ownership firms**

	Sample	N	Mean	Median	Min.	Max.	5 <sup>th</sup> Percentile	95 <sup>th</sup> Percentile
Total assets	Highperc. = 1	455	10,390,369	2,233,099	126,475	212,540,065	240,977	45,234,941
	Highperc. = 0	1435	15,904,701 <sup>***</sup>	4,859,283 <sup>***</sup>	127,513	260,130,838	407,710	61,903,698
Age	Highperc. = 1	455	13.41	10.00	2.00	74.00	3.00	31.00
	Highperc. = 0	1435	14.81 <sup>**</sup>	11.00 <sup>**</sup>	2.00	71.00	3.00	38.00
EBIT	Highperc. = 1	455	0.038	0.039	-0.572	0.683	-0.124	0.172
	Highperc. = 0	1435	0.042	0.044	-0.847	0.971	-0.156	0.198
Accruals	Highperc. = 1	455	-0.067	-0.065	-0.659	0.442	-0.331	0.182
	Highperc. = 0	1435	-0.071	-0.059	-0.714	0.616	-0.347	0.167
Cash Flow	Highperc. = 1	455	0.076	0.070	-0.606	0.588	-0.187	0.321
	Highperc. = 0	1435	0.086	0.082	-0.681	0.672	-0.173	0.349
$\Delta$ (Profit Before Taxes)	Highperc. = 1	455	0.018	0.001	-0.463	0.890	-0.149	0.199
	Highperc. = 0	1435	0.013	0.002	-0.460	0.677	-0.189	0.252
$\Delta$ (Profit After Taxes)	Highperc. = 1	455	0.008	0.001	-0.463	0.678	-0.150	0.192
	Highperc. = 0	1435	0.011	0.002	-0.460	0.677	-0.181	0.236

Note: Differences between sample means (medians) are measured with a two-tailed  $t$ -test (Mann Whitney U test). <sup>\*\*\*</sup> denotes statistical significance at the 1% confidence level, <sup>\*\*</sup> at the 5% level and <sup>\*</sup> at the 10% level.

**TABLE 3****Multivariate OLS Regressions: Accruals – Cash Flow relation**

<i>Dependent Variable: Accruals</i>	<i>Regression (1)</i>		<i>Regression (2)</i>		<i>Regression (3)</i>	
Intercept	-0.144 <sup>***</sup>	(-3.85)	-0.038	(1.47)	-0.145 <sup>***</sup>	(-3.83)
OCF	-0.691 <sup>***</sup>	(-43.07)	-0.662 <sup>***</sup>	(-36.20)	-0.669 <sup>***</sup>	(-37.08)
High Equity%	/		0.001	(0.92)	0.007	(1.04)
High Equity% x OCF	/		-0.099 <sup>**</sup>	(-2.51)	-0.105 <sup>**</sup>	(-2.65)
Log(Total Assets)	0.005 <sup>**</sup>	(3.06)	/		0.005 <sup>***</sup>	(3.02)
Log(Age)	0.019 <sup>***</sup>	(5.32)	/		0.019 <sup>***</sup>	(5.36)
<i>Sector dummies</i>	<i>Included</i>		<i>Included</i>		<i>Included</i>	
<i>Adjusted R<sup>2</sup></i>	0.506		0.493		0.508	
<i>F-statistic</i>	174.67		166.17		148.77	
<i>Sample size</i>	1,890		1,890		1,890	

Regression (1) tests for the relation between accruals and cash flow without conditioning the sample for high and low equity percentage firms. Regression (2) tests for differences in this accruals – cash flow relation between high and low equity percentage firms and Regression (3) additionally controls for Size and Age. Note: <sup>\*\*\*</sup> statistical significant at the 1% confidence level, <sup>\*\*</sup> at the 5% level and <sup>\*</sup> at the 10% level.

**TABLE 4**

**Multiple OLS Regressions: Timeliness of Loss Reporting**

<i>Dependent Variable:</i> $\Delta(\text{Net Income})$	<i>Net Income Level = Profit Before Taxes</i>				<i>Net Income Level = Profit After Taxes</i>			
	<i>Regression (1)</i>		<i>Regression (2)</i>		<i>Regression (3)</i>		<i>Regression (4)</i>	
Intercept	0.022	(0.48)	0.021	(0.44)	0.027	(0.60)	0.028	(0.59)
$D(\Delta\text{NI})_{t-1}$ ( $\beta_1$ )	-0.011	(-1.46)	-0.007	(-0.84)	-0.012	(-1.67)	-0.009	(-1.16)
$\Delta\text{NI}_{t-1}$ ( $\beta_2$ )	-0.063**	(-2.31)	-0.023	(-0.73)	-0.064**	(-2.41)	-0.023	(-0.75)
$D(\Delta\text{NI})_{t-1} \times \Delta\text{NI}_{t-1}$ ( $\beta_3$ )	-0.547***	(-9.75)	-0.599***	(-9.46)	-0.582***	(-10.59)	-0.645***	(-10.39)
DHighEquity% ( $\beta_4$ )	/		0.016	(1.35)	/		0.013	(1.13)
DHighEquity% x $D(\Delta\text{NI})_{t-1}$ ( $\beta_5$ )	/		-0.015	(-0.91)	/		-0.010	(-0.61)
DHighEquity% x $\Delta\text{NI}_{t-1}$ ( $\beta_6$ )	/		-0.173**	(-2.76)	/		-0.174**	(-2.86)
DHighEquity% x $D(\Delta\text{NI})_{t-1} \times \Delta\text{NI}_{t-1}$ ( $\beta_7$ )	/		0.228*	(1.77)	/		0.267*	(2.12)
Log(Total Assets) ( $\beta_8$ )	-0.003	(-0.09)	-0.002	(-1.29)	-0.003	(-1.38)	-0.003	(-1.29)
Log(Age) ( $\beta_9$ )	0.007	(1.50)	0.007	(1.52)	0.007	(1.54)	0.007	(1.53)
<i>Sector dummies</i>	<i>Included</i>		<i>Included</i>		<i>Included</i>		<i>Included</i>	
<i>Adjusted R<sup>2</sup></i>	0.097		0.107		0.109		0.111	
<i>F-statistic</i>	16.65		13.22		18.77		14.92	
<i>Sample size</i>	1,890		1,890		1,890		1,890	

Table 4 presents regression results on the timeliness of loss reporting. Regression (1) and (2) relate to profit before taxes as dependent variable while Regression (3) and (4) relate to profit after taxes. Estimates of the base model (3) are reported in column 1 and 3, while estimates of the full model (4) are reported in column 2 and 4 . Note: \*\*\* statistical significant at the 1% confidence level, \*\* at the 5% level and \* at the 10% level