How Do Financial expert CEOs influence Capital Structure?

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#### Abstract

I investigate the impact of CEOs financial working experience in firms' leverage decisions. I hypothesized that CEOs with financial working experience could do better capital structure decisions compared to their non-financial work experience peers. Using a newly developed econometric method for dynamic panel models, DPF estimation approach (Elsas and Florysiak, 2015), I find that financial expert CEOs adjust leverage toward an optimal capital structure faster. This finding indicates that to achieve higher values, firms and policy makers could evaluate candidates by analysing the financial work experience when appointment new CEO.

#### JEL Classification: G32, J24

*Keywords:* CEOs, CFOs, CEOs characteristics, Financial expertise, Capital structure, Leverage Speed of Adjustment, DPF estimation approach.

## 1. Introduction

Even 60 years after the Modigliani-Miller theorem, there is still a need to devote further study to the determinants of capital structure, as many researchers focus more on the characteristics of a firm. Cronqvist et al. (2012) cite that most prior empirical studies assume, at least implicitly, that a firm's CEO does not matter for corporate leverage decisions. However, managers' characteristics have been found to be important factors in corporate financing. Bertrand and Schoar (2003) identify managerial fixed effects in corporate decisions. They find that certain executives have a track record of using debt or paying dividends aggressively, because these policies appear to follow the executives as they move from one company to the next. Other research links these managerial styles to personality traits, such as overconfidence, optimism, depression or military experience (Malmendier, Tate, and Yan, 2010; Benmelech and Frydmanbc, 2015; Malmendier and Nagel, 2010).

This paper focuses on how CEOs' career path in finance influence capital structure.<sup>2</sup> Few recent findings reveal that directors with financial working experience

<sup>&</sup>lt;sup>2</sup>I choose CEOs as study group because there is evidence shows that CEOs are more vital for corporate decisions (Adams, et al., 2005; Bennedsen, et al., 2008).

behave differently when making leverage decisions. Güner, Malmendier and Tate (2008) prove that when commercial bankers join board, they significantly affect the finance and investment policies of firms in a way that in the interest of creditors. Custódio and Metzger (2014) find that financial expert CEOs can raise external funds even when credit conditions are tight and tend to hold less cash, more debt, and engage in more share repurchases.

However, the abovementioned literatures only investigate the relationship of capital structures and managerial fixed effects, they fail to value the impact of managers' characteristics on capital structure from a dynamic adjustment perspective. Though the existing theories of capital structure still disagree on whether firm operate around an optimal capital structure, some recent empirical evidence supporting the existence of a target leverage ratio (Hovakimian et al., 2004; Flannery and Rangan, 2006; Byoun, 2008). Survey evident from Graham and Harvey (2001) also suggest that 81% of the CFOs in their sample affirm having a target range or "strict" target for firms' leverage. These CFOs also acknowledge benefits and costs associated with debt financing.

Since the financial expert CEOs are believed to have better access to capital

market and understanding of generally accepted accounting and financial theories, it is rational to test whether they could trade off costs and benefits, which will affect the leverage's adjustment of speed, when making capital structure decisions. Thus, according to the empirical analysis of prior research and this paper's objectives, the following hypotheses have been developed:

Hypothesis I: Financial expert CEOs holds more debt.

Hypothesis II: Financial expert CEOs adjust leverage towards target faster.

Hypothesis III: Financial expert CEOs decrease the leverage deviation level.

To test the hypothesis, I use a large sample of 2, 631 firms with 5,478 CEOs' data

in 1992-2017 period. Estimating dynamic capital structure model in hypothesis II is econometrically challenging. The widely-used models in empirical studies are estimators using instrumental variable for the lagged dependent variable, such as IV (Flannery and Rangan, 2006), first-difference GMM (Arellano and Bond, 1991), system GMM (Blundell and Bond, 1998) and so on. However, those estimators are unreliable and sensitive to the presence of unobserved heterogeneity, residual serial correlation, and the changes in control parameters (Dang, Kim and Shin, 2015). Given the above limitations of the approaches, I apply a newly proposed estimator by Elsas and Florysiak to yield an unbiased estimate for the standard partial adjustment model in the presence of fractional depend variable.

The empirical results show that financial expert CEOs behave differently when making leverage decisions compared to their non-financial expert peers. The regression results by pooled OLS show that financial expert CEOs tend to hold more debt. The dynamic panel data results also support the hypothesis that CEOs who has financial working experience adjust leverage towards target faster. To assist the interpretation of the results, I also split the full sample into sub-samples based on deviation level, cash flow condition, and financial constraints. The positive association between financial expert CEOs and leverage speed of adjustment holds among different sub-samples. Specifically, the financial expert CEOs' impact is more pronounced for over levered firms, high constrained firms, and cash flow deficit firms.

My study contributes to the capital structure literature and managerial effect literature. The study's results supplement the trade-off theory by indicating how CEOs' characteristics, specifically the financial working experience, impact the movement toward target leverage ratios. Compared to prior studies, the employed long-term panel data set which include complete data before and after the financial crisis can also allow us to analysis the managerial impact in a longer time window. The study is also meaningful for firms by appointing financial expert CEOs to achieve higher values by making better leverage decisions.

The rest of the paper is constructed as follows. Section 2 describes the models used to test the hypothesis and the estimated method. Section 3 describes the data sources and presents main statistics summary. Section 4 provides the empirical analysis. Section 5 presents a series of robustness tests. Section 6 concludes.

# 2. Research design and Estimate method

#### 2.1 Research design

#### 2.1.1 Financial expert CEOs and capital structure.

Following the literature on managerial fixed effects, I begin the analysis by running pooled OLS regressions to examine the impact of financial expert CEOs on leverage decisions. I estimate the following model:

$$Lev_{i,t} = \alpha_0 + \alpha_1 Financial expert_{i,t} + \beta X_{i,t} + v_i + \varepsilon_{i,t}$$
(1)

in which  $Lev_{i,t}$  is the capital structure of firm *i* at the end of year t. Financialexpert<sub>*i*,t</sub> is a dummy variable. If the CEO was defined as a financial expert, Financialexpert<sub>*i*,t</sub> = 1; if not, then Financialexpert<sub>*i*,t</sub> = 0.  $X_{i,t}$  is a vector of firm-level and CEO-level control variables that includes firm size, profitability, tangibility, age, gender and tenure, etc.  $v_i$  captures the two-digit SIC industry fixed effect and year fixed effect.  $\varepsilon_{i,t}$  is the error term, which is clustered at the firm level (Peterson 2009). The interested coefficient here is  $\alpha_1$ , if  $\alpha_1$  is significantly positive, it indicates that financial working experience yields a higher debt level.

#### 2.1.2 Financial expert CEOs and the speed of capital structure adjustment

Based on the approach of Flannery and Rangan (2006) and Byoun (2008), I measure a firm's target capital structure as follow:

$$Lev_{i,t+1}^* = \beta X_{i,t} + v_i + \varepsilon_{i,t} \quad (2)$$

where,  $Lev_{i,t+1}^*$  is a firm's target leverage at year t+1.  $X_{i,t}$  is a set of firm characteristics that appear regularly in the literature (Flannery and Rangan, 2006; Hovakimian, 2003; Hovakimian et al., 2001; Fama and French, 2002), such as firm size, profitability, tangibility, R&D expenses, growth opportunity, and industry median debt ratio.  $v_i$  is a set of firm and time fixed effects to control for unobserved firm heterogeneity.  $\varepsilon_{i,t}$  is the error term.

In a frictionless world, firms would move quickly back to their target leverage. However, in the presence of adjustment costs, firms may make partial adjustments toward the target leverage. To estimate the robustness results, I use the standard partial speed of capital structure adjustment model in the literature as follows:

$$Lev_{i,t+1} - Lev_{i,t} = \lambda \left( Lev_{i,t+1}^* - Lev_{i,t} \right) + \varepsilon_{i,t+1}$$
(3)

Following the one-stage approach (Elsas and Florysiak, 2015; Byoun, 2008; Flannery and Rangan, 2006), I substite target leverage in (2) into (3) and rearrange to give the estimable dynamic panel data model:

$$Lev_{i,t+1} = (1 - \lambda)Lev_{i,t} + \lambda\beta X_{i,t} + v_i + \varepsilon_{i,t+1} \quad (4)$$

in which  $\lambda$  is the estimated average annual adjustment speed of the sampled firms from the end of year *t* to the end of year *t*+1.  $v_i$  captures the time-invariant unobserved variable (firm fixed effect), and  $\varepsilon_{i,t+1}$  is the error term.

According to the main hypothesis in this research, the financial expert CEO should directly influence the leverage SOA as follows:

where  $\lambda_0$  is the base leverage adjustment speed without considering the impact of CEO's financial working experience. *Financialexpert*<sub>*i*,*t*</sub> is a dummy variable. If the CEO is defined as financial expert CEO, then *Financialexpert*<sub>*i*,*t*</sub> = 1; if not, then *Financialexpert*<sub>*i*,*t*</sub> = 0.

To examine the effect of financial expert CEOs, I substitute Equation (5) into Equation (4) and rearrange to obtain the main regression model in this research:

$$Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} + \alpha Financial expert_{i,t} * Lev_{i,t}$$
$$+ \gamma \beta Financial expert_{i,t} * X_{i,t} + \lambda_0 \beta X_{i,t} + v_i + \varepsilon_{i,t+1}$$
(6)

here, the interested coefficient is  $\alpha$ ,  $\alpha_1 = -\gamma$ , if  $\alpha$  is significantly negative, this indicates that  $\gamma$  is positive and employing a financial expert CEO would improve the firm's speed of adjustment toward target leverage.

#### 2.1.3 Financial expert CEOs and the deviation level

To test relationship between financial expert CEOs and leverage deviation level, I use the following model:

$$Distance_{i,t+1} = \left| Lev_{i,t+1}^* - Lev_{i,t+1} \right|$$

#### $= \alpha + \alpha_1 Financial experience_{i,t} + \beta X_{i,t} + v_i + \varepsilon_{i,t+1}$ (7)

 $|Lev_{i,t-1}^* - Lev_{i,t+1}|$  measures the deviation level of a firm's observed leverage from its target leverage at the end of year t+1. If  $\alpha_1$  is significantly negative, this indicates that financial expert CEOs will reduce the firm leverage's deviation level from its target.

#### 2.2 The DPF Estimation Approach

Previous empirical finance researchers have exploited lots of estimation models to examine the dynamic behavior of corporate financial policy variables. However, due to the presentence of likely concerns it is difficult to obtain consistent and efficient estimates, especially in short unbalanced panel data. For example, pooled OLS estimator is biased and inconsistent because of the correlation between the fixed effects and the lagged dependent variable (Baltgi ,2013). Although the fixed-effects estimator eliminates the firm fixed effects, it still has a bias in sample with a relatively short time periods such as our data (Nickell, 1981). To deal with this bias, researchers have developed many approaches. The widely-used models in empirical studies are estimators using instrumental variable for the lagged dependent variable, such as IV (Flannery and Rangan, 2006), first-difference GMM (Arellano and Bond, 1991),

system GMM (Blundell and Bond, 1998) and so on. However, those estimators are still unreliable and sensitive to the presence of unobserved heterogeneity, residual serial correlation, and the changes in control parameters (Dang, Kim and Shin, 2015).

Given the above limitations of the approaches, I apply a newly proposed estimator by Elsas and Florysiak to yield an unbiased estimate for the standard partial adjustment model in the presence of fractional depend variable. The estimator is called DPF, it is a maximum likelihood estimator that based on the work of Loundermilk (2007). Elsas and Florysiak (2015) further extend Loundermilk (2007) method by allowing it used for unbalanced pane data. In simulations and resampling experiments, Elsas and Florysiak (2015) demonstrate that DPF can outperform other alternative estimators when estimating the leverage's speed of adjustment. Dang, Kim and Shin (2015) also examine the performance of varies existing estimators by conducting Monte Carlo simulation studies and empirical applications. They found DPF estimator to be the most appropriate and robust methods when considering the impact of fractional depend variables.

To illustrate the DPF estimator, the latent (unobservable) variable,  $Lev_{i,t+1}^*$  based

on the standard partial adjustment model is given by:

$$Lev_{i,t+1}^* = (1 - \lambda)Lev_{i,t} + \lambda\beta X_{i,t} + v_i + \varepsilon_{i,t+1}$$
(7)

Then, the observable leverage ratio is doubly censored with two corner outcomes

0 and 1 per:

$$Lev_{i,t+1} = \begin{cases} 0 & if \ Lev_{i,t+1}^* \le 0\\ Lev_{i,t+1}^* & if \ 0 < Lev_{i,t+1}^* < 1 \\ 1 & if \ Lev_{i,t+1}^* \ge 1 \end{cases}$$
(8)

The time-invariant unobserved variable  $v_i$  is specified as follows:

$$v_i = \alpha_0 + \alpha_1 y_{i0} + \overline{Z}_i \alpha_2 + \alpha_i \quad (9)$$

with error term  $\alpha_i \sim N(0, \sigma_a^2)$  and  $\overline{Z}_i$  being the time-series averages of  $Z_{it}$ . The term  $\alpha_1 y_{i0}$  solves the initial condition problem in dynamic nonlinear panel data (Wooldridge, 2005). Although the illustration here is based on the standard partial adjustment model, it can be applied for the more complex models used in my main analysis.<sup>3</sup>

# 3. Sample and data description

#### 3.1 Data

<sup>&</sup>lt;sup>3</sup> Man can either follow the methods and develop their own code or use the author-written Stata command xtdpf. Elsas and FLorysiak (2015) published the stata code of xtdpf on their website: <u>https://www.bank.bwl.uni-muenchen.de/forschung/codes-data-and-replication/dynamic-capital-structure-adju/index.html</u>. I replicate their data and verified this code. I also obtain the same results when developing and using my own code.

The initial sample in this research is form ExceuComp database, which includes base information for CEOs in S&P 1500 companies from 1992 to 2017. The companies are not only current firms listed in S&P 1500 but also firms that were in S&P 1500 at once in the sample period but left. Because of the limited information about the backgrounds and characteristics of executives in ExecuComp, I engaged in an extensive hand-collection of data to obtain CEOs' information, such as career path. The primary source is Bloomberg's biography information. However, many CEOs do not appear in Bloomberg, to complement the data, I also use information from NNDB Mapper, firms' proxy statements as well as cooperates' website.

To get financial and accounting data, I merge ExecuComp with Compustat and CRSP. Following previous research, I excluded samples that lie outside the scope of this research: financial firms (SIC 6000-6999) and regulated utility (SIC 4900-4999), whose capital decisions are much differ from regular firms. For the dynamic panel regression includes lagged variables, I also exclude any firm with fewer than two consecutive years of data.

The final sample has complete information for 29, 618 firm-year observations on

2, 631 firms and 5, 478 CEOs.<sup>4</sup> Table 1 defines all variables and Table 2 presents summary statistic. All variables, except market leverage are winsorized at 1<sup>st</sup> and 99<sup>th</sup> percentiles to avoid the influence of extreme observations.

#### 3.2 CEO and firm characteristics

Table 2, panel A, shows descriptive statistics of CEOs in my panel. Financial expert directors are defined in different ways in the literature. Compared to a more widely definition in previous studies (Custodio, Metzger 2014; Guener, Malmendierb, Tate 2008), I define a CEO as financial expert only when he/she has working experience in either banking or investment firms (two-digit SIC code 60, 61, 62), or in a CFO role. Using this measurement, there are 31.9% of the CEOs were defined as financial expert. Looking at detailed finance experience, 23.2% of the CEOs have worked in financial firms and 12.3% of the CEOs have been CFO before. As for CFO role, 8.4% of them was internally promoted as CEO then.

Panel A also shows other features' statistic for the CEOs. The CEOs are overwhelmingly male (97.7%). The typical CEO in my sample is 56 years old, and has

<sup>&</sup>lt;sup>4</sup> The number of usable observations varies by the analysis performed due to availability of required data.

been in the company serves as CEO role for seven years. Financial expert CEOs are a bit younger than non-financial expert CEOs and they have a shorter tenure than their peers.

Table 2, panel B, shows descriptive statistics for firms in my panel. The mean score for book leverage and market leverage is 23.5%, 20.7% respectively. The average frim in the sample has book value assets of \$6 billion, market-to-book ratio of 1.75, R&D ratio of 3.3%. Nearly half of the firms in the sample are rated. Compared to non-financial expert CEOs, financial expert CEOs are working in more mature, larger and have higher leverage firms.

The results of the correlational analysis among variables are displayed in Table 3. In agreement with previous studies, the correlation coefficients between financial expert dummy and leverage are significant negative. In addition, a positive correlation was found between financial expert dummy and firms' age, profitability, size, tangibility industrial median leverage and public debt rating. Market-book ratio and R&D expense are negative associate with financial expert dummy. Furthermore, almost all variables report low pairwise correlation, which should mitigate the concern for multicollinearity.

Overall, Financial expert CEOs differ from and non-Financial expert in many respects. Both CEO-level and firm-level characteristics' descriptive statistic are consistent with prior literatures.

# 4. Empirical Results

#### 4.1 Financial expert CEOs and capital structure.

To examine the relation between firm's capital structure decisions and financial expert CEOs, I run the regression in equation (1), in which the main interested independent variable is the financial expert dummy. Table 4 shows the OLS results on whether financial expert CEOs follow different leverage policies. The dependent variable is book leverage for column (1) - (2) and market leverage for column (3)-(4), respectively. I use two-digit SIC industry dummy and year dummy to control for industry and year fixed effects. To examine the financial expert effect more in detail, I also use CFO dummy as the independent variable. As shown in table 4, the estimated coefficients for both the financial expert CEOs and ex-CFO CEOs are positive, which

suggests that firms with those types of CEO tend to hold more debt.<sup>5</sup> Compared to the previous literature (Custodio and Metzger, 2014; Leary and Roberts, 2014; Lemmon, Roberts, and Zender, 2008), most of the rest control variables have consistent estimated coefficients, except that the market-book ratio is positively associated with book leverage. These differences can possibly be explained by differences in the samples.

## 4.2 Financial expert CEOs and the speed of capital structure adjustment

#### 4.2.1 Basic regression specification

To determine whether the financial expert CEOs affects firms' adjustment speed, I estimate the equation (6) using DPF estimator method. The variable of interest is the interaction item between Financial expert dummy and leverage. The results are showed separately for the book leverage and market leverage in Table 5.

As shown in Table 5 Panel A, the coefficients of lagged leverage (*LEVit*) are positive and significant at 1% level across all models. The variable of interest is the interaction item between Financial expert dummy and leverage. Column (1) and (4) present the results of base regression without interaction items. The coefficients of

<sup>&</sup>lt;sup>b</sup> In a non-reported analysis, I also run the regression using the firm fixed effects model. By considering the firm fixed effects, the significant effect on CFO dummy or financial expert dummy disappeared, which is not consistent with the results in Custodio and Metzger (2014).

LEVit is 0.789 and 0.753, respectively, which indicates that the speed of adjustment is 21% and 24.7%. Those estimates results are consisted with previous findings in the literature (Flannery and Rangan, 2006; Elsas and Florysiak, 2015). The variable of interest is the interaction item between Financial expert dummy and leverage. In column (2) and (4), the loads are negative and highly significant at 1% level. The results suggest that financial expert CEOs positively affect the firm's leverage speed of  $Financial expert_{i,t} * Lev_{i,t}$ adjustment. The coefficients estimates on are economically significant as well. In column (2), the coefficients estimate is -0.122, which indicating that, on average, the firms with financial expert CEOs can faster the speed of adjustment toward its target book leverage. Having a financial expert CEO, the firm's adjustment speed increase nearly 69%.

Column (3) and (4) reports the results of estimating for only the middle 50% of observed leverage values. The relation between speed of adjustment and financial expert CEOs is still significant positive. The positive effect of financial expert CEOs on target leverage is even larger compared to the entire sample, which indicates that mean reversion in the dependent variable is not the cause of the faster estimate adjustment.

Table 5 Panel B shows the outcomes when further controlling for the Financial expert dummy as determining factor of target leverage. The coefficient estimates on the lagged leverage and the interested interaction item are qualitatively similar to those presented in Panel A.

Over all, the above results strongly support the hypothesis that the financial expert CEOs have positive effects on the speed of leverage adjustment, suggesting that financial expert help lower the cost of firms' adjustment toward.

#### 4.2.2 Sub-samples

Target capital structure is not equally important to all firms. It can be meaningfully choosing sub-samples of firms. To investigate the influence of financial expert CEOs on the leverage speed adjustment among different samples, I split the full sample into groups based on deviation level, cash flow condition and financial constraint. First, I rewrite  $\gamma$ , the coefficient *Financialexpert*<sub>*i*,*t*</sub> in equation (5) to capture the impact of financial expert CEOs in different groups as follows:

$$\gamma = \gamma_0 + \delta Group \ (10)$$

in which,  $\gamma_0$  is the base speed of adjustment. The coefficient  $\delta$  measures the impact of financial expert CEOs on different groups. *Group* is the variable, which indicates sub-samples based on deviation level, cash flow condition and financial constraint.

Then, I substitute Equation (10) into Equation (6) and rearrange to obtain the main regression model in this section:

$$Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} - \gamma_0 Financial expert_{i,t} * Lev_{i,t} - \delta Group * Financial expert_{i,t} * Lev_{i,t} + L$$

 $\gamma_0 Financial expert_{i,t} * X_{i,t} + \delta\beta Group * Financial expert_{i,t} * X_{i,t} + \lambda_0 \beta X_{i,t} + \nu_i + \varepsilon_{i,t+1}$  (11)

here, the interested coefficient is  $-\gamma_0$  and  $-\delta$ , if they are negative significant, then it suggests that financial expert CEOs faster the leverage speed adjustment and this impact is even stronger among certain groups.

#### Financial expert CEOs' impact for over levered or under levered firms.

Firms' speed of adjustment of leverage is expected to be different conditional on whether they should issue equity or debt. CEOs in over levered firms may lower the leverage by paying down the debt or issuing equity. In contrast, when the same firm were under levered, CEOs may issue debt or repurchase the equity to increase the debt ratio toward targets. Byoun (2008) suggests that over-levered firms adjust faster toward target leverage compared to under-levered firms, because being over-levered is costlier for firms, for example, firms will lack the financial flexibility because of paying for debt. Faulkender (2012) also suggests that the relationship between leverage deviation level and firm value is significant for over levered firms. I define the firms are over levered firms when firm's observed leverage at the end of year t is above its predicted target leverage at year t + 1.

As shown in table 6, financial expert CEOs adjust leverage faster towards target ratio no matter whether the firm is over levered or under levered. Specifically, the financial expert CEOs' impact is more pronounced for over levered firms.

#### Financial expert CEOs' impact for high or low financial constrained firms

Financial constrains can impede firm's capita leverage adjustment speed for it is more difficult for financial constrained firms to raise external funds, either through issuing debt or equity. Oeztekin and Flannery (2012) suggests that the speed adjustment for financial constrained firms should be lower than their non-financial constrained peers. On the other hand, as hypothesized in this research, there is a positive relation between financial expert CEOs and leverage speed of adjustment. Then the impact of financial expert CEOs on leverage adjustments should be stronger for financial constrained firms. To test the hypothesis, I measure the financial constraints using the KZ index (Kaplan and Zingales, 1997) and spilt the full sample into two groups by the median KZ index value, where the median is based on two digits SIC code and firm year.

Table 7 displays that financial expert CEOs are positive associated with leverage adjustment speed both in high and low financial constrained firms. Column (3) and column (6) indicates that financial expert CEOs' impact is more pronounced for high constrained firms, which suggests that financial expert CEOs could help firms get better access to external funding when firms' financial condition is not so good and lack of financial flexibility.

#### Financial expert CEOs' impact for cash flow surplus or deficit firms

As mentioned in Faulkender et al. (2012), cash flows of a firm play an important role in speed of leverage adjustment. Byoun (2008) suggests that capital structure adjustment conditional on the required external capital changes as financial deficit or financial surplus. Byoun (2008) proves that most adjustments occur when over levered firms with a financial surplus or under levered firms with a financial deficit.

I calculate the operating cash flow for each firm and then define the firms as surplus firms when they have positive operating cash flows and as deficit firms when the cash flows are negative. The calculation is followed Faulkender et al. (2012) as showed in Table1. Following Byoun (2008), I split the firms into over levered firms with financial surplus, over levered firms with financial deficit, under levered firms with financial surplus and under levered firms with financial deficit.

Table 8 presents the results. The dependent variable in Panel A is book leverage, while the dependent variable in Panel B is the market leverage. Both panels show that financial expert CEOs make leverage adjustment faster towards the target regardless of the cash flow condition. The coefficients of the interested triple interaction items in Column (3) and (6) are not significant, which suggests that there is not a significant difference of the financial expert impact among cash flow condition groups. However, the financial expert CEOs' impact is still pronounced for deficit firms. For example, results in panel A column (2) shows that for over levered firms, financial expert CEOs can increase the adjustment speed by 31.1%. This can be explained that when firms with financial deficit need to pay for debt or issue equity to lower the debt ratio, financial expert CEOs can make it easier to issue equity. Panel A column (5) tell a similar story that when firms facing financial deficit and need to issue debt or repurchasing equity to raise the leverage, financial expert CEOs will help to lower the issuance costs.

#### 4.3 Financial expert CEOs and the deviation level

Table 9 presents the results for Hypothesis III, which focuses on the impact of the financial expert CEOs on the absolute deviation of target leverage. The absolute deviation level is measure as the absolute distance between predicted target leverage at year t + 1 and the actual observed leverage at the end of year t + 1. I test the hypothesis using the model showed in equation (7). Inconsistent with Hypothesis III, the results in Table 9 shows that for the full sample, the negative impact of financial expert CEOs on the deviation level is not significant.

# 5. Robust testing (following points)

## 5.1 Add more control variables

Introduce more CEOs-level control variables related corporate governance, such

as board independence, compensation and shareholdings ratio.

#### 5.2 Alternative measures of leverage ratio

Previous research defined leverage in a variety of ways. This paper re-estimate above equations employing alternative definitions of leverage that are commonly used.

#### 5.3 Alternative methods to estimate SOA

Previous research defined leverage in a variety of ways. This paper re-estimate above equations employing alternative definitions of leverage that are commonly used.

# 6. Conclusion

This paper seeks to fill in the blanks of the existing literature by studying the CEOs with career background in finance. Compared prior studies, the employed long-term panel data set which include complete data before and after the financial crisis can also allow us to analysis the managerial impact in a longer time window. The study's results can deepen and supplement the trade-off theory by indicating how CEOs' characteristics, specifically the financial working experience, impact the movement

toward target leverage ratios and deviation level from targets. To help firms achieve higher values, firms and policy makers could evaluate the financial expert candidates by analyzing their impact on dynamic capital structure adjustment when appointment new CEO. Thus, the findings of this research may inspire other researchers to explore the relationship between managers' behavior and leverage and serves as a useful reference for future research.

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Table 1:	Variable	definitions.
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Panel A: CEO characteristics	
Variable	Definition
CFO dummy	CEO who has experience in CFO role.
CEO age	Age of CEO in years.
CEO tenure	Number of years as CEO in the current position.
Financial firms dummy	CEO who has experience in either banking or investment firms (two-
2	digit SIC codes 60,61 and 62).
Financial expert CEO	CEO who has experience in either banking or investment firms (two-
L.	digit SIC codes 60.61 and 62), or in a CFO role.
Internal CFO dummy	CEO who worked as CFO in the same company before.
Male dummy	Dummy variable equals to one if the CEO is male.
Panel B <sup>·</sup> Firm characteristics	
Variable	Definition
Book leverage	Ratio of total debt $(dltt + dlc)$ to book value of assets $(at)$
Market leverage	Ratio of total debt $(dltt+dlc)$ to market value of assets
Warket levelage	$(\operatorname{prec} f^* \operatorname{csho} dlt \pm dlc)$
Assots	(prec_r csno+unit+unc). Rook value of assats (at)
Assots	Standard doviation of monthly stack raturn during the fiscal year times
Assets volatility	standard deviation of monthly stock feturin during the fiscal year times
	value of equity (cprcc_r csno) divided by market value of
Canay	assets $(p_1 c_1^{-1} c_1 c_1 c_2 c_2)$ .
Damasistian	Ratio of capital expenditures ( <i>capx</i> ) to book value of assets ( <i>at</i> )
Depreciation	Depreciation expense divided by total assets $(ap/at)$
Dividend dummy	Dummy variable equals to one if the firm pays dividends ( <i>avc</i> ) and zero
<b>D</b> ' <b>C</b> '	otherwise.
Firm Size	Calculated as: Log(at)
Firm Age	Number of years between fiscal year ( <i>fyear</i> ) and CRSP listing year
	(listyear)
Industry Median	Median industry Market/Book leverage (excluding the instant firm) and
	calculated for each year based on the industry grouping in Fama and
	French (2002)
KZ index	Kaplan and Zingales (1997) index measured as following:
	-1.002(dp + id)/l.at - 39.368(dvc + dvp)/l.at - 1.315che/
	<i>l.at</i> + 3.139( <i>dltt</i> + <i>dlc</i> )/( <i>dlltt</i> + <i>dlc</i> + <i>seq</i> ) + 0.283( <i>prc</i> *
	shrout + at – ceq – txbd)/at
Market to Book ratio (MB)	Calculated as: (dltt(t)+dlc(t))+pstkl+prcc_f*csho)/at
Operating cash flow	Calculated by: $((oibdp - txt - xint)/l.at) - Ind_MeanCapex$
Profitability	Ratio of earnings before interest and taxes ( <i>ib+xint+txt</i> ) to book value
	of assets (at)
Rated Dummy	Dummy variable equaling one for firms with public debt rating
	(splticrm)
R&D	Ratio of research and development expenditures (xrd) to book value of
	assets (at)
R&D dummy	Dummy variable equaling one for missing R&D expenses.
Tangibility	Ratio of net property, plant and equipment (ppent) to book value of
	assets (at).
Net Debt Issuances	Calculated as: $\left[ (dltt(t)+dlc(t))-(dltt(t-1)+(dlc(t-1))/at(t-1)) \right]$
Debt Issuance dummy	Dummy variable equals to one if Net Debt Issuances >1% and zero
2	otherwise.
Net Equity Issuances	Calculated as: (sstk(t)-prstkc(t))/at(t-1)
Equity Issuance dummy	Dummy variable equals to one is Net Equity Issuances>1% and zero
	otherwise

## **Table 2: Statistic Summary**

The sample consists of Compustat S&P 1500 firms for which CEO data are available from ExecuComp in 1992-2017 period. All 2, 631 firms have at least two years' consecutive records and variables are winsored at 1% and 99% values. The sample includes 29, 618 firm-year observations on 5,478 CEOs. Variable definitions are as defined in Table 1. \*\*\*p<0.001, \*\*p<0.05,\*p<1.

					Panel A: CE	) characteristi	ics			
	Mean	p25	Median	p75	SD	Ν				
CFO dummy	0.123	0	0	0	0.329	29,618				
Financial firms dummy	0.232	0	0	0	0.422	29,618				
Financial expert CEO	0.319	0	0	1	0.466	29,618				
Internal CFO dummy	0.084	0	0	0	0.277	29,618				
	Mean	p25	Median	p75	SD	Ν	Financial expert CEO	Nonfinancial expert CEO	Diff.	S.E.
CEO age	56.244	51	56	61	8.250	29,577	55.884	56.412	-0.529***	0.103
CEO tenure	7.224	2	5	10	7.112	27,913	6.685	7.480	-0.794***	0.091
Sex dummy	0.977	1	1	1	0.150	29,618	0.973	0.979	-0.006***	0.002
					Panel B: Firm	n Characterist	ics			
	Mean	p25	Median	p75	SD	N	Financial expert CEO	Nonfinancial expert CEO	Diff.	S.E.
Book leverage	0.235	0.079	0.220	0.344	0.189	29,618	0.258	0.225	0.033***	0.002
Market leverage	0.207	0.045	0.158	0.305	0.201	29,618	0.234	0.194	0.039***	0.002
Assets	5995.289	504.388	1398.728	4448.000	13743.051	29,618	8225.78	4828.241	3397.538***	170.141
Assets volatility	0.251	0.140	0.207	0.312	0.164	28,380	0.227	0.262	-0.036***	0.002
Capex	0.056	0.021	0.039	0.070	0.053	29,481	0.056	0.056	0.000	0.001
Depreciation	0.045	0.027	0.040	0.056	0.027	29,618	0.045	0.045	0.000	0.003
Dividend dummy	0.501	0.000	1.000	1.000	0.500	29,618	0.565	0.471	0.094***	0.006
Firm Size	7.361	6.223	7.243	8.400	1.588	29,618	7.705	7.200	0.505***	0.020
Firm Age	20.47	9.000	18.000	31.000	13.85	28,961	22.553	19.513	-3.040***	0.174
Industry Median (Book)	0.203	0.135	0.206	0.267	0.097	29,618	0.214	0.198	0.016***	0.001
Industry Median (Market)	0.160	0.079	0.154	0.222	0.101	29,618	0.170	0.154	0.017***	0.001
MB	1.746	0.933	1.336	2.042	1.346	29,618	1.642	1.791	-0.149***	0.017
Profitability	0.078	0.041	0.090	0.141	0.130	29,618	0.082	0.076	0.006***	0.002
Rated Dummy	0.498	0.000	0.000	1.000	0.500	29,618	0.582	0.458	0.124***	0.006
R&D	0.033	0.000	0.003	0.040	0.058	29,618	0.025	0.036	-0.011***	0.001
R&D dummy	0.360	0.000	0.000	1.000	0.480	29,618	0.406	0.338	0.068***	0.006
Tangibility	0.277	0.105	0.212	0.392	0.221	29,618	0.295	0.269	0.027***	0.003
Net Debt Issuances	0.034	-0.021	0.000	0.043	0.189	27,084	0.033	0.034	0.001	0.002
Debt Issuance dummy	0.425	0.000	0.000	1.000	0.494	29,618	0.439	0.418	0.022***	0.006
Net Equity Issuances	-0.006	-0.029	0.000	0.004	0.456	24,860	-0.004	-0.0007	-0.003	0.001
Equity Issuance dummy	0.297	0.000	0.000	1.000	0.457	29,618	0.264	0.313	-0.049***	0.006
Capital Investment	0.275	0.132	0.207	0.332	0.235	26,994	0.257	0.283	-0.026***	0.003
Operating Cash Flow	0.0414	0.002	0.049	0.094	0.173	27,114	0.040	0.042	0.002	0.002
KZ	396.9	174.4	293.6	484.9	387.7	24,025	373.834	407.588	33.754***	5.475

	Financial expert	CFO	Book Leverage	Market Leverage	Firm Age	Profitability	MB	Depreciation	Firm Size	Tangibility	R&D	R&D Dummy	Rated Dummy	Ind_BV	Ind_MV
Financial expert	1														
CFO	0.548***	1													
Book leverage	0.081***	0.054***	1												
Market leverage	0.091***	0.064***	0.776***	1											
Firm age	0.102***	0.037***	0.043***	0.059***	1										
Profitability	0.021***	-0.020***	-0.127***	-0.287***	0.075***	1									
MB	-0.052***	-0.032***	-0.156***	-0.441***	-0.144***	0.309***	1								
Depreciation	-0.008	0.002	0.010***	0.109***	-0.062***	-0.200***	-0.078***	1							
Firm Size	0.148***	0.036***	0.262***	0.238***	0.367***	0.144***	-0.168***	-0.085***	1						
Tangibility	0.056***	0.030***	0.197***	0.239***	0.035***	0.012*	-0.160***	0.534***	0.140***	1					
R&D	-0.091***	-0.030***	-0.200***	-0.270***	-0.121***	-0.285***	0.315***	-0.005	-0.256***	-0.299***	1				
R&D Dummy	0.067***	0.058***	0.161***	0.206***	-0.022***	0.030***	-0.151***	0.108***	0.053***	0.264***	-0.420***	1			
Rated Dummy	0.115***	0.032***	0.399***	0.368***	0.279***	0.031***	-0.191***	0.009	0.635***	0.176***	-0.227***	0.086***	1		
Ind_MedianBV	0.076***	0.049***	0.382***	0.363***	0.109***	0.030***	-0.199***	0.099***	0.203***	0.356***	-0.404***	0.281***	0.235***	1	
Ind_MedianMV	0.078***	0.041***	0.333***	0.429***	0.096***	-0.019***	-0.303***	0.137***	0.186***	0.380***	-0.422***	0.326***	0.229***	0.865***	1

\* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

### **Table 4: Pooled OLS Results**

The dependent variable in regression (1) -(4) is the ratio of leverage. Industry fixed effects is controlled using two-digit SIC industry dummy. Variable definitions are as defined in Table 1. Standard errors clustered at firm-level in parentheses. \*p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

	(1)	(2)	(3)	(4)
	Book L	everage	Market	Leverage
CFO Dummy	0.013*		0.020***	
	(0.007)		(0.006)	
Financial Expert Dummy		0.010**		0.012***
		(0.005)		(0.004)
CEO Age	0.001	0.001	-0.002	-0.002
	(0.002)	(0.002)	(0.002)	(0.002)
CEO Age Square	-0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Male Dummy	0.031**	0.032**	0.012	0.013
	(0.016)	(0.015)	(0.015)	(0.014)
CEO Tenure	-0.001*	-0.001*	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Firm Size	0.016***	0.016***	0.010***	0.009***
	(0.002)	(0.002)	(0.002)	(0.002)
Market-to Book ratio	0.013***	0.013***	-0.018***	-0.018***
	(0.003)	(0.003)	(0.002)	(0.002)
Asset Volatility	-0.370***	-0.369***	-0.448***	-0.447***
	(0.017)	(0.017)	(0.016)	(0.016)
R&D	-0.349***	-0.348***	-0.435***	-0.433***
	(0.063)	(0.063)	(0.045)	(0.045)
Capex	-0.260***	-0.261***	-0.496***	-0.499***
	(0.056)	(0.056)	(0.050)	(0.050)
Dividend Dummy	-0.045***	-0.045***	-0.068***	-0.068***
	(0.006)	(0.006)	(0.005)	(0.005)
Profitability	-0.277***	-0.277***	-0.404***	-0.403***
	(0.022)	(0.022)	(0.017)	(0.017)
Tangibility	0.122***	0.122***	0.178***	0.179***
	(0.021)	(0.022)	(0.020)	(0.020)
Intercept	0.102	0.105	0.317***	0.322***
	(0.064)	(0.064)	(0.056)	(0.056)
Number of Observations	26661	26661	26661	26661
Industry Fixed Effect	YES	YES	YES	YES
Year Fixed Effect	YES	YES	YES	YES
$R^2$	0.305	0.305	0.482	0.481

#### Table 5 Panel A: Speed of Adjustment regression results

This table tests the impact of financial expert CEOs on SOA using the DPF estimator. The dependent variable in regression (1) - (6) is the ratio of leverage. Column (1) and (4) show the results for baseline regressions without the interaction item. The regression model in column (2), (3) and (5) (6) is as follows:

 $Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} + \alpha Financial expert_{i,t} * Lev_{i,t} + \gamma\beta Financial expert_{i,t} * X_{i,t} + \lambda_0\beta X_{i,t} + v_i + \varepsilon_{i,t+1}$ 

where *Financialexpert*<sub>i,t</sub> is the dummy variable, if the CEO is defined as financial expert in year t, then equals one. Column (3) and (4) reports the results of estimating for only the middle 50% of observed leverage values. Variables are winsored at 1% and 99% values and are defined as in Table 1 Standard errors clustered at firm-level in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

	(1)	(2)	(3)	(4)	(5)	(6)
	(1)	(2) RookLev	(3)	(4)	(J) MarketLev	(0)
-	Base DDF	DPF	DPE n50	Base DDF		DPE n50
Le12.	0 780***	0.823***	0.866***	0 753***	0 702***	0.855***
	(138.52)	(124.87)	(76.52)	(114.90)	(104.15)	(64 59)
Financialexpert * Lev.	(150.52)	-0 127***	-0 184***	(114.90)	-0 141***	-0.161***
		(-1252)	(-9.55)		(-12.75)	(-7.10)
Profitability	0.014**	0.018**	0.056***	0 040***	0.055***	0.091***
Tontaonity	(2.15)	(2.36)	(5.20)	(5.06)	(5.96)	(7.71)
Market-to-Book	-0.001	-0.000	-0.003**	-0.002*	-0.000	0.010***
Market-10-Dook	(-1.54)	(-0.51)	(-2, 30)	(-1.85)	(-0.49)	(7.02)
Depreciation	0.110**	0.078	0.061	(-1.05)	(-0.47)	(7.02)
Depreciation	(2.38)	(1.52)	(0.92)	(-1.95)	(-2, 28)	(-0.14)
Firm Size	0.007***	(1.52)	0.02)	0.020***	0.010***	(-0.14)
T IIIII SIZC	(5.88)	(6.07)	(4.88)	(13.95)	(13.31)	(10.71)
Tangihility	0.018*	0.079***	0.016	(13.55)	(15.51) 0.05/***	0.010
Taligionity	(1.87)	(2.86)	(1, 20)	(3.85)	(4.56)	(1.40)
R&D Dummy	(1.87)	-0.004	(1.29)	-0.000	-0.006	(1.40)
R&D Dunning	(0.45)	(0.96)	(0.23)	(0.05)	(1.41)	(1.24)
D&D	(0.43)	(-0.90)	(0.23) 0.153***	(-0.03)	(-1.41)	(-1.24) 0.070*
Rab	(1.77)	(2.56)	(3.20)	(121)	(1.40)	(1.70)
Industry Median	(-1.77) 0.020*	(-2.30)	(-3.29)	(-1.21)	(-1.40)	(-1.70)
industry Wedian	(1.84)	(0.70)	(1.51)	(0.50)	(0.013)	(1.70)
Pated Dummy	(1.04)	(0.70)	(-1.31)	(0.39)	(-0.91)	(-1.70)
Kated Dulliny	$-0.000^{11}$	$-0.010^{-11}$	-0.013	-0.003	$-0.000^{\circ}$	$-0.010^{-0.010}$
Profitability*Financial expert	(-2.30)	(-3.04)	(-4.27)	(-1.11)	(-1.94) 0.054***	(-2.70)
Tiontaointy Tinancial expert		(0.82)	(1.04)		(2.41)	-0.071
MR*Financial expert		(-0.82)	(-1.94)		(-3.41) 0.004**	(-3.36)
MB · Fillancial expert		$-0.003^{\circ}$	(0.15)		-0.004	$-0.003^{++}$
Depression*Financial export		(-1.91)	(0.13)		(-2.42)	(-2.20)
Depreciation Financial expert		(1, 22)	(1, 21)		(1,10)	(0.86)
Firm Sizo*Financial ovport		(1.52)	(1.21)		(1.19)	(0.80)
Film Size Financial expert		(1.06)	-0.000		(2.85)	(1, 70)
Tongibility*Financial synant		(1.00)	(-0.01)		(2.83)	(1.79)
rangionity rinancial expert		-0.028	-0.010		-0.028	-0.014
P&D Dummy*Financial avaart		(-2.82) 0.017***	(-1.57)		(-2.48)	(-1.07)
R&D Dunning Financial expert		(4.21)	(2.67)		(2, 77)	(2.57)
P&D*Financial expert		(4.51)	(2.07)		(3.77)	(2.37) 0.121**
R&D Thancial expert		(2.82)	(2.28)		(0.84)	(2, 20)
Industry Median* Financial		(2.02)	(2.20)		(0.04)	(2.20)
avport		0.071	0.114		0.004	0.082
expert		(2, 71)	(4.78)		(2.06)	(2, 20)
Pated Dummy*Financial expert		(3.71) 0.012***	(4./0)		(3.90)	(3.30)
Rated Dunning Tinancial expert		(2.14)	(2,50)		(2.18)	(2.46)
N	26526	(5.14)	(3.30)	26526	(2.10)	(2.40)
IN Vear fixed effects	20330 VES	20330 VES	15494 VES	20330 VEC	20330 VES	13499 VES
Firm fixed effects	I ES VES	I ES VES	I ES VES	I ES VES	I ES VES	VES
Speed ()	0.211	1 ES 0 177	0 12/	1 ES 0 247	0.208	0.145
A divised Speed $(1 + x)$	0.211	0.177	0.134	0.247	0.200	0.145
A justed Speed ( $\Lambda_0 + \gamma$ )		0.299	127 212		0.343	111 024
Half Life	3 706	2 000	5 100	2 002	2 2 2 0	111.034
A divisted Helf Life	3.280	3.908	J.100 2.190	2.802	3.337 1.096	4.//4
Aujustea Hall_Life		2.318	2.180		1.986	2.200

Speed =  $1-b[Lev_{i,t}]$ 

-

Half-Life =  $\ln 2/\text{Speed}$  (Years)

#### Table 5 Panel B: Speed of Adjustment regression results

This table tests the impact of financial expert CEOs on SOA that further include  $Financial expert_{i,t}$  as an additional determinant of target leverage using the DPF estimator. The dependent variable in regression is the ratio of leverage. Column (1) and (4) show the results for baseline regressions without the interaction item. The regression model in column (2), (3) and (5) (6) is as follows:

 $Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} + \alpha Financial expert_{i,t} * Lev_{i,t} + \lambda_0 \beta Financial expert_{i,t} + \gamma \beta Financial expert_{i,t} * X_{i,t} + \lambda_0 \beta X_{i,t} + v_i + \varepsilon_{i,t+1} + \varepsilon_{i,t$ 

where *Financialexpert*<sub>i,t</sub> is the dummy variable, if the CEO is defined as financial expert in year t, then equals one. Column (3) and (4) reports the results of estimating for only the middle 50% of observed leverage values. Variables are winsored at 1% and 99% values and are defined as in Table 1 Standard errors clustered at firm-level in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
$Lev_{i,t}$ $0.819^{***}$ $0.823^{***}$ $0.784^{***}$ $0.792^{***}$ $(126.30)$ $(124.76)$ $(106.27)$ $(104.11)$ Financialexpert_{i,t} * Lev_{i,t} $-0.101^{***}$ $-0.121^{***}$ $-0.099^{***}$ $(-11.38)$ $(-12.44)$ $(-10.94)$ $(-12.75)$ Financial Expert Dummy $0.023^{***}$ $-0.008$ $0.022^{***}$ $(7.87)$ $(-70)$ $(7.35)$ $(1.15)$
$i_{i,t}$ $(126.30)$ $(124.76)$ $(106.27)$ $(104.11)$ Financialexpert_{i,t} * Lev_{i,t} $-0.101^{***}$ $-0.121^{***}$ $-0.099^{***}$ $-0.142^{***}$ Financial Expert Dummy $0.023^{***}$ $-0.008$ $0.022^{***}$ $0.015$ $(7.87)$ $(-70)$ $(7.35)$ $(1.15)$
Financialexpert_{i,t} * Lev_{i,t}-0.101***-0.121***-0.099***-0.142***Financial Expert Dummy $0.023***$ $(-12.44)$ $(-10.94)$ $(-12.75)$ $(7.87)$ $(-0.70)$ $(7.35)$ $(1.15)$
Financial Expert Dummy $(-11.38)$ $(-12.44)$ $(-10.94)$ $(-12.75)$ $0.023^{***}$ $-0.008$ $0.022^{***}$ $0.015$ $(7.87)$ $(-0.70)$ $(7.35)$ $(1.15)$
Financial Expert Dummy0.023***-0.0080.022***0.015(7.87)(-0.70)(7.35)(1.15)
(7.87) (-0.70) (7.35) (1.15)
Profitability 0.016** 0.018** 0.040*** 0.055***
(2.34) $(2.34)$ $(5.10)$ $(5.97)$
Market-to-Book -0.001 -0.000 -0.001* -0.000
(-1.49) (-0.58) (-1.67) (-0.35)
Depreciation 0.107** 0.073 -0.106** -0.124**
(2.31) $(1.41)$ $(-1.98)$ $(-2.09)$
Firm Size 0.008*** 0.007*** 0.020*** 0.020***
(6.34) (5.65) (14.17) (13.10)
Tangibility     0.019*     0.029***     0.042***     0.054***
(1.95) (2.87) (3.83) (4.54)
R&D Dummy     0.002     -0.004     -0.001     -0.006
(0.46) $(-0.99)$ $(-0.15)$ $(-1.38)$
R&D -0.053* -0.081*** -0.042 -0.046
(-1.79) (-2.61) (-1.24) (-1.30)
Industry Median     0.033**     0.010     0.013     -0.013
(2.14) (0.62) (0.89) (-0.78)
Rated Dummy     -0.006***     -0.009***     -0.004     -0.006**
(-2.70) (-3.50) (-1.28) (-2.09)
Profitability*Financial expert -0.010 -0.055***
(-0.79) (-3.47)
MB*Financial expert -0.002* -0.004***
(-1.72) (-2.62)
Depreciation*Financial expert 0.108 0.059
(1.48) (0.69)
Firm Size*Financial expert 0.002 0.001
(1.17) (0.56)
Tangibility*Financial expert $-0.028**$ $-0.027**$
(-2.87) $(-2.39)$
R&D Dummy*Financial expert0.01/**0.016***0.01/**0.01/**0.01/**
(4.36) $(3.52)$
$R \& D^*F$ inancial expert $0.120^{***}$ $0.026$ $0.120^{***}$ $0.026$
(2.90) $(0.34)$
Industry Median* Financial expert $0.0/5^{***}$ $0.0/8^{***}$
(3.76) (3.63) (3.63)
$\begin{array}{c} \text{Kated Dummy"Financial expert} \\ 0.012^{\text{Kated Dummy"Financial expert}} \\ 0.012^{Kated Dummy"Financial $
(2.79) $(2.42)$
IN     20000     20
Y ear fixed effects YES YES YES YES YES
rim lixed effects YES YES YES YES YES
Speed $(\lambda_0)$ 0.181 0.1// 0.216 0.208
Adjusted Speed $(n_0 + \gamma)$ $0.298$ $0.350$ Adjusted Speed $0$ $(0.202)$ $(0.202)$
DAJUSIEU SPEEU % 08.302 08.209   Half Life 2.920 2.006 2.202
Ital_Life     5.000     5.202     5.300       Adjusted Half Life     2.326     1.020

Speed =  $1-b[Lev_{i,t}]$ 

Half-Life = ln2/Speed (Years)

**Table 6: Financial expert CEOs' impact for over levered or under levered firms.** This table tests the impact of financial expert CEOs on SOA among over or under levered firms using the DPF estimator. The dependent variable in regression (1) -(6) is the ratio of leverage. Column (1) (2)-(4)(5) show the results for sub-samples. The regression model in column (3) and (6) is as follows:

 $Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} - \gamma_0 Financial expert_{i,t} * Lev_{i,t} - \delta Over * Financial expert_{i,t} * Lev_{i,t} + \delta Over * Financial expert_{i,t} * Le$ 

 $\gamma_0 Financial expert_{i,t} * X_{i,t} + \delta\beta 0 ver * Financial expert_{i,t} * X_{i,t} + \lambda_0 \beta X_{i,t} + v_i + \varepsilon_{i,t+1}$ 

where *Over* is the dummy variable, if the Lev<sub>i,t+1</sub><sup>\*</sup>-Lev<sub>i,t</sub><0, then *Over* equals one. *Over* \* *Financial expert*\* $X_{i,t}$  variable results are not displayed in the table for brief. Variables are winsored at 1% and 99% values and are defined as in Table 1 Standard errors clustered at firm-level in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		(1)	(2)	(3)	(4)	(5)	(6)
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$			$BookLev_{i,t+1}$			$Marketlev_{i,t+1}$	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$		Over	Under	Full	Over	Under	Full
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	$Lev_{i,t}$	0.873***	0.802***	0.826***	0.792***	0.890***	0.798***
$\begin{array}{llllllllllllllllllllllllllllllllllll$		(101.79)	(49.95)	(124.61)	(72.59)	(54.89)	(104.75)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$Financial expert_{i,t} * Lev_{i,t}$	-0.169***	-0.131***	-0.112***	-0.180***	-0.153***	-0.083***
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		(-11.09)	(-5.01)	(-5.88)	(-9.10)	(-5.89)	(-3.76)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$Over * Financial experience_{i,t} * Lev_{i,t}$			-0.109***			-0.190***
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$				(-2.93)			(-4.37)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Profitability	0.025**	0.034***	0.018**	0.092***	0.025**	0.056***
$\begin{split} & \text{Market-to-Book} & -0.003^* & -0.001 & -0.001 & -0.001 & -0.001 & -0.001 \\ & -0.001 & -0.001 & -0.001 & -0.001 & -0.001 & -0.0001 \\ & -0.002 & -0.0086 & -0.068 & -0.266^{**} & 0.000 & -0.138^{**} & -0.018^{**} & 0.011^{***} & 0.019^{***} & 0.039^{***} & 0.011^{***} & 0.019^{***} & 0.039^{***} & 0.011^{***} & 0.019^{***} & 0.039^{***} & 0.011^{***} & 0.019^{***} & 0.039^{***} & 0.031^{***} & 0.060^{***} & 0.041^{***} & 0.059^{***} & 0.031^{***} & 0.060^{***} & 0.047^{***} & 0.055^{***} & 0.031^{***} & 0.060^{***} & 0.047^{***} & 0.055^{***} & 0.031^{***} & 0.060^{***} & 0.047^{***} & 0.055^{***} & 0.011^{***} & 0.060^{***} & 0.047^{***} & 0.055^{***} & 0.011^{***} & 0.000^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{**} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.005^{***} & 0.001^{***} & 0.002^{***} & 0.001^{***} & 0.001^{***} & 0.002^{***} & 0.001^{***} & 0.002^{***} & 0.001^{***} & 0.002^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.001^{***} & 0.002^{***} & 0.001^{***} & 0.002^{****} & 0.001^{*****} & 0.002^{*****} & 0.001^{*****} & 0.001^{*****} & 0.001^{*$		(2.10)	(3.29)	(2.37)	(6.00)	(2.28)	(6.11)
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Market-to-Book	-0.003*	-0.000	-0.001	0.001	-0.001	-0.000
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		(-1.85)	(-0.38)	(-0.66)	(0.34)	(-0.46)	(-0.35)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Depreciation	0.093	0.086	0.068	-0.266**	0.000	-0.138**
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		(1.16)	(1.28)	(1.32)	(-2.51)	(0.01)	(-2.34)
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Firm Size	0.016***	0.002	0.00/	(11.15)	0.011***	(12.70)
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	Tanaihility	(7.77)	(1.42)	(5.02)	(11.15)	(0.04)	(12.70)
R&D Dummy $(1.50)$ $(2.59)$ $(2.50)$ $(2.74)$ $(3.51)$ $(4.50)$ R&D $(-0.64)$ $(-0.62)$ $(-1.02)$ $(-0.58)$ $(-1.42)$ $(-1.43)$ R&D $(-2.83)$ $(-0.79)$ $(-2.81)$ $(-1.00)$ $(-0.56)$ $(-1.44)$ Industry Median $-0.035$ $0.048^{**}$ $0.010$ $-0.036$ $-0.043^{***}$ $-0.016$ R&D $(-1.38)$ $(2.12)$ $(0.61)$ $(-1.19)$ $(-2.35)$ $(-0.94)$ Rated Dummy $-0.012^{***}$ $-0.013^{***}$ $-0.006^{***}$ $-0.044^{***}$ $-0.036^{***}$ Profitability*Financial expert $0.002^{***}$ $-0.044^{***}$ $-0.035^{***}$ $-0.043^{***}$ $(-2.60)$ $-0.006^{***}$ $-0.044^{***}$ $-0.036^{***}$ $-0.043^{***}$ $(-0.81)$ $(-3.33)$ $(-3.51)$ $(-2.68)$ $(-1.62)$ $(-1.82)$ Profitability*Financial expert $0.000^{***}$ $-0.001^{***}$ $-0.006^{***}$ $-0.002^{***}$ $(-2.60)$ $(-0.001$ $-0.000^{***}$ $-0.006^{***}$ $-0.002^{***}$ $-0.002^{***}$ $(-0.81)$ $(-0.82)$ $(-3.39)$ $(-2.09)$ $(-1.04)$ $(-1.73)^{**}$ Depreciation*Financial expert $0.03^{***}$ $0.001^{**}$ $0.004^{***}$ $0.001$ $0.000^{***}$ $(-2.26)$ $(-1.97)^{**}$ $(-0.32)$ $(2.56)^{*}$ $(-0.59)^{*}$ $(-0.41^{****})^{**}$ Tangibility*Financial expert $0.03^{***}$ $0.001^{**}$ $0.017^{***}$ $0.012^{***}$ $0.011^{****}$ $(-2.26)$	Tangionity	(1.50)	(2.50)	(2.06)	(2,74)	(2.57)	(4.66)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	R&D Dummy	(1.30)	(2.39)	(3.00)	(2.74)	(3.37)	-0.006
R&D $(0.04)^{*}$ $(0.02)^{*}$ $(0.02)^{*}$ $(0.03)^{*}$ $(-1.03)^{*}$ $(-1.42)^{*}$ $(-1.42)^{*}$ Industry Median $-0.032$ $-0.087^{***}$ $-0.059$ $-0.024$ $-0.051$ Industry Median $(-2.83)$ $(2.79)^{*}$ $(-2.81)^{*}$ $(-1.00)^{*}$ $(-0.056)^{*}$ $(-1.44)^{*}$ Industry Median $(-0.035^{*}$ $0.0048^{**}$ $0.010^{*}$ $-0.036^{*}$ $-0.043^{**}$ $-0.016^{*}$ Rated Dummy $-0.012^{***}$ $-0.012^{***}$ $-0.009^{***}$ $-0.014^{***}$ $-0.006^{*}$ $-0.006^{*}$ Profitability*Financial expert $0.005^{*}$ $-0.008^{***}$ $-0.048^{***}$ $-0.033^{***}$ $-0.043^{***}$ $-0.033^{***}$ MB*Financial expert $0.002^{*}$ $-0.001^{*}$ $-0.001^{*}$ $-0.003^{**}$ $-0.003^{***}$ $-0.022^{*}$ $-0.033^{***}$ Depreciation*Financial expert $0.191^{*}$ $0.033^{*}$ $0.134^{*}$ $0.145^{*}$ $0.022^{*}$ $-0.034^{***}$ Imagibility*Financial expert $0.191^{**}$ $0.033^{**}$ $0.134^{*}$ $0.145^{*}$ $0.001^{*}$ $0.001^{***}$ Imagibility*Financial expert $0.003^{**}^{**}$ $-0.014^{**}^{**}$ $0.022^{**}^{**}$ $-0.034^{**}^{**}$ $0.013^{**}^{**}$ Industry Median* $0.128^{***}^{**}$ $0.014^{***}^{**}$ $0.018^{**}^{**}$ $0.010^{**}^{**}$ $0.010^{**}^{**}$ Imagibility*Financial expert $0.003^{**}^{**}^{**}$ $0.014^{**}^{**}^{**}$ $0.013^{**}^{**}^{**}^{**}^{**}^{**}^{**}^{**$	Red Dunning	-0.004	(-0.62)	(-1.02)	-0.003	(-1.42)	(-1.43)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	R&D	-0 136***	-0.032	-0.087***	-0.059	(-1.+2)	-0.051
$ \begin{array}{cccccc} (1.57) & (2.57) &$	ited b	(-2.83)	(-0.79)	(-2.81)	(-1,00)	(-0.56)	$(-1 \ 44)$
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Industry Median	-0.035	0.048**	0.010	-0.036	-0.043**	-0.016
Rated Dummy $-0.012^{***}$ $-0.009^{***}$ $-0.013^{***}$ $-0.006^{***}$ $-0.006^{**}$ $-0.006^{***}$ Profitability*Financial expert $0.005$ $-0.050^{***}$ $-0.046^{***}$ $-0.03^{***}$ $-0.043^{***}$ $-0.003^{***}$ MB*Financial expert $0.005$ $-0.050^{***}$ $-0.046^{***}$ $-0.003^{***}$ $-0.003^{***}$ $-0.003^{***}$ MB*Financial expert $-0.002$ $-0.001$ $-0.001$ $-0.006^{***}$ $-0.002$ $-0.003^{***}$ Depreciation*Financial expert $0.191^{*}$ $0.033$ $0.134^{*}$ $0.145$ $0.022$ $-0.243^{***}$ Depreciation*Financial expert $0.191^{*}$ $0.033$ $0.134^{*}$ $0.145$ $0.022$ $-0.243^{***}$ Imagibility*Financial expert $0.03^{**}$ $0.001$ $-0.001$ $0.004^{**}$ $0.010$ $0.000$ Imagibility*Financial expert $0.03^{**}$ $-0.014$ $-0.22^{**}$ $-0.034$ $-0.010$ $-0.026^{**}$ Imagibility*Financial expert $0.016^{***}$ $0.017^{***}$ $0.018^{**}$ $0.012^{**}$ $0.010^{**}$ $0.010^{**}$ R&D bummy*Financial expert $0.016^{***}$ $0.017^{***}$ $0.018^{**}$ $0.012^{**}$ $0.013^{**}$ Industry Median* Financial expert $0.146^{**}$ $0.056$ $0.114^{**}$ $0.018^{**}$ $0.012^{**}$ $0.038^{**}$ Industry Median* Financial expert $0.123^{***}$ $0.040$ $0.90^{***}$ $(-1.19)$ $(-2.35)$ $0.93$ Industry Median* Financial expert $0.010$ $0.014^{**}$	industry incoluit	(-1.38)	(2 12)	(0.61)	(-1.19)	(-2,35)	(-0.94)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Rated Dummy	-0.012***	-0.013***	-0 009***	-0.014***	-0.006	-0.006*
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		(-3.10)	(-3.33)	(-3.51)	(-2.68)	(-1.62)	(-1.82)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Profitability*Financial expert	0.005	-0.050***	-0.046***	-0.083***	-0.043**	-0.073***
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5 1	(0.26)	(-2.80)	(-2.87)	(-3.04)	(-2.39)	(-4.02)
L(-0.81)(-0.82)(-0.39)(-2.09)(-1.04)(-1.73)Depreciation*Financial expert0.191*0.0330.134*0.1450.0220.243***(1.78)(0.37)(1.68)(1.04)(0.24)(2.71)Firm Size*Financial expert0.003**0.001-0.0010.004**0.0010.000(2.18)(0.72)(-0.82)(2.56)(1.59)(0.51)Tangibility*Financial expert-0.035**-0.014-0.022**-0.034-0.010-0.026**(2.26)(-1.09)(-1.96)(-1.58)(-0.80)(-2.07)R&D Dummy*Financial expert0.016**0.017***0.017***0.012**0.013**(2.78)(3.19)(3.62)(2.16)(2.38)(2.54)R&D*Financial expert0.146**0.0560.114**0.105-0.0290.047(2.29)(1.07)(2.47)(1.28)(-0.55)0.93)Industry Median* Financial expert0.012**0.0400.090***(1.19)(-2.35)0.086***(4.35)(1.46)(3.86)0.145***0.075***(3.53)Rated Dummy*Financial expert0.0100.014**0.015***0.018**0.016***(1.63)(2.43)(3.11)(2.19)(1.23)(2.16)N111651537126366102921624426536Over * Financial expert*X <sub>i,t</sub> controlsYESYESYESYESYESYear fixed effectsYESYESYES<	MB*Financial expert	-0.002	-0.001	-0.001	-0.006**	-0.002	-0.003*
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	*	(-0.81)	(-0.82)	(-0.39)	(-2.09)	(-1.04)	(-1.73)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Depreciation*Financial expert	0.191*	0.033	0.134*	0.145	0.022	0.243***
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		(1.78)	(0.37)	(1.68)	(1.04)	(0.24)	(2.71)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Firm Size*Financial expert	0.003**	0.001	-0.001	0.004**	0.001	0.000
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		(2.18)	(0.72)	(-0.82)	(2.56)	(1.59)	(0.51)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Tangibility*Financial expert	-0.035**	-0.014	-0.022**	-0.034	-0.010	-0.026**
R&D Dummy*Financial expert $0.016^{***}$ $0.017^{***}$ $0.017^{***}$ $0.018^{**}$ $0.012^{**}$ $0.013^{**}$ R&D*Financial expert $0.146^{**}$ $0.056$ $0.114^{**}$ $0.105$ $-0.029$ $0.047$ R&D*Financial expert $0.146^{**}$ $0.056$ $0.114^{**}$ $0.105$ $-0.029$ $0.047$ R&D*Financial expert $0.146^{**}$ $0.056$ $0.114^{**}$ $0.105$ $-0.029$ $0.047$ Industry Median* Financial expert $0.123^{***}$ $0.040$ $0.090^{***}$ $(-1.19)$ $(-2.35)$ $0.086^{***}$ Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $0.015^{***}$ $0.017^{***}$ $(3.53)$ Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $0.015^{***}$ $0.006$ $0.011^{***}$ $(1.63)$ $(2.43)$ $(3.11)$ $(2.19)$ $(1.23)$ $(2.16)$ N $11165$ $15371$ $26536$ $10292$ $16244$ $26536$ Over * Financial expert*X_{i,t} controlsYESYESYESYESYESYear fixed effectsYESYESYESYESYESYESSpeed $(\lambda_0)$ $0.127$ $0.198$ $0.208$ $0.110$ Adjusted Speed $(\lambda_0 + \gamma)$ $0.296$ $0.329$ $0.388$ $0.263$ $\Delta A_justed Speed\%$ $133.071$ $166.062$ $86.534$ $139.091$ Half-Life $5.476$ $3.492$ $3.337$ $6.305$ $\Delta dijusted Half-Life$ $2.342$ $2.107$ $1.786$ $2.626$ <td></td> <td>(-2.26)</td> <td>(-1.09)</td> <td>(-1.96)</td> <td>(-1.58)</td> <td>(-0.80)</td> <td>(-2.07)</td>		(-2.26)	(-1.09)	(-1.96)	(-1.58)	(-0.80)	(-2.07)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	R&D Dummy*Financial expert	0.016***	0.017***	0.017***	0.018**	0.012**	0.013**
R&D*Financial expert $0.146^{**}$ $0.056$ $0.114^{**}$ $0.105$ $-0.029$ $0.047$ Industry Median* Financial expert $0.123^{***}$ $0.040$ $0.090^{***}$ $(-1.19)$ $(-2.35)$ $0.086^{***}$ Industry Median* Financial expert $0.123^{***}$ $0.040$ $0.090^{***}$ $(-1.19)$ $(-2.35)$ $0.086^{***}$ Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $0.015^{***}$ $0.018^{***}$ $0.075^{***}$ $(3.53)$ Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $0.015^{***}$ $0.018^{***}$ $0.006$ $0.011^{**}$ N $11.65$ $15371$ $26536$ $10292$ $16244$ $26536$ Over * Financial expert*X <sub>i,t</sub> controlsYESYESYESYESYESYear fixed effectsYESYESYESYESYESYESSpeed ( $\lambda_0$ ) $0.127$ $0.198$ $0.208$ $0.110$ Adjusted Speed ( $\lambda_0 + \gamma$ ) $0.296$ $0.329$ $0.388$ $0.263$ $\Delta Ajusted Speed (\lambda_0 + \gamma)0.2963.4923.3376.305\Delta Ajusted Half-Life5.4763.4923.3376.305$		(2.78)	(3.19)	(3.62)	(2.16)	(2.38)	(2.54)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	R&D*Financial expert	0.146**	0.056	0.114**	0.105	-0.029	0.047
Industry Median* Financial expert $0.123^{***}$ $0.040$ $0.090^{***}$ $(-1.19)$ $(-2.35)$ $0.086^{***}$ Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $(3.86)$ $0.145^{***}$ $0.075^{***}$ $(3.53)$ Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $0.015^{***}$ $0.018^{**}$ $0.006$ $0.011^{**}$ (1.63) $(2.43)$ $(3.11)$ $(2.19)$ $(1.23)$ $(2.16)$ N111651537126536102921624426536Over * Financial expert*X_{i,t} controlsYESYESYESYESYESYear fixed effectsYESYESYESYESYESYESYear fixed effectsYESYESYESYESYESYESSpeed $(\lambda_0)$ $0.127$ $0.198$ $0.208$ $0.110$ Adjusted Speed $(\lambda_0 + \gamma)$ $0.296$ $0.329$ $0.388$ $0.263$ $\Delta Ajusted Speed (\lambda_0 + \gamma)$ $0.296$ $3.492$ $3.337$ $6.305$ $\Delta Ajusted Half-Life$ $5.476$ $3.492$ $3.337$ $6.305$		(2.29)	(1.07)	(2.47)	(1.28)	(-0.55)	(0.93)
Rated Dummy*Financial expert $(4.35)$ $(1.46)$ $(5.86)$ $0.145^{***}$ $0.075^{***}$ $(3.53)$ Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $0.015^{***}$ $0.018^{***}$ $0.006$ $0.011^{**}$ N $(1.63)$ $(2.43)$ $(3.11)$ $(2.19)$ $(1.23)$ $(2.16)$ N $11165$ $15371$ $26536$ $10292$ $16244$ $26536$ Over * Financial expert*X <sub>i,t</sub> controlsYESYESYESYESYESYear fixed effectsYESYESYESYESYESYESSpeed ( $\lambda_0$ ) $0.127$ $0.198$ $0.208$ $0.110$ Adjusted Speed ( $\lambda_0 + \gamma$ ) $0.296$ $0.329$ $0.388$ $0.263$ $\Delta Ajusted Speed (\lambda_0 + \gamma)133.071166.06286.534139.091Half-Life5.4763.4923.3376.305Adjusted Half-Life2.3422.1071.7862.636$	Industry Median* Financial expert	0.123***	0.040	0.090***	(-1.19)	(-2.35)	0.086***
Rated Dummy*Financial expert $0.010$ $0.014^{**}$ $0.015^{***}$ $0.018^{**}$ $0.006$ $0.011^{**}$ $(1.63)$ $(2.43)$ $(3.11)$ $(2.19)$ $(1.23)$ $(2.16)$ N111651537126536102921624426536Over * Financial expert*X_{i,t} controlsYESYESYESYESYESYear fixed effectsYESYESYESYESYESYESSpeed ( $\lambda_0$ )0.1270.1980.2080.110Adjusted Speed ( $\lambda_0 + \gamma$ )0.2960.3290.3880.263 $\Delta Ajusted Speed (\lambda_0 + \gamma)$ 133.071166.06286.534139.091Half-Life5.4763.4923.3376.305Adjusted Half-Life2.422.1071.7862.636		(4.35)	(1.46)	(3.86)	0.145***	0.075***	(3.53)
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Rated Dummy*Financial expert	0.010	0.014**	0.015***	0.018**	0.006	$0.011^{**}$
N111651537126536102921624426536Over * Financial expert* $X_{i,t}$ controlsYESYESYESYESYESYESYear fixed effectsYESYESYESYESYESYESYESFirm fixed effectsYESYESYESYESYESYESSpeed ( $\lambda_0$ )0.1270.1980.2080.110Adjusted Speed ( $\lambda_0 + \gamma$ )0.2960.3290.3880.263 $\Delta Ajusted Speed\%$ 133.071166.06286.534139.091Half-Life5.4763.4923.3376.305Adjusted Half-Life2.4222.1071.7862.636	NT	(1.63)	(2.43)	(3.11)	(2.19)	(1.23)	(2.16)
Over * Financial expert* $\lambda_{i,t}$ controls   YES   YES <th< td=""><td></td><td>11165</td><td>153/1 NEC</td><td>26536</td><td>10292 NEC</td><td>16244 NEC</td><td>26536 NEC</td></th<>		11165	153/1 NEC	26536	10292 NEC	16244 NEC	26536 NEC
Y car lixed effectsY ESY ESY ESY ESY ESY ESY ESY ESFirm fixed effectsY ESY ESY ESY ESY ESY ESY ESY ESSpeed $(\lambda_0)$ 0.1270.1980.2080.110Adjusted Speed $(\lambda_0 + \gamma)$ 0.2960.3290.3880.263 $\Delta A justed Speed \%$ 133.071166.06286.534139.091Half-Life5.4763.4923.3376.305A diusted Half-Life2.3422.1071.7862.636	Over * Financial expert* $X_{i,t}$ controls	YES	YES	YES	YES	YES	YES
Firm fixed effectsYES <t< td=""><td>Y ear fixed effects</td><td>YES</td><td>YES</td><td>YES</td><td>YES</td><td>YES</td><td>YES</td></t<>	Y ear fixed effects	YES	YES	YES	YES	YES	YES
Speed $(\lambda_0)$ $0.127$ $0.198$ $0.208$ $0.110$ Adjusted Speed $(\lambda_0 + \gamma)$ $0.296$ $0.329$ $0.388$ $0.263$ $\Delta A justed Speed \%$ $133.071$ $166.062$ $86.534$ $139.091$ Half-Life $5.476$ $3.492$ $3.337$ $6.305$ $\Delta d justed Half-Life$ $2.342$ $2.107$ $1.786$ $2.636$	rim lixed effects	Y ES 0 127	Y ES	YES	Y ES	Y ES	YES
Aujusted Speed $(\lambda_0 + \gamma)$ 0.2900.3290.3880.203 $\Delta A justed Speed \%$ 133.071166.06286.534139.091Half-Life5.4763.4923.3376.305A diusted Half-Life2.3422.1071.7862.626	A divised Speed $(1 + x)$	0.127	0.198		0.208	0.110	
Adjusted Speed 70   155.0/1   100.002   80.534   159.091     Half-Life   5.476   3.492   3.337   6.305     Adjusted Half-Life   2.342   2.107   1.786   2.636	Aujusted Speed $(\Lambda_0 + \gamma)$	0.290	0.329		U.388 96 521	0.203	
nan-Life 3.4/0 3.492 5.55/ 0.305   Adjusted Half-Life 2.342 2.107 1.786 2.636	DAJUSTEU SPEEU%	133.0/1	100.002		00.334 2.227	6 205	
	Adjusted Half-I ife	J.4/0 2 3/2	5.492 2.107		5.557 1.786	2 636	

# Table 7: Financial expert CEOs' impact for High or low financial constrained firms.

This table tests the impact of financial expert CEOs on SOA among high and low financial constrained firms using the DPF estimator. The dependent variable in regression (1) - (6) is the ratio of leverage. Column (1) (2)-(4)(5) show the results for subsamples. The regression model in column (3) and (6) is as follows:

 $Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} - \gamma_0 Financial expert_{i,t} * Lev_{i,t} - \delta High * Financial expert_{i,t} * Lev_{i,t} + \delta Financial expert_{i,t} + \delta Finacial expert_{i,t} + \delta Financial expert_{i,t} + \delta Fina$ 

 $\gamma_0$  Financial expert<sub>i,t</sub> \*  $X_{i,t} + \delta\beta$  High \* Financial expert<sub>i,t</sub> \*  $X_{i,t} + \lambda_0\beta X_{i,t} + \nu_i + \varepsilon_{i,t+1}$ 

where *High* is the dummy variable, if the KZ score > Industry median KZ, then *High* equals one. *High* \* *Financial expert*\* $X_{i,t}$  variable results are not displayed in the table for brief. Variables are winsored at 1% and 99% values and are defined as in Table 1 Standard errors clustered at firm-level in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

	(1)	(2)	(3)	(4)	(5)	(6)
		BookLev <sub>i,t+1</sub>			Marketlev <sub>i,t+1</sub>	
	High	Low	Full	High	Low	Full
$Lev_{i,t}$	0.787***	0.921***	0.823***	0.746***	0.879***	0.793***
	(92.14)	(137.70)	(124.60)	(74.49)	(105.65)	(103.16)
$Financial expert_{i,t} * Lev_{i,t}$	-0.128***	-0.171***	-0.109***	-0.148***	-0.189***	-0.133***
	(-9.42)	(-13.28)	(-8.64)	(-9.42)	(-12.06)	(-12.10)
High * Financialexperience <sub>i,t</sub> * Lev <sub>i,t</sub>			-0.026*			-0.023**
			(-1.81)			(-2.20)
Profitability	0.027**	0.034***	0.018**	0.039***	0.079***	0.049***
	(2.38)	(3.20)	(2.38)	(3.50)	(5.30)	(5.35)
Market-to-Book	0.000	-0.004	-0.000	-0.001	0.017***	-0.002
	(0.18)	(-1.56)	(-0.58)	(-1.15)	(5.35)	(-1.54)
Depreciation	0.037	0.098	0.078	-0.095	-0.164	-0.135**
	(0.51)	(1.35)	(1.53)	(-1.35)	(-1.63)	(-2.29)
Firm Size	0.008***	0.006***	0.008***	0.016***	0.023***	0.019***
	(4.72)	(3.33)	(6.06)	(9.41)	(9.16)	(13.28)
Tangibility	0.031**	0.028**	0.029***	0.054***	0.053***	0.055***
	(2.04)	(2.00)	(2.85)	(3.65)	(2.78)	(4.65)
R&D Dummy	-0.007	0.000	-0.003	-0.011*	-0.001	-0.007
	(-1.22)	(0.03)	(-0.90)	(-1.90)	(-0.16)	(-1.48)
R&D	-0.036	-0.123***	-0.079***	-0.048	-0.091	-0.059*
	(-0.86)	(-2.63)	(-2.58)	(-1.17)	(-1.40)	(-1.66)
Industry Median	-0.006	-0.007	0.011	-0.018	-0.042	-0.021
	(-0.27)	(-0.31)	(0.66)	(-0.91)	(-1.48)	(-1.24)
Rated Dummy	-0.016***	-0.006*	-0.010***	-0.006*	-0.007	-0.005*
	(-4.06)	(-1.65)	(-3.66)	(-1.71)	(-1.37)	(-1.71)
Profitability*Financial expert	-0.015	-0.026	-0.008	-0.049***	-0.075***	-0.050***
	(-0.79)	(-1.40)	(-0.44)	(-2.59)	(-2.87)	(-3.18)
MB*Financial expert	-0.003*	0.003	-0.001	-0.003*	-0.009*	-0.004**
	(-1.92)	(0.95)	(-0.37)	(-1.90)	(-1.70)	(-2.34)
Depreciation*Financial expert	0.080	0.082	0.178**	0.091	0.096	0.091
	(0.78)	(0.88)	(2.08)	(0.92)	(0.75)	(1.15)
Firm Size*Financial expert	0.001	0.001	0.000	0.002**	0.004***	0.002***
an 1111 what 11	(0.60)	(1.20)	(0.13)	(2.03)	(2.59)	(2.79)
langibility*Financial expert	-0.038**	-0.018	-0.031***	-0.030**	-0.025	-0.029**
	(-2.51)	(-1.34)	(-2.68)	(-2.08)	(-1.40)	(-2.52)
R&D Dummy*Financial expert	0.021***	0.013***	0.01/***	0.011*	0.025***	0.01/***
D&D*Einen eiel erment	(3.53)	(2.58)	(3.55)	(1.8/)	(3.45)	(3.81)
K&D*Financial experi	0.078	0.16/	(1.91)	-0.060	0.237 ****	0.041
Industry Median* Einensiel synart	(1.41)	(2.80)	(1.81)	(-1.12)	(2.80)	(0.90)
industry Median <sup>*</sup> Financial expert	(2.06)	(2, 45)	(2,78)	(2, 22)	(2, 64)	(4.08)
Pated Dummy*Financial appart	(3.00)	(3.43)	(2.70)	(3.33)	(3.04)	(4.08)
Rated Dunning Trinancial expert	(2.56)	(2.54)	(2.16)	(1.82)	(1.56)	(2.06)
N	15132	11404	26536	15132	11404	26536
IN High + Financial compart*V controls	VES	11404 VES	20330 VES	VES	11404 VES	20550 VES
$X_{i,t} $ truncial expert $X_{i,t}$ controls	I ES VEC	I ES VEC	VES	I EO VEC	I ES VEC	I ES VES
Firm fixed effects	I ES VES	I ES	I ES	I ES VES	I ES	I ES
Speed (1)	1 E 5	1 ES	1 23	1 E5	1 E S	1 2 3
A divised Speed $(1 + x)$	0.213	0.079		0.234	0.121	
Aujusted Speed $(\Lambda_0 + \gamma)$	60.004	0.230		0.402	0.310	
Длјизјен зреен%) Half Lifa	3 250	210.430 8 901		JO.200 2 722	5 744	
nall-Llle A diusted Half I ifa	5.239 2.022	0.001		2./33	J. 144 2 226	
Aujusteu nali-Lite	2.033	2.113		1./24	2.230	

#### Table 8 Panel A: Financial expert CEOs' impact for firms with surplus or deficit.

This table tests the impact of financial expert CEOs on SOA among firms with surplus or deficit using the DPF estimator. The dependent variable in regression (1) -(6) is the ratio of book leverage. Column (1) (2)– (4) (5) show the results for sub-samples. The regression model in column (3) and (6) is as follows:

 $Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} - \gamma_0 Financial expert_{i,t} * Lev_{i,t} - \delta Surplus * Financial expert_{i,t} * Lev_{i,t} + Lev_{i,t} +$ 

 $\gamma_0 Financial expert_{i,t} * X_{i,t} + \delta\beta Surplus * Financial expert_{i,t} * X_{i,t} + \lambda_0 \beta X_{i,t} + v_i + \varepsilon_{i,t+1}$ 

where *Surplus* is the dummy variable, if the *Operating cash flow* > 0, then *Surplus* equals one. *Surplus* \* *Financial expert*\* $X_{i,t}$  variable results are not displayed in the table for brief. Variables are winsored at 1% and 99% values and are defined as in Table 1 Standard errors clustered at firm-level in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

	(1)	(2)	(3)	(4)	(5)	(6)
		Over levered			Under levered	đ
	Surplus	Deficit	Full	Surplus	Deficit	Full
$BookLev_{i,t}$	0.767***	0.857***	0.800***	0.743***	0.801***	0.757***
	(66.24)	(43.39)	(70.79)	(43.33)	(21.76)	(48.46)
$Financial expert_{i,t} * Book Lev_{i,t}$	-0.041**	-0.311***	-0.125***	-0.104***	-0.233***	-0.130***
	(-2.29)	(-7.87)	(-6.30)	(-3.53)	(-4.02)	(-3.95)
Surplus $*$ Financialexperience <sub>i,t</sub> $*$ BookLev <sub>i,t</sub>			-0.003			-0.091
			(-0.07)			(-0.98)
Profitability	0.068***	-0.026	0.007	0.050***	0.018	0.031***
	(4.05)	(-1.05)	(0.55)	(3.73)	(0.89)	(3.04)
Market-to-Book	0.002	-0.018***	-0.002	-0.002*	0.003	-0.001
	(1.22)	(-4.29)	(-1.01)	(-1.86)	(1.16)	(-1.06)
Depreciation	0.024	-0.105	0.015	0.082	-0.028	0.079
•	(0.25)	(-0.58)	(0.18)	(0.99)	(-0.22)	(1.16)
Firm Size	0.007***	0.011**	0.007***	0.006***	0.010**	0.007***
	(3.00)	(1.97)	(3.09)	(3.04)	(2.56)	(3.95)
Tangibility	0.037*	0.056	0.050***	0.042**	0.030	0.036***
	(1.86)	(1.51)	(2.88)	(2.50)	(1.06)	(2.58)
R&D Dummy	-0.004	-0.020	-0.007	-0.008	0.005	-0.006
	(-0.66)	(-1.17)	(-1.16)	(-1.38)	(0.42)	(-1.14)
R&D	-0.032	-0.337***	-0.136***	-0.036	-0.068	-0.041
	(-0.53)	(-3.17)	(-2.58)	(-0.69)	(-0.90)	(-0.99)
Industry Median	0.005	-0.030	-0.005	0.068***	0.107*	0.070***
	(0.20)	(-0.41)	(-0.20)	(2.81)	(1.81)	(3.10)
Rated Dummy	-0.012***	0.002	-0.009**	-0.017***	0.002	-0.013***
	(-2.97)	(0.18)	(-2.08)	(-3.99)	(0.18)	(-3.26)
Profitability*Financial expert	-0.096***	0.026	0.011	-0.055**	-0.056	-0.077***
	(-3.60)	(0.60)	(0.38)	(-2.23)	(-1.64)	(-3.66)
MB*Financial expert	-0.003	0.020**	-0.008**	-0.001	0.005	-0.000
	(-0.98)	(2.52)	(-2.08)	(-0.52)	(0.91)	(-0.14)
Depreciation*Financial expert	0.106	0.170	0.109	0.198*	-0.318*	0.070
	(0.85)	(0.63)	(0.72)	(1.81)	(-1.72)	(0.65)
Firm Size*Financial expert	0.002	0.004	0.003*	0.001	-0.002	0.000
	(1.20)	(1.27)	(1.72)	(0.45)	(-0.82)	(0.16)
Tangibility*Financial expert	-0.017	-0.087**	-0.050**	-0.041**	0.045*	-0.022
	(-0.90)	(-2.35)	(-2.39)	(-2.45)	(1.73)	(-1.36)
R&D Dummy*Financial expert	0.019***	0.006	0.006	0.020***	0.004	0.025***
	(2.93)	(0.37)	(0.66)	(3.38)	(0.36)	(3.80)
R&D*Financial expert	0.104	-0.086	0.110	0.049	0.050	0.005
	(1.29)	(-0.58)	(1.24)	(0.78)	(0.46)	(0.08)
Industry Median* Financial expert	0.033	0.287***	0.145***	0.024	0.166**	0.046
	(1.07)	(3.35)	(3.41)	(0.80)	(2.49)	(1.36)
Rated Dummy*Financial expert	-0.000	0.030*	0.011	0.012*	0.017	0.012*
	(-0.05)	(1.72)	(1.15)	(1.91)	(1.20)	(1.70)
N	8462	2703	11165	12338	3033	15371
Surplus * Financial expert* $X_{i,t}$ control	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Speed $(\lambda_0)$	0.233	0.143		0.257	0.199	
Adjusted Speed $(\lambda_0 + \gamma)$	0.274	0.454		0.361	0.432	
$\Delta A$ justed Speed%	17.597	217.483		40.467	117.085	
Half-Life	2.975	4.849		2.697	3.483	
Adjusted Half-Life	2.530	1.537		1.920	1.605	

**Table 8 Panel B: Financial expert CEOs' impact for firms with surplus or deficit** This table tests the impact of financial expert CEOs on SOA among firms with surplus or deficit using the DPF estimator. The dependent variable in regression (1) -(6) is the ratio of book leverage. Column (1) (2)– (4) (5) show the results for sub-samples. The regression model in column (3) and (6) is as follows:

 $Lev_{i,t+1} = (1 - \lambda_0)Lev_{i,t} - \gamma_0 Financial expert_{i,t} * Lev_{i,t} - \delta Surplus * Financial expert_{i,t} * Lev_{i,t} + Lev_{i,t} +$ 

 $\gamma_0 Financial expert_{i,t} * X_{i,t} + \delta\beta Surplus * Financial expert_{i,t} * X_{i,t} + \lambda_0 \beta X_{i,t} + v_i + \varepsilon_{i,t+1}$ 

where *Surplus* is the dummy variable, if the *Operating cash flow* > 0, then *Surplus* equals one. *Surplus* \* *Financial expert*\* $X_{i,t}$  variable results are not displayed in the table for brief. Variables are winsored at 1% and 99% values and are defined as in Table 1. Standard errors clustered at firm-level in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

	(1)	(2)	(3)	(4)	(5)	(6)
		Over levered			Under levered	!
	Surplus	Deficit	Full	Surplus	Deficit	Full
MarketLev <sub>i,t</sub>	0.705***	0.817***	0.733***	0.798***	0.909***	0.828***
	(43.41)	(31.46)	(52.38)	(45.98)	(22.79)	(52.70)
$Financial expert_{i,t} * Market Lev_{i,t}$	-0.127***	-0.203***	-0.131***	-0.120***	-0.248***	-0.148***
	(-4.84)	(-4.84)	(-5.81)	(-4.20)	(-3.84)	(-4.77)
Surplus * Financialexperience <sub>i,t</sub> * MarketLev <sub>i,t</sub>			-0.042			-0.085
			(-0.63)			(-0.80)
Profitability	0.080***	0.108***	0.068***	0.027**	-0.003	0.017
	(3.65)	(3.49)	(4.04)	(1.98)	(-0.11)	(1.59)
Market-to-Book	-0.002	0.015***	0.000	-0.004***	0.001	-0.002*
	(-1.15)	(3.02)	(0.13)	(-3.00)	(0.14)	(-1.88)
Depreciation	-0.272**	-0.242	-0.301***	-0.015	-0.072	-0.025
	(-2.06)	(-1.04)	(-2.60)	(-0.20)	(-0.47)	(-0.37)
Firm Size	0.031***	0.027***	0.028***	0.016***	0.017***	0.015***
	(9.37)	(3.71)	(9.19)	(8.87)	(3.72)	(9.28)
Tangibility	0.117***	0.042	0.094***	0.042***	0.093***	0.057***
	(4.30)	(0.89)	(3.96)	(2.82)	(2.74)	(4.27)
R&D Dummy	-0.003	-0.012	-0.005	-0.010**	-0.006	-0.009*
	(-0.31)	(-0.57)	(-0.61)	(-1.97)	(-0.40)	(-1.86)
R&D	0.003	-0.348***	-0.100	-0.028	-0.031	-0.019
	(0.04)	(-2.68)	(-1.54)	(-0.55)	(-0.35)	(-0.45)
Industry Median	0.034	0.029	0.045	-0.013	-0.098*	0.016
	(0.94)	(0.42)	(1.17)	(-0.66)	(-1.72)	(0.75)
Rated Dummy	-0.018***	0.009	-0.011*	-0.009**	0.019	-0.005
	(-3.16)	(0.67)	(-1.86)	(-2.55)	(1.60)	(-1.31)
Profitability*Financial expert	-0.149***	-0.061	-0.007	-0.045*	-0.032	-0.049**
	(-4.04)	(-1.09)	(-0.20)	(-1.93)	(-0.74)	(-2.37)
MB*Financial expert	0.000	-0.010	-0.008*	-0.001	0.003	-0.002
Dennesistien *Financial envert	(0.03)	(-0.94)	(-1.93)	(-0.42)	(0.39)	(-1.17)
Depreciation <sup>*</sup> Financial expert	(2.42)	-0.912	-0.170	(0.12)	0.019	0.029
Firm Sizo*Financial export	(2.42)	(-2.09)	(-0.93)	(0.12)	(0.09)	(0.28)
Film Size Financial expert	(1, 12)	(1.32)	(1.29)	(1.26)	(0.00)	(0.68)
Tangihility*Financial expert	(1.12)	(1.32)	(1.29)	-0.026*	0.015	(0.03)
rangionity rinaneiar expert	(-1.23)	(-0.22)	(-0.85)	(-1.82)	(0.48)	(-1, 13)
R&D Dummy*Financial expert	0.019**	0.008	0.005	0.014**	0.006	0.009
ReeD Duminy Tinancial expert	(2.01)	(0.40)	(0.45)	(2.50)	(0.39)	(1.41)
R&D*Financial expert	0.134	0 161	0 243**	-0.008	-0.032	-0.015
	(1.30)	(0.88)	(2 37)	(-0.14)	(-0.24)	(-0.25)
Industry Median* Financial expert	0.076*	0.319***	0.123**	0.062**	0.206***	0.090***
	(1.69)	(3.42)	(2.54)	(2.52)	(2.84)	(3.20)
Rated Dummy*Financial expert	0.016*	0.039*	0.034***	0.006	-0.004	0.009
5 1	(1.71)	(1.80)	(2.84)	(1.12)	(-0.26)	(1.33)
N	7327	2965	10292	13473	2771	16244
Surplus * Financial expert*X control	YES	YES	YES	YES	YES	YES
Year fixed effects	YES	YES	YES	YES	YES	YES
Firm fixed effects	YES	YES	YES	YES	YES	YES
Speed $(\lambda_0)$	0.295	0.183	. 20	0.202	0.091	120
Adjusted Speed $(\lambda_0 + \gamma)$	0.422	0.386		0.322	0.339	
$\Delta A$ justed Speed%	43.051	110.929		59.406	272.527	
Half-Life	2.348	3.788		3.428	7.576	
Adjusted Half-Life	1.643	1.796		1.969	2.045	

#### Table 9 Financial expert CEOs and the deviation level

This table test relationship between financial expert CEOs and leverage deviation level with the following model:

 $Distance_{i,t+1} = \left| Lev_{i,t+1}^* - Lev_{i,t+1} \right| = \alpha + \alpha_1 Financial experience_{i,t} + \beta X_{i,t} + v_i + \varepsilon_{i,t+1}$ 

where,  $|Lev_{i,t-1}^* - Lev_{i,t+1}|$  measures the deviation level of a firm's observed leverage from its target leverage at the end of year t + 1. If  $\alpha_1$  is significantly negative, this indicates that financial expert CEOs will reduce the firm leverage's deviation level from its target. Target leverage and distance are estimated by fixed effect model. Standard errors clustered at firm-level in parentheses. \* p < 0.1, \*\* p < 0.05, \*\*\* p < 0.01

	(1)	(4)
	Bookleverage	Marketleverage
Financial Expert Dummy	-0.002	0.002
	(0.003)	(0.003)
Profitability	-0.061***	-0.108***
	(0.010)	(0.010)
Market-to-Book	0.005***	-0.005***
	(0.001)	(0.001)
Depreciation	0.278***	0.075
	(0.084)	(0.077)
Firm Size	-0.014***	0.000
	(0.003)	(0.002)
Tangibility	-0.033**	0.042**
	(0.016)	(0.017)
R&D Dummy	0.007	-0.000
	(0.008)	(0.008)
R&D	-0.147**	-0.152***
	(0.063)	(0.046)
Industry Median	0.056**	0.152***
	(0.025)	(0.020)
Rated Dummy	-0.005	0.005
	(0.004)	(0.004)
Intercept	0.186***	0.083***
	(0.020)	(0.019)
N	26536	26536
Year fixed effects	YES	YES
Firm fixed effects	YES	YES