

Executive Director Financial Expertise and IPO Performance

Michael Ettredge
Department of Accounting and Information System
School of Business
University of Kansas
mettredge@ku.edu

Chan Li
Katz Graduate School of Business
University of Pittsburgh
chanli@katz.pitt.edu

Qian Wang*
Department of Accounting and Finance
College of Business
Iowa State University
qianwang@iastate.edu

Yang Xu
Department of Accounting
College of Business
University of Colorado Colorado Springs
yxu@uccs.edu

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*Corresponding author

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ABSTRACT

This study investigates the effects on initial public offering (IPO) outcomes of the existence and type of financial expertise of chief executive officers (CEOs) and chief financial officers (CFOs) serving on their own IPO firms' boards. For brevity we refer to these executives as executive directors. We investigate the effects of three types of executive director financial expertise: that obtained via accounting-based, user-based, and supervisory-based work experience. We control for the effects of independent (non-executive) director financial expertise disaggregated into the same three types of financial expertise. We find that executive directors having accounting-based experience use that knowledge and experience to decrease information asymmetry at IPO, leading to lower underpricing of initial offerings. None of the three types of financial expertise for independent directors helps to improve IPO underpricing. We also find that executive directors with accounting-based experience are associated with better post-IPO long-term performance.

Keywords: Initial Public Offering, IPO, Underpricing, Financial Expertise

JEL Classifications: G32, G34, M41

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INTRODUCTION

A firm's IPO is a rich setting for studying corporate governance issues because the IPO is the first time that most firms issue equity to dispersed investors, and is the time when most previously private firms begin to file disclosures with the Securities and Exchange Commission (SEC). Substantial information asymmetry exists just prior to an IPO between existing investors (often including the firm's managers) and potential investors (Chemmanur and Paeglis 2005). Potential investors scrutinize the composition of the board of directors prior to the IPO in an attempt to assess the quality and prospects of the firm (Baker and Gompers 2003). Prior literature has documented the importance of the board of directors as a determinant of corporate performance (Adams, Hermalin, and Weisbach 2010; Kim, Mauldin, and Patro 2014). This study investigates the effects on IPO (initial public offering) performance of the existence and financial expertise of chief executive officers (CEOs) and chief financial officers (CFOs) serving on their own IPO firms' boards of directors. For brevity we refer to these executives as executive directors.

Independent directors who are financial experts contribute to boards primarily by monitoring the performance of managers, especially with respect to financial reporting and control issues (Raghunandan, Rama, and Read 2001; Baldenius, Melumad, and Meng 2014). Limited prior research in the IPO setting examining Canadian firms suggests that the existence of financial expertise among independent directors serving on audit committees can mitigate information asymmetry at the IPO via improved financial reporting quality (Bédard, Coulombe, and Courteau

2008).¹ In this paper, our focus is on the previously unstudied topic of the effects of executive director financial expertise on IPO outcomes.

One view consistent with agency theory is that company insiders on board are granted power and influence, and they are likely to engage in rent-seeking behaviors which may lead to negative consequences (e.g. Dechow, Sloan, and Sweeney 1996; Klein 2002). Following this line of research, executive directors could use their memberships on the board to set low offer prices to increase personal wealth (Ljungvist and Wilhelm 2003; Baldenius et al. 2014). Executive directors having financial expertise might be better able to do so, because financial expertise arguably increases their informational advantage relative to independent directors.²

An alternative view is that executive directors, such as a firm's own CEO and CFO, likely fulfill an informational role on boards, providing independent directors with inside knowledge of their companies' abilities, limitations, and prospects (Raheja 2005; Adams and Ferreira 2007; Link, Netter and Yang 2008; Bedard et al. 2014; Kim et al. 2014). This informational role is particularly important during the IPO process, as the IPOs are characterized by a large information asymmetry between the existing shareholders, who have private knowledge about the firm's expected future cash flows, and investors, who need to evaluate the risk and the prospect of the firm. This information asymmetry drives the existing shareholders to underprice the issue to induce less informed investors to bid for IPO shares in equilibrium (Rock 1986; Benveniste and Spindt 1989). Prior literature show that the quality and reputation of a firm's managers is important to prospective investors at IPO (Chemmanur and Paeglis 2005). However, prior literature does not

¹ Under Sarbanes-Oxley (SOX) Section 407, the purpose of including independent directors having financial expertise on boards is to improve the quality of financial information via service on audit committees. The financial expertise of independent directors usually is studied in the context of their service on audit committees of mature firms (Abbott, Parker and Peters 2004; DeFond, Hann and Hu 2005; Badolato, Donelson, and Ege 2014).

² Consistent with this view, Albrecht, Mauldin, and Newton (2018) find that executives' financial expertise helps them engage in rent-seeking activities, measured as misreporting of earnings.

investigate the particular dimension of executive director quality, financial expertise. The existence and extent of financial expertise among managers serving on the board could enhance the production and disclosure of financial information, and convey the value of their firms more credibly to the equity market. Both the information role and the signaling role of financial expertise of executive directors suggests a negative association between the financial expertise of executive directors and the information asymmetry at the IPO. At the broadest level, we investigate the associations between IPO underpricing and financial expertise (FE) of executive directors and controlling for independent director FE. We also examine one-year, two-year, and three-year post-IPO stock market performance to explore whether the executive directors with financial expertise are able to mitigate the heterogeneous expectations among investors about the future cash flows of the firm, and lead the firm to outperform in the long run.

We next examine possible interactions between executive director FE and an important board characteristic, extent of board independence.³ Independent directors function in part to monitor top managers. The effect of greater board independence in modifying the effects of executive director FE on IPO outcomes could differ depending on the executive director's ability or motives to reduce information transparency. Greater board independence, manifested as more active and effective monitoring of managers, could reduce the ability of executive directors having FE to manipulate information, thus reducing IPO underpricing. Alternatively, greater board independence and more active monitoring could not enhance the beneficial effect of executive directors having FE on IPO outcomes if executive directors are already equipped with superior expertise and motives to mitigate information asymmetry.

³ In this respect our study resembles Berry, Fields and Wilkins (2006) who investigate interactions among governance mechanisms in IPO firms for up to 11 years post-IPO. Those authors do not study director financial expertise.

To investigate the issues outlined above, we employ a sample of 587 IPOs issued from 2000 to 2010. We identify three types of executive director financial expertise and examine whether each type of FE is likely to reduce or increase information asymmetry at IPO: accounting-related FE, which includes experience in the preparation or auditing of financial statements (such as public accountants, auditors, principal financial officers, controllers, principal accounting officers), user-related FE, which includes experience in assessing or using financial accounting information (such as investment bankers, venture capitalists, and financial analysts), and FE obtained by supervising or overseeing the financial accounting function (such as CEOs and company presidents).

We find that executive directors' FE significantly reduces IPO underpricing, but only if the FE is accounting-based. User-based executive FE and supervisory-based executive FE are not associated with IPO underpricing. Our results for accounting-based FE are consistent with prior studies that find only accounting-based FE (but not user-based or supervisory-based FE) improves financial reporting (e.g. Agrawal and Chadha 2005; DeFond, Hann, and Hu 2005). In summary, our evidence suggests that executive directors having accounting-based FE use that FE, together with their intimate knowledge of their own firms (which independent directors do not have), to reduce information asymmetry, leading to lower IPO underpricing. The evidence does not suggest that executive directors having accounting-based FE engage in self-interested behavior, which is consistent with literature that executives do not influence IPO pricing decisions to increase their pre-IPO shares' value (Lowry and Murphy 2007).

Given the dominant role of accounting-based executive director FE in IPO-date results, we focus attention on this type of FE in our analyses of post-IPO returns. Although executives' accounting-based FE arguably enables reduction in information asymmetry at IPO, it is less clear

that it conveys long-term advantages in performance. Using the calendar time portfolio approach with the Fama-French four factor model, we find that mean unexplained abnormal returns (the model intercepts) are positive in years plus-one through plus-three, and are marginally significant in the first and third post-IPO years. The Fama and French model results thus suggest the possibility that firms whose executive directors have greater accounting-based FE are associated with better operating, investing, and financing performance in the first three years following IPO, so the firms have better stock market performance.

For the possible interactions between executive director FE and the extent of board independence, we find significantly positive interactions between board independence and executive director accounting-based FE, suggesting more independent boards weaken the negative effect of executive director FE on IPO underpricing. The results suggest that the ability of executive directors with accounting-based FE is strengthened when they comprise a larger proportion of total board members, and independent (non-executive) directors comprise a smaller proportion. One possibility is that independent directors, who mostly lack accounting-based FE, sometimes are unreceptive to policies or activities promoting transparency that executive directors would prefer, and this effect becomes larger as their numbers increase on the board.

To alleviate the concern of endogeneity we conduct two sets of analyses. First, we construct a matched sample based on industry and firm past performance to mitigate the concern that pre-IPO performance is associated with both the employment of executive accounting expertise and IPO underpricing or post-IPO stock performance. While this reduces our sample size substantially, the main results still hold for IPO underpricing as well as the post-IPO performance. Second, we employ the Heckman two-stage model approach and find similar results for IPO date performance.

This paper makes the following contributions. First, we contribute to the literature by studying the effects of executive FEs serving on boards. Prior studies of director FEs have generally focused on independent directors, especially those serving on audit committees for mature firms. The general finding is that independent board members having accounting-based FE are associated with better quality financial reporting (Abbott, Parker, and Peters 2004; Agrawal and Chadha 2005; Aier, Comprix, Gunlock, and Lee 2005; DeFond et al. 2005). However, evidence on how the FE of executive directors affects quality of financial information and firm performance is limited. Because most mature firms' boards include executive directors, it is important to investigate how executive director characteristics (other than their lack of independence) affect firm performance. The only paper we are aware of in this area is Bedard, Hoitash, and Hoitash (2014). Those authors find that when CFOs sit on boards of mature firms, their firms exhibit more effective internal control over financial reporting, higher accruals quality, and lower likelihood of restatements. Our paper extends Bedard et al. (2014) by examining both CFOs' and CEOs' FE in the IPO context, where information asymmetry problems are severe and there is a great need for executive directors to play an effective informational or advisory role. Our results indicate that executive director FEs with accounting-based experience improve outcomes for IPO firms. Two other types of executive director FE studied have no beneficial effects at IPO dates. This paper therefore contributes to a literature documenting superior benefits for firms, especially IPO firms, whose boards include accounting-based executive director FEs.

We also contribute to the literature on the relationship between board monitoring functions and advisory functions. While prior studies generally provide evidence that outside independent directors contribute primarily to the monitoring function, and inside directors contribute primarily to the advising function (Lehn, Patro, and Zhao 2009; Duchin, Matsusaka, and Ozbas 2010; Kim

et al. 2014), how the two functions are related to each other is less known. We examine the effect of executive directors' FE on IPO performance under differing conditions of board independence. We find that the positive effect of executive directors' FE on IPO performance generally is limited to IPO companies having less independent boards. Thus, the board's monitoring function and advisory function appear to interact in the IPO setting, in a way that suggests executive director FE serves as a substitute for monitoring by independent directors.

Finally, we contribute to the IPO literature. A number of studies have focused on the role of management quality and of board quality (mostly proxied by director independence) in relation to IPO outcomes (for example, Chemmanur and Paeglis 2005; Chahine and Goergen 2013). Prior studies of the effect of FE directors on IPO firm outcomes are lacking. Bédard et al. (2008) examines the role of audit committees of companies issuing IPOs in the Canadian province of Québec from 1982-2002. Those authors find that if monitoring is stronger, i.e. if the IPO firm has an audit committee with a majority of independent members and at least one accounting-type financial expert, the IPO firm has reduced underpricing, but not more accurate forecasts contained in prospectuses. We extend this line of research by employing a larger and more current sample of U.S. IPOs, and focusing on the effect of executive director financial expertise, while controlling for independent director financial expertise.

The reminder of the paper is organized as follows. The next section specifies the hypotheses. Section 3 describes our sample, variables, and descriptive statistics. Section 4 describes the results and Section 5 presents a summary and conclusions.

HYPOTHESES DEVELOPMENT

Our basic concept is that greater director financial expertise (FE) can act to decrease information asymmetry at IPOs, thereby reducing underpricing. However, this effect could differ between executive directors and independent directors. Outside directors having FE are independent, but might lack detailed insight into the IPO firm's prospects and capabilities. Prior literature suggests that outside board members are ineffective in monitoring firms with high growth potential and high information asymmetry (Coles, Daniel, and Naveen 2008; Lehn, Patro, and Zhao 2009).

Executive directors with FE have such detailed insight and may be more effective in reducing information asymmetry during the IPO process through two ways. First, executive directors with FE are likely to be associated with better financial reporting quality. Prior literature suggests that inclusion of a FE on the board improves the production and disclosure of financial information (Raghunandan et al. 2001; Abbott et al. 2004; Agrawal and Chadha 2005; DeFond et al. 2005; Bedard 2014; Seetharaman, Wang and Zhang 2014). Executive directors with FE have extensive personal contact with board members through interactions within and outside of meetings, and are more likely to build mutual trust relationships (Mayer, Davis, and Schoorman 1995). They bring their inside knowledge and expertise to the board and enhance the monitoring role of the board over financial quality (Aier et al. 2005). The enhanced and transparent financial information, in turn, should mitigate the information asymmetry between the insiders and investors during the IPO process. Second, executive directors with FE can convey the value of the firm more credibly to investors and underwriters. Research from social psychology suggests that an important factor in a message's credibility is the credibility of the messenger (Birnbaum and Stegner 1979). This relation has also been applied in the financial setting. Prior literature finds that reputed

managers avoid the engagement in opportunistic interest-seeking activities because they have more to lose (e.g., Kreps, Milgrom, Roberts, and Wilson 1982; Kreps 1990) and managers with reputations for credible disclosure increases the believability of their disclosure (Mercer 2004; Williams 1996). The IPO final offer price is determined by the company's executives and its underwriters conducting a road show to the market, attracting investors' interest, and observing investors' reactions. Willenborg, Wu, and Yang (2015) show that pre-IPO accounting information is related to the IPO book-building process. Higher pre-IPO performers have more price adjustment from the mid-point price to the offer price. Executive directors with financial expertise presenting and explaining their insights about the current performance and future cash flows are more convincing to the market and can have better negotiation power with underwriters, resulting in lower IPO underpricing.

In contrast, executive directors might attempt to bias accounting information and disclosures toward a less favorable view of the firm in order to maximize the value of their pre-IPO shares and their IPO options (Lowry and Murphy 2007). Mauldin, and Newton (2018) find that executives' financial expertise helps them engage in rent-seeking activities, measured as misreporting of earnings, when their incentive to misreport is high. Thus, executive directors having FE might be more confident and skilled than other executive directors in pursuing such activities (Demerjian, Lev, Lewis, and McVay 2013; Lev, Li, and Sougiannis 2010). As such, manipulation of information could result in increased underpricing for IPO firms having executive directors with FE.

Based on these arguments, it is unclear whether executive director FE will be associated with increased or decreased IPO underpricing. We thus state our hypothesis in the null form:

H1: The extent of executive directors having financial expertise is not associated with IPO underpricing.

The effects of executive director FE on IPO outcomes could be moderated by board independence (i.e. interactive effects exist). Executive directors having FE might be more confident and skilled than other executive directors in pursuing self-serving activities (Lev et al. 2010; Demerjian et al. 2013). Such behaviors could result in increased underpricing for IPO firms having executive directors with FE. In this scenario, greater board independence, manifested as more active and effective monitoring of managers, could reduce the ability of executive directors having FE to manipulate information, thus improving IPO outcomes.

Alternatively, the incentives of managers to manipulate information to increase rent extracted from the IPOs could be outweighed by other considerations at IPO. Managers having FE also might have a stronger desire to build and protect reputations for transparency. They could use their FE, and their service on the board, to better inform independent board members about their firm's abilities, limitations and prospects, (including via better financial reporting and disclosure) thus assisting the board in reducing information asymmetry prior to IPO. In this scenario, in which managers provide high quality information and establish stronger credibility, greater board independence and more active monitoring arguably do not enhance the beneficial effect of executive directors having FE on IPO outcomes. In fact it is possible to argue the reverse. As independence is defined in this study, less independent boards are ones in which a larger proportion of the board consists of executive directors. Executive directors having FE, and who desire transparent reporting and disclosure, arguably have greater impact when serving on less independent boards. This might enable them, for example, to convince independent directors who are less financially sophisticated of the desirability of issuing management earnings forecasts.

Thus, in this scenario, we expect greater board independence will have no effect on the association between executive director FE and IPO underpricing. Based on these two-sided arguments, we state our second hypothesis in the following null form:

H2: The effect of executive director financial expertise on IPO outcomes does not vary with extent of board independence.

SAMPLE AND MODELS

Sample

Table 1 summarizes the sample selection process. We start with 2,155 initial public offerings of common equity reported in the SDC/Platinum New Issue database during the period between 2000 and 2010. Adopting criteria that are common in the empirical IPO literature (Chemmanur and Paeglis 2005; Berry, Fields and Wilkins 2006; Boone, Field, Karpoff and Raheja 2007), we eliminate REITs, closed-end funds, unit offerings, financial firms (all firms with SIC codes between 6000 and 6999) and utility firms (all firms with SIC codes between 4900 and 4949), leveraged buyouts (LBOs), roll-ups, IPOs having offer price less than five dollars, and foreign companies. We then delete offerings listed on non-US public marketplaces, foreign firms, and firms not covered by Compustat. We next eliminate offerings with missing prospectuses, missing executives and board information. Finally, we require stock returns necessary to calculate IPO underpricing and long-term stock price performance subsequent to IPOs from CRSP, and other related accounting data from Compustat. The above process yields a final sample of 587 IPO firms.

Main Variables and Models

In this section we discuss how we measure financial expertise (FE) on the boards of directors of IPO firms, the nature of their types of expertise (based on prior work experience), and IPO outcomes, as well as proxies for other aspects of firm quality that we use as control variables in various regressions.

Financial Expertise Variables

We hand collect board members' biographies for the sample firms at the IPO from the offering prospectuses (S-1 files), obtained from the SEC's Edgar database. We code each executive director into one of the three types used to derive the FE variables, similar to several prior studies (DeFond et al. 2005). We then transform the FE status of a firm's executive directors into the FE status of the board as a whole, for each FE type, as described below. Table 2 presents descriptive statistics related to FEs prior to the IPOs.

Accounting-based FEs (*EXACCTFE*) are CPAs, or have work experience as a chief financial officer, vice-president of finance, controller or treasurer. Prior research tends to suggest that accounting-based FE of independent directors is associated with provision of better quality accounting information and disclosures, including at IPO (Agrawal and Chadha 2005; DeFond, et al. 2005). Accounting expertise of the executives could also help firms improve internal control quality (Li, Sun, and Ettredge 2010), but could also facilitate executives to engage in earnings manipulation (Albrecht et al. 2018) if the incentives of misreporting is high. *EXACCTFE* equals 1 if either CEO or CFO on board having accounting-based financial expertise or 0 otherwise. *EXACCTFE%* is the proportion of total board members who are IPO-firm CEOs or CFOs having accounting-based FE. Table 2 reports that for *EXACCTFE* the mean is 0.141 and the median is 0.000, and for *EXACCTFE%* the mean is 0.023 and the median is 0.000.⁴

⁴ Untabulated result show that total number of executives with accounting-based FEs is 85, including 61 CEOs and 24 CFOs.

Other studies employ definitions of financial expertise that include other types of experience, such as user expertise and supervisory expertise (Abbott et al. 2004; Güner et al. 2008; Minton et al. 2011; Badolato, et al. 2014). Board members who are expert users of financial information (*EXUSERFE*) are those who have work experience as an investment banker, financial analyst, venture capitalist, or similar roles requiring expert familiarity with financial reports. Board members having supervisory-based FE (*EXSUPERFE*) are those who have supervised other people who were responsible for financial reporting functions. These include independent chief executive officers and company presidents who, for example, have supervised chief financial officers. Supervisory-based FE and user-based FE for independent directors are generally not associated with improved information quality in prior research (Carcello, Hollingsworth, and Klein 2006; Dhaliwal, Naiker and Navissi 2010). Executive directors having user or supervisory expertise are likely to reduce information asymmetry via channels *other* than the financial reporting and disclosure quality dimensions addressed in the previous studies. For example, investment bankers are likely to have had experience bringing new stock issues to market, and a director with such experience could translate into improved investor trust and better IPO performance. However some evidence suggests that investment bankers (and commercial bankers) serving as independent directors engage in behavior that benefits their banks rather than the firms on whose boards they sit (Güner et al. 2008).

EXUSERFE equals 1 if either CEO or CFO on board having user-based financial expertise or 0 otherwise. *EXUSERFE%* is the proportion of IPO firms' CEOs and CFOs who have user-based FE and serve on boards of sample firms. Table 2 reports that for *EXUSERFE* the mean is 0.083 and the median is 0.000; for *EXUSERFE%* the mean is 0.014 and the median is 0.000. The

data show that it is less common for IPO firm boards to include executive directors having user-based FE compared to accounting-based FE.

EXSUPERFE equals 1 if either CEO or CFO on board having supervisory-based financial expertise or 0 otherwise. *EXSUPERFE%* is the proportion of total board members who are CEOs and CFOs having supervisory-based financial expertise. Table 2 reports that for *EXSUPERFE* the mean is 0.494 and the median is 0.000; for *EXSUPERFE%* the mean is 0.079 and the median is 0.000. The means of *EXSUPERFE* and *EXSUPERFE %* are greater than the means of the other two types of executive director FE. This reflects the fact that CEOs serving as executive directors on their own firms' boards typically have previous supervisory experience.

IPO Underpricing

Underpricing (*UNDERP*) is the closing price on the first day of trading less the offer price, divided by the offer price. Underpricing increases as the uncertainty and information asymmetry surrounding the IPOs increase (Rock 1986; Benveniste and Spindt 1989). Therefore, smaller underpricing is more favorable to IPO firms. Table 2 presents descriptive statistics for the IPO-date outcome variable. In our sample, IPO firms have an average (median) underpricing as a proportion of the offer price is 0.217 (0.106).⁵

Control Variables and Models

First, we control for independent director FE according to the three types of FE we discussed earlier (*INDACCTFE*, *INDUSERFE*, and *INDSUPERFE*). *INDACCTFE* is defined as the proportion of independent (non-executive) board members have accounting-based experience. Table 2 reports that the mean proportion of independent board members having accounting-based FE is 0.107 and the median is 0.111. *INDUSERFE* equals the proportion of independent (non-

⁵ These statistics are generally comparable to those in Chemmanur and Paeglis (2005), whose sample consists of 411 IPOs between 1993 and 1996. In their sample, the mean (median) underpricing is 0.143 (0.940), respectively.

executive) directors having user-based experience. Table 2 reports that the mean proportion of independent board members having user-based FE is 0.430 and the median is 0.429. *INDSUPERFE* equals the proportion of independent directors on IPO firm boards who have supervisory FE. The mean is 0.554; the maximum is 0.909. These relatively high proportions reflect the fact that CEOs of other companies (who often serve on IPO firms' boards) all qualify as having supervisory-based FE.

Next, we control for the scope and complexity of an IPO firm's operations (Boone et al. 2007; Coles et al. 2008), measured as firm size, foreign operations, and firm age. All financial variables are measured at the end of the last fiscal year prior to the IPO. Firm size (*LNAT*) is measured as the natural log of total assets. Mean size of the IPO firms' total assets is approximately \$77 million (pre-logged) and median size is about \$60 million. Foreign operations (*FOREIGN*) is measured as an indicator variable that equals one if a firm has pretax foreign income, and zero otherwise. About 16.5 percent of sample firms have foreign operations. Firm age (*LNFMAGE*) is calculated as the natural log of the number of years since the firm was founded.⁶ Mean firm age is about 10.3 years (pre-logged).

Third, we control for unique monitoring features in the IPO context, such as CEO power, board size, board independence, venture capital participation, and underwriter rank (Jensen and Meckling 1976; Boone et al. 2007; Linck, Netter, and Yang 2008). CEO power (*CEOPOWER*), is measured as the sum of four CEO related indicator variables (CEO shareholding, CEO tenure, CEO duality, and CEO founder).⁷ *BDSIZE* measures the number of the board members at the IPO,

⁶ Founding dates are obtained from the Field-Ritter dataset (Fields and Karpoff 2002; Loughran and Ritter 2004).

⁷ CEO percent shareholdings and CEO tenure in years are defined as one if they exceed sample medians and as zero otherwise. CEO duality is defined as one if the CEO is chair of the board and as zero otherwise. CEO founder is defined as one if the CEO is a founder of the firm and as zero otherwise. Thus *CEOPOWER* ranges from zero to four.

with mean of 6.891 and median of 7.0. *BDIND* measures the proportion of independent members on the board, with mean 0.744 and median 0.778. The venture capital dummy variable (*VC*) is set to one if a venture capital investor owns an equity stake at the IPO, and investment bank reputation (*UWRANK*) is measured by the bank's Carter-Manaster (1990) updated rank at the time of the firm's IPO. About 57% of sample firm IPOs have venture capital participation. Mean underwriter rank is 0.589 and the median is 1.0.

Finally, we control for IPO firms' financial characteristics (leverage and loss) and for auditor class (Big4 versus others) in the model. Leverage (*LEV*) equals total debt divided by total assets, with mean 0.682 and median 0.654. Loss (*LOSS*) equals one if income before extraordinary items is negative, and zero otherwise. About 57 per cent of sample firms experienced losses in the year preceding IPO. We make no directional predictions for these four control variables. About 89 percent of sample firms are audited by Big 4 auditors. Affiliation with a Big 4 auditor (*BIG4*) might be associated with better IPO performance. We include dichotomous industry and year variables in the models. Industry variables are defined as per the Fama-French 48 industry groups.

To test the relationship between the IPO underpricing and the financial expertise of the board, we estimate the following multivariate model:

$$\begin{aligned}
 \text{IPO Underpricing} = & \beta_0 + \beta_1 EXFE + \beta_2 INDFE + \beta_3 LNAT + \beta_4 FOREIGN + \beta_5 LNFIMAGE \\
 & + \beta_6 CEOPOWER + \beta_7 BDSIZE + \beta_8 BDIND + \beta_9 VC + \beta_{10} UWRANK \\
 & + \beta_{11} LEV + \beta_{12} LOSS + \beta_{13} BIG4 + \text{Industry dummies} \\
 & + \text{Year dummies}
 \end{aligned} \tag{1}$$

EXFE represents the three types of executive director FE: *EXACCTFE*, *EXUSERFE*, and *EXSUPERFE*. We also measure the three types of executive director FE using continuous variables: *EXACCTFE%*, *EXUSERFE%*, *EXSUPERFE%*. *INDFE* represents the three types of independent director FE: *INDACCTFE*, *INDUSERFE*, and *INDSUPERFE*. Given that lower values of

UNDERP represent better IPO-date performance, a negative coefficient on a specific type of board FE suggests that type of board FE helps reduce information asymmetry on the IPO date.

Table 3 reports the Pearson and Spearman correlations among test and control variables. Regarding the correlations of test variables with IPO underpricing, we note significant negative Pearson correlations between *EXACCTFE%* and *UNDERP* (coefficient of -0.101) and *EXACCTFE* and *UNDERP* (untabulated coefficient of -0.104). The variable *UNDERP* is not correlated with any other measures of FE. These correlations provide some preliminary results suggesting executive director accounting-related FE is associated with better IPO performance, although multivariate controls are required to provide greater confidence.

With respect to the correlations between IPO underpricing and control variables, firm size and firm age are negatively associated with underpricing. The presence of venture capitalists is positively associated with underpricing.

EMPIRICAL RESULTS

IPO Underpricing Results

Table 4 presents results of the effect of executive director FE on IPO underpricing (H1). The left-most results columns present results for FE variables measured as dummies (*EXACCTFE*, *EXUSERFE*, *EXSUPERFE*), and the right-most columns present results for FE variables measured as proportions (*EXACCTFE%*, *EXUSERFE%*, *EXSUPERFE%*). The results show that among executive directors, only accounting-based FE (*EXACCTFE* and *EXACCTFE%*) is associated lower IPO underpricing.⁸ We find that user-based FE among executive directors (*EXUSERFE*) and

⁸ This result is roughly similar to results of some studies that suggest only accounting-based FE among independent directors improves financial reporting quality for mature firms (Abbott et al. 2004; Agrawal and Chadha 2005; DeFond et al. 2005). However, the coefficients of variable *INDACCTFE%* are insignificant in Table 4, although both are negative.

supervisory-based FE among executive directors (*EXSUPERFE*) are not associated with the IPO underpricing. Economically, if there is one more executive director with accounting-based FE, the underpricing is reduced by 15 percent.

As for independent directors, surprisingly, none of the three types of FE is significantly associated with underpricing, except for *INDUSERFE%* which is positively associated with *UNDERP*. This is consistent with Güner et al. (2008), who find that independent board members having user-based FE are associated with worse financing and investment decisions for mature firms. With regards to other control variables, firm age is negatively associated with *UNDERP*. Considering the positive correlation between firm size and firm age (Pearson correlation = 0.420), the above results indicate either larger firms or older firms are associated with lower risks at the IPOs, which is consistent with Chemmanur and Paeglis (2005). Board size and the presence of venture capitalists are positively associated with *UNDERP*. Finally, *LOSS* is negatively associated with *UNDERP*.

Moderating Effect of Board Independence

Our H2 tests whether the beneficial effect of executive director financial expertise on IPO outcomes varies with the extent of board independence. We previously defined *BDIND* as the proportion of total board members that are independent (not executive directors) at IPO. To test H2, we define a dichotomous variable *IND* equal to one if an IPO firm's level of *BDIND* exceeds the sample median, and equal to zero otherwise. The models estimated are the same as the model (1) variants presented in Table 4, with the exception that each of the three types of executive director FE is interacted with the dichotomous *IND* variable, and *IND* is included as a stand-alone variable. The coefficients of *EXFE* (*EXACCTFE*, *EXUSERFE*, *EXSUPERFE*, *EXACCTFE%*, *EXUSERFE%*, and *EXSUPERFE%*), as standalone variables, capture the associations of each FE

type with the dependent variables for IPO firms having lower board independence ($IND = 0$). The coefficients of the interaction of each FE variable with IND capture the shifts (differences) in coefficients between the $IND = 0$ and $IND = 1$ subsamples. The left-most results columns present results for dummy FE variables ($EXACCTFE$, $EXUSERFE$, and $EXSUPERFE$), and the right-most columns present results for proportion FE variables ($EXACCTFE\%$, $EXUSERFE\%$, and $EXSUPERFE\%$).

We note first that the Table 5 results for three types of FE as stand-alone variates are similar to those for the entire sample presented in Table 4: within the subsample of IPO firms having less independent boards, $EXACCTFE$ and $EXACCTFE\%$ are associated with less $UNDERP$, and coefficients of $EXUSERFE$, $EXSUPERFE$, $EXUSERFE\%$, and $EXSUPERFE\%$ are insignificant in the model, suggesting when the board is less independent, executive directors with accounting expertise is associated with lower IPO underpricing, and user and supervisory experience are not associated with underpricing.

We now turn to the interaction terms, and observe that the interaction of $EXACCTFE$ with IND has a positive coefficient that differs from zero at conventional significance (two-tailed $p = 0.001$). The estimated coefficient of $EXACCTFE$ explaining $UNDERP$ for IPO firms having more independent boards is the sum of -0.511 and 0.508, which equals -0.003 and does not differ significantly from zero (untabulated). Similarly, the interaction of $EXACCTFE\%$ with IND has a positive coefficient that differs from zero at conventional significance (two-tailed $p = 0.017$). The estimated coefficient of $EXACCTFE$ explaining $UNDERP$ for IPO firms having more independent boards is the sum of -0.965 and 0.842, which equals -0.123 and does not differ significantly from zero (untabulated).

Taken together, Tables 4 and 5 suggest that the beneficial effect of director FE on the IPO performance studied is restricted to accounting-based FE, not supervisory-based or user-based FE. Further, the beneficial effect of accounting-based FE is limited to executive directors, not independent directors. It appears that executive directors having accounting-based experience use that knowledge and experience to decrease information asymmetry at IPO, leading to reduced underpricing of initial offerings. This effect is stronger when executive directors constitute a larger proportion of total IPO board members (i.e. when IPO firms' boards are least independent). When boards are more independent (i.e. executive directors constitute a smaller proportion of total board members) the beneficial effect of accounting-based FE among executive directors is almost completely attenuated. One possibility is that independent directors, who mostly lack accounting-based FE, sometimes are unreceptive to policies or activities promoting transparency that executive directors would prefer, and that the independent directors' lack of interest is strengthened as their numbers increase on the board.

Post-IPO Performance Results

Given the dominant role of accounting-based executive director FE in IPO-date results, we focus attention on accounting-based FE and examine whether it continues to have positive effects on post-IPO returns, to shed light on whether it conveys long-term advantages in performance .⁹

In Table 6, we use the calendar time portfolio approach with the Fama-French (1993) and the Carhart (1997) factor model as the benchmark for expected returns in years plus-one, plus-two, and plus-three after the IPO. In this approach, the estimates of intercepts serve as measures of monthly abnormal returns, with negative intercepts indicating underperformance, and positive ones indicating superior performance. We split the sample by the dummy *EXACCTFE*, i.e. whether

⁹ The untabulated results show that user-based and supervisory-based FE are not significant in any of the post-IPO analyses.

the *EXACCTFE* is one or zero. Panel A reports the results when the *EXACCTFE* is one, and Panel B reports the results when the *EXACCTFE* is zero. As seen in the first and third columns of Panel A, the coefficients of the intercept are positive and significant, indicating *EXACCTFE* firms outperform by 0.01% per month during one year after the IPO and 0.008% per month during three years after the IPO. The coefficient of the intercept for second year stock returns after the IPO is positive but not significant. In contrast, none of the coefficients of the intercept in Panel B are significant when *EXACCTFE* is zero. Taken together the results in Table 7 indicate that executive accounting expertise on boards continues to contribute to the firm's long-term stock performance after the IPO.

ADDITIONAL ANALYSES

CEO/CFO Accounting-based Financial Expertise

Our main findings show that the accounting expertise of CEOs and CFOs on boards is associated with IPO underpricing. We investigate whether the results can be extended to all CEOs or CFOs with accounting-based FE, as CEOs and CFOs are the decision makers regardless of whether they are board members. Un-tabulated results show that after including IPO firms' own CEOs and CFOs not sitting on the board, none of three executive FE metrics are associated with IPO performance measures. This suggests that executives sitting on their own firms' boards may have stronger influence or better channels to fulfill the advising role. We further conduct analyses separating the effect of CEOs and CFOs serving on their own boards to examine which executive role drives the results. Results show that both CEO accounting-based FEs and CFO accounting-based FEs serving on their boards are negatively associated with IPO underpricing. The above

results indicate that the presence of any executive board member (CEO or CFO) with accounting-based FE affects the IPO performance.

Audit Committee Financial Expertise

Prior literature suggests that audit committee financial expertise affects earnings quality (Badolato et al. 2014; Carcello et al. 2006). While our independent board members' FE measures encompasses the audit committee financial expertise, we conduct additional analysis to test the effect of audit committee financial expertise on IPO performance. Since IPO firms have a one-year grace period to establish audit committees, 56 firms in our sample do not have an audit committee at the IPO date. We use two proxies to measure audit committee FE: the existence of an audit committee, and the percent of audit committee members having accounting-based FE. We jointly test the effects on IPO performance of executive FE on boards and audit committee FE on boards. Results show that both the existence of an audit committee, and the percent of audit committee members having accounting-based FE, are not significantly associated with IPO underpricing. The coefficients on executive FE remain largely unchanged. A possible explanation for the non-effect of audit committees is that audit committees are newly established in most IPO firms, and their functions are yet to be fully embedded in the decision making process.

Endogeneity

DeFond and Zhang (2014, 307) state: "Most audit committee studies consist of association tests which are susceptible to endogeneity concerns." The same arguably is true of board member studies in general. The associations between various features of corporate governance and financial reporting/auditing quality are difficult to disentangle because they influence each other and co-evolve over time. Therefore it is necessary to consider the possibility that endogeneity threatens the interpretation of this study's results.

To alleviate the concern that pre-IPO performance is associated with both the employment of executive accounting expertise and IPO performance, we construct a matched sample based on industry and past performance. Specifically, we identify 82 IPO firms having at least one executive accounting expert on its board. We match each such firm with all the IPO firms (1) having no executive directors with accounting-based FE; (2) operating within the same two-digit SIC code; and (3) with a return on assets within 90-110% of the IPO firm's performance in the last year before going public. The return on assets is calculated as the operating income before depreciation divided by total assets. When no matching firm is available, we take the following steps to maximize our sample size. First, we look for a matching IPO firm having a return on assets within 90-110% of the IPO firm's performance, but within the same one-digit SIC code. If still no matching firm is identified, we use a matching IPO firm having return on assets within 80-120% of the IPO firms, within the same one-digit SIC code. Our final matched sample consists of 170 IPO firms, including 55 IPOs with at least one executive accounting expert on their boards, and 115 IPOs with no executive accounting expert.¹⁰ Un-tabulated t-statistics show that there is no significant difference in the return on assets between the two groups. The regression results regarding the association between executive accounting expertise on board and IPO performance are presented in Table 7.

Panel A of Table 7 shows that IPO firms with $EXACCTFE = 1$, have significantly lower $UNDERP$, relative to their matched IPO firms with $EXACCTFE = 0$, which confirms our main findings. Panel B of Table 7 reports the post-IPO performance for firms with $EXACCTFE = 1$ versus firms with $EXACCTFE = 0$. Two columns on the left side are for IPOs with $EXACCTFE = 1$, which exhibit a significant positive abnormal return of 10 basis points per month or 120 basis

¹⁰ We allow multiple matches for each IPO firm with at least one executive accounting expert.

points per year. Results for IPOs having $EXACCTFE=0$ are shown in the two columns on the right side. The abnormal returns are not significant. Taken together, our results are consistent when using a matched sample based on industry and performance.

We also conduct a Heckman two-stage model to address potential self-selection bias because both the degree of information asymmetry and whether executives with accounting-based FE serve on the board can be viewed as choice variables. We employ the industry-level executive accounting expertise on boards as an instrument variable in the first stage.¹¹ Industry-level executive accounting expertise is calculated as the mean of $EXACCTFE$ in each two-digit SIC industry group. In the first stage, we estimate a logistic regression with a dependent variable that is equal to one if there is more than one executive accounting expert on the board, and equal to zero otherwise. The independent variables include the instrument variable and all other control variables. The industry-level executive accounting expertise is significantly associated with the $EXACCTFE$ dummy variable. We then estimate the second stage model with $UNDERP$ as dependent variable, and all other variables as controls, along with the inverse Mills ratio calculated from the first stage. Results (un-tabulated) show that $EXACCTFE$ is negatively associated with $UNDERP$ (one tailed p-value = 0.000). $INDUSERFE$ is positively associated with $UNDERP$ (one tailed p-value = 0.078). Thus, our results are robust to the control for self-selection bias.

SUMMARY AND CONCLUSIONS

Prior literature has studied the importance of independent boards of directors in improving firm performance. Little attention has been given to the important role played by own-firm executives serving on boards (executive directors). This study investigates the effects on IPO outcomes of the existence and type of financial expertise (FE) of executives serving on their own

¹¹ Examples of studies using an industry average variable as an instrument variable are Cannon (2014) and Correia (2014).

IPO firms' boards, while controlling for the independent directors' FE. We disaggregate FE into three categories: accounting-based FE, user-based FE and supervisory-based FE. We find that among executive directors, accounting-based FE is associated with lower underpricing. Our findings suggest that in their advisory role as board members, executive directors utilize their accounting-based FE, together with their intimate knowledge of their own firms and their credibility of the information, to reduce information asymmetry at the IPOs. The evidence does not suggest that executive directors on IPO boards use accounting-based FE to engage in self-interested behavior. Our findings for user-based FE are generally consistent with the literature for mature firms, that is, FE either has no impact on firm performance or even has a negative impact (Güner et al. 2008).

We also investigate whether the benefits of having executive directors with accounting-based FE extend to firm performance after the IPO date. We compare the long-run post IPO-returns for firms with executive directors with accounting-based FE versus firms without. Using a calendar time portfolio approach, we find that mean unexplained abnormal returns are positive in years plus-one through plus-three, and are marginally significant in the first and third post-IPO years. The results thus suggest the possibility that firms whose executive directors have greater accounting-based FE are associated with better performance in the first three years following IPO.

In addition, we find significant interactions between board independence and the presence on boards of executive directors with accounting-based FE. Executive directors with accounting-based FE only reduce underpricing when the firm has lower proportions of independent directors. The effect of executive directors on IPO performance diminishes if the firm has a more independent board.

While many studies and regulatory policies emphasize the importance of independent directors, our paper highlights the crucial role of own-firm executives serving on boards. The results suggest that in a setting with higher information asymmetry (e.g. IPOs), executive directors having accounting-based FE play a more beneficial role than do executive directors having other types of FE, and a more beneficial role compared to independent directors having any type of FE.

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TABLE 1
Sample Selection Procedure

	Number of Observation
Initial Public Offering issued in US from SDC (2000-2010)	2155
<i>Less:</i>	
Financial and utility firms (SIC codes: 6000-6999 and 4900-4949)	(692)
Closed-end fund/trusts	(15)
Unit Issues	(13)
Spinoff (equity carveout)	(57)
Offer price less than \$5	(77)
Non-US public marketplace	(220)
Foreign firms	(20)
Not covered by Compustat	(211)
S-1 Prospectus missing	(24)
Board and CEO information missing in S-1	(158)
Financial data missing	(81)
Final sample	587

TABLE 2
Descriptive Statistics

Variable	Mean	Median	Minimum	Maximum	Std Dev
<i>EXACCTFE</i>	0.141	0.000	0.000	1.000	0.349
<i>EXUSERFE</i>	0.083	0.000	0.000	1.000	0.277
<i>EXSUPERFE</i>	0.494	0.000	0.000	1.000	0.500
<i>EXACCTFE%</i>	0.023	0.000	0.000	0.500	0.065
<i>EXUSERFE%</i>	0.014	0.000	0.000	0.625	0.058
<i>EXSUPERFE%</i>	0.079	0.000	0.000	0.667	0.095
<i>UNDERP</i>	0.217	0.106	-0.201	2.156	0.375
<i>INDACCTFE%</i>	0.107	0.111	0.000	0.750	0.117
<i>INDUSERFE%</i>	0.430	0.429	0.000	0.889	0.206
<i>INDSUPERFE%</i>	0.554	0.571	0.000	0.909	0.207
<i>LNAT</i>	4.343	4.086	0.610	8.594	1.557
<i>FOREIGN</i>	0.165	0.000	0.000	1.000	0.372
<i>LNFMAGE</i>	2.332	2.197	0.000	4.727	0.902
<i>CEOPOWER</i>	1.712	2.000	0.000	4.000	1.365
<i>BDSIZE</i>	6.891	7.000	2.000	11.000	1.795
<i>BDIND</i>	0.744	0.778	0.000	1.000	0.162
<i>VC</i>	0.574	1.000	0.000	1.000	0.495
<i>UWRANK</i>	0.589	1.000	0.000	1.000	0.492
<i>LEV</i>	0.682	0.654	0.047	2.651	0.421
<i>LOSS</i>	0.574	1.000	0.000	1.000	0.495
<i>BIG4</i>	0.891	1.000	0.000	1.000	0.312

This sample includes 587 U.S. IPOs from year 2000 to 2010.

Variable definitions:

<i>EXACCTFE</i>	=	1 if either CEO or CFO on board having accounting-based financial expertise; 0 otherwise.
<i>EXUSERFE</i>	=	1 if either CEO or CFO on board having user-based financial expertise; 0 otherwise.
<i>EXSUPERFE</i>	=	1 if either CEO or CFO on board having supervisory-based financial expertise; 0 otherwise.
<i>EXACCTFE%</i>	=	Proportion of total board members who are CEOs and CFOs having accounting-based financial expertise.
<i>EXUSERFE%</i>	=	Proportion of total board members who are CEOs and CFOs having user-based financial expertise.
<i>EXSUPERFE%</i>	=	Proportion of total board members who are CEOs and CFOs having supervisory-based financial expertise.
<i>UNDERP</i>	=	The closing price on the first day of trading less the offer price, divided by the offer price.
<i>INDACCTFE%</i>	=	Proportion of non-executive board members having accounting-based financial expertise.
<i>INDUSERFE%</i>	=	Proportion of non-executive board members having user financial expertise.
<i>INDSUPERFE%</i>	=	Proportion of non-executive board members having supervising financial expertise.
<i>LNAT</i>	=	Natural logarithm of total assets at year-end prior to the IPO year.
<i>FOREIGN</i>	=	An indicator variable equal to 1 if a firm has pretax foreign income, and 0 otherwise.
<i>LNFMAGE</i>	=	Natural logarithm of firm's age since the firm was founded.

<i>CEOPOWER</i>	=	Sum of CEO related indicator variables. Add 1 if CEO tenure (the number of years that a CEO is in the current position) is above the median. Add 1 if CEO is the chairman of the board. Add 1 if the CEO is a founder of the firm. Add 1 if the percent of total shares held by the CEO is above the median at the IPO.
<i>BDSIZE</i>	=	The number of the board members at the IPO.
<i>BDIND</i>	=	The proportion of non-executive (independent) board members at the IPO.
<i>VC</i>	=	An indicator variable that equals 1 if the IPO is backed by a venture capitalist, and 0 otherwise.
<i>UWRANK</i>	=	Ritter's updated Carter-Manaster (1990) underwriter ranking. It equals 1 if the underwriter ranking is larger than the sample median; 0 otherwise;
<i>LEV</i>	=	Total liabilities divided by total assets (at year-end prior to IPO).
<i>LOSS</i>	=	An indicator variable that equals 1 if income before extraordinary items in the year prior to the IPO year is negative, and 0 otherwise.
<i>BIG4</i>	=	1 if the auditor is a Big 4 auditor; 0 otherwise.

TABLE 3
Correlation Coefficients

		1	2	3	4	5	6	7	8	9
1	<i>EXACCTFE%</i>		0.035	-0.144	0.083	-0.061	-0.198	-0.101	0.127	-0.050
2	<i>EXUSERFE%</i>	-0.072		-0.186	-0.067	-0.083	-0.149	-0.050	0.054	0.038
3	<i>EXSUPERFE%</i>	-0.238	-0.269		-0.047	-0.150	-0.072	-0.059	0.052	0.012
4	<i>INDACCTFE%</i>	0.055	-0.053	-0.028		0.343	-0.391	-0.068	0.128	0.125
5	<i>INDUSERFE%</i>	-0.012	-0.065	-0.087	0.309		0.410	-0.003	0.053	0.028
6	<i>INDSUPERFE%</i>	-0.110	-0.102	0.002	-0.418	0.362		0.044	-0.091	-0.080
7	<i>UNDERP</i>	-0.080	-0.061	-0.050	-0.029	0.025	0.026		-0.179	-0.083
8	<i>LNAT</i>	0.077	0.077	0.047	0.123	0.030	-0.085	-0.131		0.218
9	<i>FOREIGN</i>	-0.085	0.042	0.022	0.113	0.029	-0.088	-0.061	0.218	
10	<i>LNFMAGE</i>	0.027	-0.039	0.055	0.057	-0.091	-0.085	-0.101	0.420	0.176
11	<i>CEOPOWER</i>	0.007	0.058	-0.080	0.019	-0.100	-0.161	0.041	-0.163	-0.059
12	<i>BDSIZE</i>	-0.032	0.085	-0.250	-0.014	0.202	0.252	0.055	0.037	0.064
13	<i>BDIND</i>	-0.092	0.000	-0.099	0.068	0.313	0.278	-0.065	0.067	0.085
14	<i>VC</i>	-0.109	-0.071	-0.120	-0.073	0.227	0.189	0.170	-0.473	-0.090
15	<i>UWRANK</i>	0.001	-0.043	-0.019	0.117	0.211	0.089	0.056	-0.077	0.026
16	<i>LEV</i>	-0.017	0.031	0.102	0.014	-0.057	-0.015	-0.037	0.260	0.139
17	<i>LOSS</i>	-0.084	0.044	0.045	-0.101	0.091	0.121	-0.037	-0.436	-0.108
18	<i>BIG4</i>	-0.017	-0.050	0.038	-0.072	0.084	0.066	0.118	0.034	0.023

Pearson (Spearman) correlations are presented in the upper (lower) triangle of the table. Correlations in bold font are significant at 1%.

TABLE 3

Correlation coefficients (continued)

		10	11	12	13	14	15	16	17	18
1	<i>EXACCTFE%</i>	0.020	0.002	-0.165	-0.191	-0.114	-0.013	-0.036	-0.081	-0.006
2	<i>EXUSERFE%</i>	-0.077	0.060	-0.058	-0.163	-0.052	-0.036	0.038	0.058	-0.022
3	<i>EXSUPERFE%</i>	0.098	-0.091	-0.303	-0.224	-0.152	-0.032	0.088	-0.003	0.049
4	<i>INDACCTFE%</i>	0.031	-0.011	-0.009	0.084	-0.113	0.077	0.012	-0.123	-0.086
5	<i>INDUSERFE%</i>	-0.076	-0.107	0.233	0.368	0.215	0.210	-0.042	0.088	0.060
6	<i>INDSUPERFE%</i>	-0.085	-0.149	0.312	0.351	0.218	0.097	0.001	0.133	0.056
7	<i>SPREAD</i>	-0.142	0.103	-0.014	0.064	0.293	0.077	-0.063	0.158	0.005
8	<i>UNDERP</i>	-0.158	0.045	0.052	-0.006	0.195	0.066	-0.069	0.071	0.113
9	<i>LNAT</i>	0.435	-0.184	0.039	0.019	-0.460	-0.071	0.116	-0.419	0.041
10	<i>FOREIGN</i>	0.179	-0.054	0.058	0.102	-0.090	0.026	0.113	-0.108	0.023
11	<i>LNFMAGE</i>		-0.090	-0.093	-0.020	-0.438	-0.069	0.234	-0.425	0.018
12	<i>CEOPOWER</i>	-0.087		-0.073	-0.079	0.159	0.062	-0.006	-0.002	-0.034
13	<i>BDSIZE</i>	-0.086	-0.075		0.471	0.167	0.187	-0.029	0.111	0.034
14	<i>BDIND</i>	0.018	-0.086	0.400		0.160	0.120	-0.075	0.036	0.026
15	<i>VC</i>	-0.430	0.155	0.150	0.100		0.178	-0.157	0.401	0.141
16	<i>UWRANK</i>	-0.090	0.062	0.184	0.077	0.178		-0.032	0.052	0.030
17	<i>LEV</i>	0.322	-0.049	-0.069	-0.071	-0.219	-0.040		-0.020	-0.021
18	<i>LOSS</i>	-0.438	-0.001	0.104	0.006	0.401	0.052	-0.098		0.075
19	<i>BIG4</i>	-0.005	-0.032	0.050	0.027	0.141	0.030	-0.019	0.075	

Pearson (Spearman) correlations are presented in the upper (lower) triangle of the table. Correlations in bold font are significant at 1%.

TABLE 4**Impact of Financial Expertise on IPO Underpricing**

*, **, and *** represent statistical significance at the 10%, 5% and 1%, respectively. All p-values are two-tailed and are based on standard errors adjusted for heteroskedasticity.

	<i>UNDERP</i>			<i>UNDERP</i>		
	Coeff.	p-value		Coeff.	p-value	
<i>Intercept</i>	0.192	0.149		0.237	0.043	
<i>EXACCTFE</i>	-0.151	<.0001	***			
<i>EXUSERFE</i>	-0.022	0.350				
<i>EXSUPERFE</i>	-0.022	0.216				
<i>EXACCTFE%</i>				-0.749	<0.0001	***
<i>EXUSERFE%</i>				-0.122	0.232	
<i>EXSUPERFE%</i>				-0.099	0.258	
<i>INDACCTFE%</i>	-0.199	0.313		-0.215	0.138	
<i>INDUSERFE%</i>	0.142	0.144		0.140	0.075	*
<i>INDSUPERFE%</i>	-0.105	0.337		-0.120	0.140	
<i>LNAT</i>	-0.004	0.759		-0.001	0.469	
<i>FOREIGN</i>	-0.009	0.784		-0.002	0.481	
<i>LNFMAGE</i>	-0.035	0.024	**	-0.038	0.009	***
<i>CEOPOWER</i>	-0.007	0.514		-0.008	0.231	
<i>BDSIZE</i>	0.016	0.066	*	0.010	0.115	
<i>BDIND</i>	-0.090	0.349		-0.111	0.134	
<i>VC</i>	0.082	0.034	**	0.088	0.011	**
<i>UWRANK</i>	0.026	0.363		0.028	0.167	
<i>LEV</i>	0.016	0.712		0.016	0.353	
<i>LOSS</i>						***
	-0.101	0.002	***	-0.098	0.001	
<i>BIG4</i>	0.036	0.319		0.037	0.149	
Industry dummies	Included			Included		
Year dummies	Included			Included		
Model P-value		0.000	***		0.000	***
Adj. R-square		0.365			0.191	
N = 587						
<i>Coefficient comparisons</i>						
<i>EXACCTFE</i> vs. <i>EXUSERFE</i>		0.005	***		0.005	***
<i>EXACCTFE</i> vs. <i>EXSUPERFE</i>		0.038	**		0.001	***
<i>EXUSERFE</i> vs. <i>EXSUPERFE</i>		0.023	**		0.451	

*, **, and *** represent statistical significance at the 10%, 5% and 1%, respectively. All p-values two-tailed and are based on standard errors adjusted for heteroskedasticity. See Table 2 for variable definitions.

TABLE 5

The Impact of Financial Expertise on IPO Underpricing Disaggregated by Level of Board Independence

	<i>UNDERP</i>			<i>UNDERP</i>		
	Coeff.	p-value		Coeff.	p-value	
Intercept	0.241	0.063	***	0.181	0.083	*
<i>EXACCTFE</i>	-0.511	<.0001	***			
<i>EXUSERFE</i>	0.040	0.416				
<i>EXSUPERFE</i>	-0.019	0.436				
<i>EXACCTFE*IND</i>	0.508	0.001	***			
<i>EXUSERFE*IND</i>	-0.074	0.362				
<i>EXSUPERFE*IND</i>	0.009	0.478				
<i>EXACCTFE%</i>				-0.965	0.000	***
<i>EXUSERFE%</i>				-0.018	0.462	
<i>EXSUPERFE%</i>				-0.089	0.310	
<i>EXACCTFE%*IND</i>				0.842	0.017	**
<i>EXUSERFE%*IND</i>				-0.343	0.191	
<i>EXSUPERFE%*IND</i>				0.097	0.388	
<i>IND</i>	-0.190	0.165		-0.068	0.082	*
<i>INDACCTFE%</i>	0.126	0.097		-0.225	0.123	
<i>INDUSERFE%</i>	-0.107	0.161		0.136	0.076	*
<i>INDSUPERFE%</i>	-0.002	0.443		-0.130	0.114	
<i>LNAT</i>	-0.006	0.430		0.001	0.457	
<i>FOREIGN</i>	-0.034	0.018		-0.004	0.445	
<i>LNFMAGE</i>	-0.005	0.324		-0.037	0.011	**
<i>CEOPOWER</i>	0.016	0.038		-0.006	0.279	
<i>BDSIZE</i>	-0.188	0.090		0.009	0.142	
<i>VC</i>	0.084	0.015		0.084	0.015	**
<i>UWRANK</i>	0.036	0.108		0.031	0.144	
<i>LEV</i>	0.010	0.411		0.013	0.382	
<i>LOSS</i>	-0.096	0.002		-0.095	0.002	***
<i>BIG4</i>	0.038	0.145		0.038	0.143	
Industry dummies	Included			Included		
Year dummies	Included			Included		
Model P-value		0.000	***		0.000	***
Adj. R-square		0.360			0.194	

*, **, and *** represent statistical significance at the 10%, 5% and 1%, respectively. All p-values are two-tailed and are based on standard errors adjusted for heteroskedasticity. See Table 2 for variable definitions.

TABLE 6
The Impact of Financial Expertise on Long-term Post-IPO Stock Returns

Panel A: Abnormal returns of IPOs with EXACCTFE = 1 using calendar time portfolio approach						
	1 Year		2-year		3-Year	
	(1)		(2)		(3)	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Intercept	0.010	0.089*	0.006	0.148	0.008	0.054*
R_{mt}	1.311	0.000***	1.271	0.000***	1.267	0.000***
SMB_t	1.809	0.000***	1.708	0.000***	1.767	0.000***
HML_t	-0.563	0.000***	-0.618	0.000***	-0.531	0.000***
$MOMENT_t$	0.176	0.094*	-0.007	0.472	0.011	0.456
Adj. R^2	0.639		0.717		0.736	

Panel B: Abnormal returns of IPOs with EXACCTFE = 0 using calendar time portfolio approach						
	1 Year		2-year		3-Year	
	(1)		(2)		(3)	
	Coeff.	p-value	Coeff.	p-value	Coeff.	p-value
Intercept	-0.001	0.448	0.002	0.323	0.003	0.150
R_{mt}	1.085	0.000***	1.287	0.000***	1.379	0.000***
SMB_t	1.116	0.000***	1.082	0.000***	1.082	0.000***
HML_t	-0.986	0.000***	-0.977	0.000***	-1.061	0.000***
$MOMENT_t$	-0.077	0.094*	-0.160	0.049**	-0.273	0.000***
Adj. R^2	0.741		0.783		0.842	

*, **, and *** represent statistical significance at the 10%, 5% and 1%, respectively. All p-values are two-tailed and are based on standard errors adjusted for heteroskedasticity. The dependent variable is value-weighted monthly return on a portfolio of IPO firms in the subsequent one-, two- or three-years. R_{mt} is the market risk premium in month t. SMB_t is the return on a portfolio of small stocks minus the return on a portfolio of big stocks in month t. HML_t is the return on a portfolio of high book-to-market stocks minus the return on a portfolio of low book-to-market stocks in month t. $MOMENT_t$ is the return on a portfolio of high momentum stocks minus the return on a portfolio of low momentum stocks in month t.

TABLE 7
Matched Sample Tests of the Impact of Financial Expertise on IPO Performance

Panel A: IPO date performance					
	<i>UNDERP</i>			<i>UNDERP</i>	
	Coeff.	p-value		Coeff.	p-value
<i>Intercept</i>	0.099	0.308		0.145	0.235
<i>EXACCTFE</i>	-0.050	0.096	*		
<i>EXUSERFE</i>	-0.081	0.166			
<i>EXSUPERFE</i>	0.050	0.130			
<i>EXACCTFE%</i>				-0.353	0.059
<i>EXUSERFE%</i>				-0.327	0.121
<i>EXSUPERFE%</i>				0.105	0.275
<i>INDACCTFE%</i>	0.337	0.150		0.358	0.134
<i>INDUSERFE%</i>	-0.157	0.152		-0.172	0.129
<i>INDSUPERFE%</i>	0.137	0.218		0.139	0.204
<i>LNAT</i>	-0.025	0.151		-0.019	0.240
<i>FOREIGN</i>	0.038	0.180		0.047	0.124
<i>LNFMAGE</i>	-0.035	0.019	**	-0.040	0.010
<i>CEOPOWER</i>	-0.011	0.228		-0.010	0.254
<i>BDSIZE</i>	0.003	0.345		-0.001	0.456
<i>BDIND</i>	0.040	0.368		0.008	0.476
<i>VC</i>	0.107	0.023	**	0.113	0.017
<i>UWRANK</i>	0.061	0.041	**	0.063	0.037
<i>LEV</i>	0.164	0.186		0.154	0.204
<i>LOSS</i>	-0.065	0.048	**	-0.067	0.041
<i>BIG4</i>	0.030	0.282		0.028	0.296
Year dummies	Included			Included	
Model P-value		0.000	***		0.000
Adj. R-square		0.186			0.183
N = 170					

*, **, and *** represent statistical significance at the 10%, 5% and 1%, respectively. All p-values are two-tailed and are based on standard errors adjusted for heteroskedasticity. See Table 2 for variable definitions.

TABLE 7 (continued)
Matched Sample Tests of the Impact of Financial Expertise on IPO Performance.

Panel B: Post-IPO 3-Year performance				
	<i>EXACCTFE</i> = 1		<i>EXACCTFE</i> = 0	
	(1)		(2)	
	Coeff.	p-value	Coeff.	p-value
Intercept	0.010	0.043**	0.002	0.348
R_{mt}	1.133	0.000***	0.902	0.000***
SMB_t	1.766	0.000***	1.004	0.000***
HML_t	-0.370	0.000***	-0.725	0.000***
$MOMENT_t$	-0.053	0.094	-0.417	0.000***
Adj. R^2	0.668		0.679	

*, **, and *** represent statistical significance at the 10%, 5% and 1%, respectively. All p-values are two-tailed and are based on standard errors adjusted for heteroskedasticity. The dependent variable is value-weighted monthly return on a portfolio of IPO firms in the subsequent one-, two- or three-years. R_{mt} is the market risk premium in month t. SMB_t is the return on a portfolio of small stocks minus the return on a portfolio of big stocks in month t. HML_t is the return on a portfolio of high book-to-market stocks minus the return on a portfolio of low book-to-market stocks in month t. $MOMENT_t$ is the return on a portfolio of high momentum stocks minus the return on a portfolio of low momentum stocks in month t.