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Managerial ability and accounting conservatism

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ABSTRACT

Since accounting conservatism is a measure of biased reporting which may or may not reflect high quality earnings, the relation between managerial ability and accounting conservatism is unclear ex ante. High-ability managers may report conservatively to improve the efficiency of contracts, avoid agency conflicts by the timely reporting of future losses, and build reputations for conservative reporting. Conversely, they may not report conservatively to the extent that conservatism reflects biased, and consequently, low-quality earnings. Motivated by these opposing arguments, we examine the relationship between managerial ability and conservatism for Australian firms for the period 2004 to 2013. Our results show that managerial ability is positively associated with accounting conservatism. These results support the notion that high ability managers apply conservatism in accounting because it benefits the firm and stakeholders. Our results are robust to a wide range of proxies for both managerial ability and conservatism, including the Heckman's (1976) self-selection bias check. Our study should be of interest to numerous stakeholders, including firms seeking to make managerial appointments.

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1. Introduction

This study examines the relationship between managerial ability and accounting conservatism. Because accounting conservatism is a measure of bias, it may or may not reflect high quality earnings. Conservative accounting results in downwardly biased earnings and retained earnings amounts and leads to lower (cumulative) reported earnings (Ahmed et al., 2002). High ability managers may choose to apply accounting conservatism due to its benefits to the firm's stakeholders. For instance, conservatism increases the efficiency of contracts between management and shareholders, reduces agency problems, and improves monitoring of management (Ball and Shivakumar, 2005). Similarly, conservatism also acts as a safeguard against managerial ex post opportunism (Gao, 2013), streamlines debt contracting (Beatty et al., 2008; Nikolaev, 2010) and lowers regulatory restrictions (Alam and Petruska, 2012; Lobo and Zhou, 2006). In addition, high-ability managers may choose to incorporate accounting conservatism to bolster their reputation for conservative accounting practices and avoid a potentially adverse reputation for concealing future poor performance. Any loss of reputation due to hiding bad news could also affect their future career prospects. In addition, research suggests that high-ability managers have exceptional skills and expertise to improve firm performance (Demerjian et al., 2013), negotiate auction deals in a better way (Custodio and Metzger, 2013) and more precisely estimate the variation in future firm performance (Baik et al., 2011). Hence, highly able

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managers, having better skills and expertise, should be able to better predict the future losses and incorporate these on a timely basis.

On the other hand, high ability managers may not report conservatively because it is a measure of biased reporting and consequently may not correspond with high quality earnings. Prior literature suggests that high-ability managers improve earnings quality and related information (Baik et al., 2011; Demerjian et al., 2013; Francis et al., 2008) and deliver superior firm performance (Cheung et al., 2017; Demerjian et al., 2012; Jian and Lee, 2011). Since, downward biased reporting may not represent high earnings quality, high ability managers may refrain from using conservatism. Thus, highly able managers may elect not to incorporate conservatism either because reporting accurate firm performance ultimately improves their reputation or because aggressive reporting facilitates higher compensation and perquisite consumption.

We measure managerial ability with three different established proxies used in previous empirical studies (Baik et al., 2011; Demerjian et al., 2013; Francis et al., 2008; Jian and Lee, 2011; Milbourn, 2003). Our first measure of managerial ability uses data envelopment analysis following (Demerjian et al., 2012). Our second measure is based on the number of press citations mentioning the CEO along with the company name (Baik et al., 2011). Our third proxy is industry adjusted return on assets over the prior three year period (Jian and Lee, 2011; Milbourn, 2003). Further, we consider six measures of accounting conservatism (a mix of unconditional and conditional conservatism) and our sample consists of Australian listed companies for the period 2004 to 2013. For our first conservatism measure, we use an accruals based approach consistent with Givoly and Hayn (2000). The second measure uses a market based approach following Beaver and Ryan (2000). The third measure applies a balance sheet approach consistent with (Penman and Zhang, 2002). The fourth and fifth measures are timeliness of earnings and persistence of earnings following Basu (1997), and we use the accruals to cash flow approach of Ball and Shivakumar (2005) to calculate our sixth measure. Since the major governance-related guidelines and principles were introduced in Australia in 2003/04, we select the 2004 financial year as the start of our sample. We use ordinary least squares regressions controlling for firm and year fixed effects with robust standard errors.¹ We report a battery of additional analysis to support the main results and also consider the Heckman (1976) two-stage model to correct for potential self-selection bias.

Our results show that managerial ability is positively related to accounting conservatism. Results using three models for unconditional conservatism (main analysis) and three conditional conservatism models (supplementary analysis) all indicate a positive relation between managerial ability and conservatism. We conclude that high ability managers apply greater level of accounting conservatism (although a measure of bias) due to its unique benefits to the firm and stakeholders. These results support the notion that managers with high ability exhibit greater conservatism protect their valuable reputations. Previous research on managerial ability provides evidence that high-ability managers issue more accurate earnings forecasts and improve the quality of earnings (Baik et al., 2011; Demerjian et al., 2013; Francis et al., 2008). Our results add to the previous literature with Australian evidence indicating that high-ability managers also produce more conservative financial disclosures.

Our study contributes in a number of different ways. First, to our knowledge, this is the first study to provide evidence that managerial ability significantly affects both conditional and unconditional conservatism. Our study consequently also contributes to the literature on accounting conservatism and yields an additional determinant of conservative accounting. Second, most of the research on managerial ability is US-based and our study in Australia is timely because of several differences between the Australian and US regulatory environments. For instance, in the US, the continuous disclosure environment is extremely strict and requires Form 8-k reports; however, the Australian regime requires the disclosure of market-sensitive information only once available to firms (Chang et al., 2014). Further, the SOX Act (2002) follows a rules-based approach and the Australian principles of corporate governance applies a 'if not, why not?' or 'comply or explain' approach which provides a more flexible way of reporting (Ahmed and Henry, 2012; Sultana, 2015). Given such differences in reporting requirements between the two countries, an examination of the impact of managerial ability on conservatism in Australia is an important empirical undertaking. This is because high ability managers have greater flexibility in the Australian setting and it is unclear ex ante if they will use this flexibility to report financial statements that are more or less conservative. In Australia, where there is a principles-based approach and greater flexibility to report assets, liabilities and losses, highly able managers opt to implement conservatism and are less likely to conceal bad news from the stakeholders. Third, we add knowledge to the applicability of efficient contracting on managerial ability. As a result of these contributions, our study provides implications for regulators, debt holders, shareholders and similar stakeholders in assessing managerial ability while assessing and relying on financial statements.

2. Literature review and theoretical framework

2.1. Managerial ability

Previous research suggests that high-ability managers differ from their counterparts with lesser ability in a number of ways. For example, high-ability managers deliver superior firm performance (Cheung et al., 2017; Demerjian et al., 2013), are capable of exceptional negotiation skills and have industry-related expertise (Custodio and Metzger, 2013; Demerjian

¹ For sensitivity, we run ordinary least squares regression controlling for industry fixed effects instead of firm fixed effects with robust standard errors and find the consistent results.

et al., 2013). According to Baik et al. (2011), high-ability managers are able to predict the expected change in future firm performance efficiently and signal such skill by providing precise management earnings guidance. Similarly, high-ability managers apply their superior skills and expertise to choose auction deals with lower premiums (Custodio and Metzger, 2013) and are appointed by firms with a poor financial reporting environment to bring about improvements in financial performance (Francis et al. 2008).

Research suggests that managerial ability leads to reduced financial restatements, decreases the error in bad debt provisions, and leads to more precise estimation of accruals, highly persistent earnings and accruals, and helps to improve quality of accruals (Demerjian et al., 2013; Francis et al., 2008). Such behaviour of high-ability managers is consistent with the efficient contracting hypothesis in that they are using their skills and knowledge in the best interests of the firm (Fama, 1980). In efficient contracting, managers provide precise and timely information to the market. Specifically, highly able managers should incorporate potential losses into financial statements and not conceal any material losses or bad news from the stakeholders. Mishra (2014) suggests that high-ability managers are recruited by firms in operational distress, by conglomerate firms, firms in the process of mergers and acquisitions, and firms involved in complex tasks. Furthermore, according to Jian and Lee (2011), managerial ability is associated with a high post-investment operating performance and a positive stock price reaction from investors to the investment decisions made by high-ability managers.

However, as high-ability managers receive, on average, 10 times higher compensation than the median salary of other managers, the costs of hiring such managers can be more than the value transferred to a firm (Mishra, 2014) from those managers. According to Mishra (2014), managers with greater generalist skills have no fear of finding a new job due to a greater demand for generalist skills in the market. Hence, such managers will undertake short-term profitable and risky projects thereby prioritizing their personal incentives over the long-term benefits of firms (Mishra, 2014). Therefore, it may be the case that high ability managers take actions to maximize their personal wealth at the expense of the firm because they have good alternative job prospects. The rent extraction hypothesis suggests that managers may prioritize the increase their personal wealth and build their own reputations using firm resources at the cost of shareholders and other stakeholders (Jian and Lee, 2011; Malmendier and Tate, 2009). Further, consistent with rent extraction hypothesis, prior research suggests that managers engage in earnings management and report lower earnings quality (Lafond and Roychowdhury, 2007; Mande and Son, 2012). Likewise, research suggests that managers place greater priority on short-term profitable investments over the long-term growth of the firm and seek greater economic rents in the short term (Hirshleifer, 1993; Hirshleifer and Thakor, 1992). Although managerial ability can significantly influence firms' financial reporting in a number of ways, the level of accounting conservatism influenced by high managerial ability has not yet been examined.

2.2. Accounting conservatism

Accounting conservatism is a measure of bias; thus, it may or may not reflect high quality earnings. Accounting conservatism directly affects earnings and retained earnings and leads to lower (cumulative) reported earnings (Ahmed et al., 2002). Applying conservatism could lead to underestimation of the future value of an organization and may not reflect true value of tax liabilities. Further, accounting conservatism impose tighter restrictions on dividend policy leading to lower the value of assets in balance sheet ratios and further implies a restriction on excessive dividend payments to shareholders. Some researchers have argued that stakeholders are as interested in timely information on gains as timely information on losses, and so question the merits of the one-sided approach of conservatism (Lara et al., 2007). For instance, lenders are not only interested in potential losses but also the offsetting gains of a firm. Similarly, investors expect the earnings / dividend from their investments, thus, looking for the potential future gains of a firm and not just one sided lower value of accounting numbers. Such a downward reporting could happen through several ways, such as, over expensing, early expensing, deferring revenue recognition, lower of cost or market value of inventory and asset impairments feature (Brown Jr et al., 2006; Gigler et al., 2009).

Although conservatism is a measure of bias, it provides several benefits to stakeholders and firms. News-based conservatism ensures early recognition of bad news compared to good news and this early provision of bad news to investors assists with the streamlining of outward information and helps capital providers to make accurate investment decisions (Basu, 1997). Furthermore, unconditional conservatism ensures that assets are not overstated (Beaver and Ryan, 2000; Penman and Zhang, 2002). Although biased, conservative information may have benefits for investors to the extent that conservative reporting reduces the chance of asset overstatement, which is a major contributing factor for most corporate collapses. Furthermore, tax planning involves managerial choice of accounting policies and practices in order to lower the net present value of the taxation liability. Previous research demonstrates that both forms of conservatism (conditional and unconditional) are strongly related to tax-related manipulations in earnings (Heltzer, 2009; Lara et al., 2009; Qiang, 2007).² According to Qiang (2007), unconditional conservatism is an easier way to follow taxation rules which allow extra expenses to be recorded such as an increase in the cost of goods sold by following the last-in first-out inventory system.

² For instance, managers can reduce earnings in a book-tax way by not recognising revenues in a timely manner and immediately considering the operating expenses, thereby reducing the present value of tax payments (Lara et al., 2009). This is done by either recognising economic losses or transferring current economic gains to a future period (Lara et al., 2009).

In addition to recognising the tangible benefits of conservatism practices as an indicator of bias, managers can use conservative accounting for a number of reasons. For instance, firms having high accounting conservatism face less regulatory restrictions (Alam and Petruska, 2012; Lobo and Zhou, 2006), have better internal governance quality (Beekes et al., 2004; Sultana and Van der Zahn, 2015), experience improved contracts between managers and shareholders (Ahmed et al., 2002; Ball and Shivakumar, 2005) and restrict managerial opportunity to loosen or avoid dividend restrictions and transfer wealth from bondholders to shareholders hence mitigating deadweight losses and increasing firm value (Ahmed et al., 2002; Ahmed and Duellman, 2013; Goh and Li, 2011). High ability managers are in a better position than low ability CEOs, as a result of their superior skills and expertise, to recognise the negative and positive benefits of conservatism and therefore the merits from adopting conservative accounting. Furthermore, high-ability managers can also use accounting conservatism in tax planning with their preferred accounting policies in order to lower the net present value of taxation liability.

Previous studies suggest a number of determinants of conservatism, such as firm characteristics (Charitou et al., 2007; Hsu et al., 2011; Pae et al., 2005), institutional factors (Iatridis, 2012) and corporate governance characteristics (Ahmed and Henry, 2012; Sultana, 2015; Sultana and Van der Zahn, 2015). Specifically, there is evidence that conservatism is high for financially distressed firms (Charitou et al., 2007) and firms with a lower price-to-book ratio (Pae et al., 2005). For example, audit committee experience, financial expertise and a number of meetings improve the level of accounting conservatism (Krishnan and Visvanathan, 2008; Sultana, 2015; Sultana and Van der Zahn, 2015). Similarly, board independence and a smaller board size also improve accounting conservatism (Ahmed and Henry, 2012). Managers are an important part of corporate governance and can significantly impact on corporate reporting decisions. For instance, overconfident managers' report lower accounting conservatism (Ahmed and Duellman, 2013) and managers with high stock ownership provide high conservatism in accounting (Lafond and Roychowdhury, 2007).

2.3. Managerial ability and accounting conservatism

Since accounting conservatism may or may not reflect high quality earnings, high-ability managers can react in three different ways. First, high ability managers may avoid the use of conservative accounting or upward earnings reporting, and instead report the actual accounting numbers truthfully to appear less risky to potential bondholders and other stakeholders. This could be useful for managers by avoiding any future litigation or any adverse consequences to their reputation. Since highly able managers have a greater reputation for high firm performance, adopting accounting conservatism could decrease their reputation for superior performance and subsequent career opportunities. Hence, it is possible that highly able managers will report actual accounting numbers truthfully and will not adopt any accounting conservatism.

Second, high ability managers may use their skills and expertise to report upwardly biased accounting numbers. An overstatement of assets or concealing expected losses would lead to higher firm performance and consequently, an opportunity for managers to satisfy their personal incentives such as increases to their compensation. This could also lead to other outcomes such as avoiding debt covenant violations and reducing the cost of capital.

Third, highly able managers can also choose to report higher levels of accounting conservatism. For instance, acting as stewards, highly able managers will incorporate, in a timely manner, economic losses into financial statements in order to efficiently deal with firms' contracts such as debt contracts. Highly able managers, having unique skills and expertise, can also perform complex tasks effectively (Mishra, 2014). Following the efficient contracting argument, such managers can use these capabilities to incorporate conservatism more efficiently into debt contracts in order to maintain and build their reputation in the market. In addition, financial institutions such as lenders are concerned about the future losses of a firm in regard to securing their investments (Lara et al., 2007). In efficient contracting, managers are expected to provide precise and timely information to the market and failure to provide such information to lenders may result in managers' facing adverse consequences such as having their employment terminated. Further, the economic loss of reputation/career concerns are greater for high-ability managers and it is therefore likely that highly able managers may expropriate the firm's resources less and avoid moral hazard problems by applying conservative accounting practices. Similarly, managers may prefer to use unconditional conservatism (recording extra expenses such as the cost of goods sold from real transactions) rather than conditional conservatism (where the recognised losses from 'unreal' transactions are not deductible) to lower the corporate tax liability as part of tax planning (Qiang, 2007). Similarly, regulators prefer to induce the type of conservatism depending on the demand from, and preference of, their constituents. Further, these constituents are more likely to prefer unconditional conservatism due to the big negative shocks created by conditional conservatism, which are generally undesirable (Qiang, 2007; Watts, 2003). We therefore expect that highly able managers will better understand the regulatory demands/preferences and select the type of conservatism required accordingly. Based on these opposing arguments, we develop the following non-directional hypothesis:

H1: There is an association between managerial ability and accounting conservatism.

3. Research design

3.1. Sample attrition

Our initial sample consists of 13,446 firm year observations for Australian listed companies for the period 2004 to 2013 drawn from the Connect4 boardroom database.³ From the original sample, we excluded 2,039 delisted firms, 1,698 firms with more than one CEO in a fiscal year and 1,168 firms belonging to the financial industry. After initial exclusions, we obtained 8,541 firm year observations to calculate managerial ability variables. In the second stage, we merged the managerial ability data with conservatism and control variables, and we obtained a different set of firm year observations for each conservatism model. A number of secondary sources are used for data collection purposes. The data for conservatism models, financial (control) variables and managerial ability (*DEA* and *Ind_Ad_R* variables) data are obtained from DatAnalysis Premium (Morning Star) and CapitalIQ. Information regarding CEO and other corporate governance variables is collected from both the Connect4 and Sirca databases. Finally, for a press-based measure of managerial ability, we search a number of press articles for CEOs along with their company name from the Factiva database.

3.2. Variable measurement

3.2.1. Dependent variables

3.2.1.1. Accruals-Based approach - Givoly and Hayn (2000). We follow several different approaches to measure accounting conservatism. Our first of the primary measures for accounting conservatism is the total accruals approach suggested by Givoly and Hayn (2000). According to Givoly and Hayn (2000), if net profit is higher than cash flow from operations, this can lead to negative accruals in future periods. Thus, conservative firms are expected to report negative future accruals. Therefore, a lower value of accruals relates to a high level of accounting conservatism. In line with previous literature (Ahmed and Duellman, 2007; Ahmed and Henry, 2012; Krishnan and Visvanathan, 2008), we measure conservatism through accruals (*CONS_ACC*) as total income before extraordinary items plus depreciation less cash flow from operations divided by total assets, averaged over the three-year period centred over period t .⁴ The advantage of averaging over a three-year period is that it removes the effect of any temporary large value of accruals (Ahmed and Duellman, 2007). We multiply *CONS_ACC* by -1 so that higher values of *CONS_ACC* represent greater accounting conservatism.

3.2.1.2. Market-based approach - Beaver and Ryan (2000). Our second measure of accounting conservatism is the market-based conservatism approach (*CONS_B/M*) suggested by Beaver and Ryan (2000). According to Beaver and Ryan (2000), firms reporting a book value of equity lower than the market value of equity represent high conservatism. *CONS_B/M* is an important measure as it considers the cumulative effects of conservatism since the foundation of a firm (Ahmed and Duellman, 2007). We measure *CONS_B/M* as the book-to-market ratio of a firm multiplied by -1 so that higher values of *CONS_B/M* represent greater conservatism. In line with previous studies (Ahmed and Henry, 2012; Beaver and Ryan, 2000; Krishnan and Visvanathan, 2008), we include current and six-year-lagged security returns (*Ret_6Y*) as an additional control variable in the *CONS_B/M* regression model.⁵

3.2.1.3. Balance sheet approach - Penman and Zhang (2002). Our third measure of accounting conservatism is the balance sheet approach (*CONS_C/Score*) suggested by Penman and Zhang (2002). We measure *CONS_C/Score* by taking the sum of the research and development reserves, advertisement reserves and inventory reserves scaled by net operating assets of the firm at the end of time period t .⁶ A positive/higher value for *CONS_C/Score* indicates that firms have greater accounting conservatism.

3.2.2. Independent variables

3.2.2.1. DEA (Data envelopment analysis). The independent variable of this study, managerial ability, is measured using three different proxies applied by previous literature. The first measure for managerial ability is based on data envelopment analysis (DEA) calculated following Demerjian et al. (2012), which has been used in numerous prior studies (Baik et al., 2011; Cheung et al., 2017; Demerjian et al., 2013). We measure DEA using a two-step process. In the first stage, we estimate total firm efficiency (influenced by firm and manager) within industries, comparing each firm's sales conditional on the inputs used by a firm such as cost of goods sold, selling and administrative expenses, net property plant and equipment, net operating leases, net research and development expenses, purchased goodwill and other intangible assets (Demerjian et al., 2012). Demerjian et al. (2012) solve specifically the following optimization problem:

³ The Connect4 boardroom database provides corporate governance and CEO-related information for Australian listed companies including the top 500 ASX listed firms.

⁴ For ease of explanation, we remove the firm and time subscripts when labelling the variables following previous literature (Behn et al., 2008).

⁵ Our results are consistent using the simple book-to-market ratio as a dependent variable excluding *Ret_6Y* from the regression.

⁶ If there is a missing value for any of the three reserves, we replace it with zero.

$$\max_{\nu} \theta \frac{Sales_t}{COGS_t + SG \& A_t + PPE_{t-1} + Ops Lease_{t-1} + R\&D_{t-1} + Goodwill_{t-1} + Other Int Assets_{t-1}} \quad (1)$$

The optimization finds the firm-specific vector of optimal weights on the seven inputs, ν , by comparing each of the inputs of a particular firm with other firms within the same group (Demerjian et al., 2012). The efficiency measure that DEA produces, θ , takes a value between 0 and 1, where firms having a value of 1 are highly efficient and those close to 0 are less efficient.⁷

The efficiency score generated through DEA is attributable to both the firm and the manager. Hence, in the second stage, we change the efficiency score by excluding the key firm-specific characteristics expected to aid or hinder management's efforts through a Tobit regression within each GICS industry sector. The variables included in the Tobit regression are firm size, percentage of market share, positive free cash flow, firm age, business segment concentration and foreign currency indicator. The residual from Equation 2 is identified as managerial specific ability score, DEA, the first independent variable of this study.⁸

$$\begin{aligned} \text{FirmEfficiency} = & \beta_0 + \beta_1 \text{Ln_TA}_t + \beta_2 \text{MarketShare}_t + \beta_3 \text{PositiveFreeCashFlow}_t + \beta_4 \text{Ln(Age)}_t \\ & + \beta_5 \text{BusinessSegmentConcentration}_t + \beta_6 \text{ForeignCurrencyIndicator}_t + \text{Year} + \text{Industry} + \varepsilon \end{aligned} \quad (2)$$

where:

Ln_TA: Total assets of a firm at the end of a fiscal period.

Market Share: Percentage of revenues (sales) earned by a firm within its GICS industry group during a fiscal period.

Positive Free Cash Flow: Dummy variable equal to 1 if the free cash flow of a firm is not negative; the free cash flow is calculated as a profit before depreciation and amortisation minus change in working capital and capital expenditures at the end of a fiscal period.

Age: Number of years a firm has been listed on the Australian Stock Exchange at the end of a fiscal period.

Business Segment Concentration: Ratio of individual business segment sales to total sales of all segments; if there is no information on segments, a concentration of 1 is given to a firm.

Foreign Currency Indicator: Dummy variable equal to 1 if a firm reports non-zero value for foreign currency adjustment.

ε : Error term

3.2.2.2. Press (Market-based Approach). The press-based measure of managerial ability (Press) is calculated without reference to the financial statements and is therefore not subject to the same concerns as the financial statement derived measures. In addition, this measure can be directly associated to a particular CEO rather than the entire management team since we use the name of the CEO along with the name of the company to determine the number of press articles. We follow previous literature and calculate managerial ability by taking the sum of the number of press articles with the name of CEO in the news media such as newspapers and news wires (Baik et al., 2011; Francis et al., 2008; Milbourn, 2003; Rajgopal et al., 2006). We rely on previous studies and measure press-based managerial ability by taking the sum of the number of articles with the name of a CEO and company for a rolling five-year (t to $t-4$) period (Baik et al., 2011; Francis et al., 2008; Milbourn, 2003; Rajgopal et al., 2006).⁹ For instance, to calculate the number of press articles for the financial year 2004, we take the sum of the number of articles for the period 2000 to 2004.¹⁰

Some may argue that managers with a bad reputation are also cited in the press by journalists, and hence are likely to be included in the sample of high-ability managers. To remove this concern, previous research performed a number of validity tests and show that the methodology of press articles to measure managerial ability is a correct proxy (Baik et al., 2011; Francis et al., 2008; Milbourn, 2003; Rajgopal et al., 2006). For instance, Francis et al. (2008) selected a random sample of 500 articles to read and found that almost 95 per cent of the articles have a neutral to favorable tone with regard to CEOs. Similarly, Baik et al. (2011) randomly selected 10 articles for 100 managers and found that 94 per cent of the articles have either a positive or neutral tone. These results reduce concerns that the press-based measure reflects notorious behavior rather than ability.

3.2.3. *Ind_Ad_R (Industry-Adjusted return on Assets)*

The third proxy used to measure managerial ability is the industry-adjusted return on assets (*Ind_Ad_R*) of a particular CEO over the previous three-year period (Baik et al., 2011; Milbourn, 2003; Rajgopal et al., 2006). We calculate the industry-adjusted ROA by subtracting the average return on assets of all firms of a particular industry from the return on

⁷ In Equation 1, the variables *PPE*, *Ops Leases*, *R&D*, *Goodwill* and *Other Int Assets* are taken at the beginning of the fiscal period, whereas the variables *COGS* and *SG&A* are taken at the end of the fiscal period.

⁸ All variables are winsorised at the 1% and 99% levels.

⁹ We also consider the sum of the number of articles mentioning the name of a CEO over the previous three-, two- and one-year periods. We then use this for sensitivity analyses and find the consistent results.

¹⁰ Following Baik et al. (2011), we consider an article only once regardless of the number of times the CEO's name is mentioned. Further, an article is counted as many times as it is published, because the republication of the same article suggests that the CEO is highly reputed and more able. Searches are made for news articles in all Australian and international news wires, newspapers and all other publications available in the Dow Jones (Factiva) database.

assets of a firm within that industry. Then we take the sum of the industry adjusted ROA of each firm over the prior three years period time period (t to $t-2$) and use as a measure of Ind_Ad_R .¹¹

3.2.4. Control variables

To empirically test our hypothesis, a number of control variables are included in the analysis. In line with previous literature (Ahmed and Duellman, 2007; Krishnan and Visvanathan, 2008), we include firm size ($Firm_Size$), because larger firms are likely to report more conservative accounting to avoid the high political costs (Watts and Zimmerman, 1978). We control for M/B to capture for firm growth/investment opportunities (Ahmed and Duellman, 2013; Lara et al., 2007; Sultana and Van der Zahn, 2015). We include sales growth ($Sales_Growth$) as a control variable for two conservatism models $CONS_B/M$ and $CONS_C/Score$ following prior literature (Ahmed and Duellman, 2007). In line with Ahmed and Duellman (2007), we expect that sales growth will impact positively on accounting conservatism. We further include leverage ($Leverage$) following previous literature (Krishnan and Visvanathan, 2008), because firms with greater bondholder/shareholder conflicts report higher conservative accounting (Ahmed et al., 2002). According to Ahmed et al. (2002), firms with high profit face lower costs for reporting conservative accounting than less profitable firms. This is because less profitable firms will report even lower values for accounting numbers to follow accounting conservatism. To consider this concern, we control for ROA and $Loss$ in our regression.

In addition to firm characteristics, previous research shows that high-quality corporate governance increases accounting conservatism (Ahmed and Duellman, 2007; Sultana, 2015; Sultana and Van der Zahn, 2015). Therefore, we include corporate governance variables such as board size (B_Size) and board independence (P_B_Ind). Further, we include the CEO age variable to control for managerial ability as older managers are more able and experienced than younger managers. Further, the variable CEO compensation is included, because a CEO with high compensation may have greater incentives to avoid conservative accounting practices.

3.2.5. Regression models

The regression equations 3–5 are used to empirically test H1 of the study. In equations 3–5, the dependent variables are the accounting conservatism measures ($CONS_ACC$, $CONS_B/M$ and $CONS_C/Score$, respectively) and the independent variable is managerial ability (one of the three measures explained above). The results are provided using pooled ordinary least squares (OLS) regressions with Huber–White robust t -statistics including firm and year fixed effects.¹² We use the same set of control variables in all equations, except for the addition of Ret_6Y in Equation 7 for Beaver and Ryan (2000) conservatism model. Please refer to Appendix 1 for the definition of the variables.

$$CONS_ACC = \beta_0 + \beta_1 Ability + \beta_2 Firm_Size + \beta_3 M/B + \beta_4 Leverage + \beta_5 ROA + \beta_6 Sales_Growth + \beta_7 Loss + \beta_8 Size + \beta_9 P_B_Ind + \beta_{10} CEO_Age + \beta_{11} CEO_Comp + Firm + Year + \varepsilon \quad (3)$$

$$CONS_B/M = \beta_0 + \beta_1 Ability + \beta_2 Firm_Size + \beta_3 M/B + \beta_4 Leverage + \beta_5 ROA + \beta_6 Sales_Growth + \beta_7 Loss + \beta_8 Size + \beta_9 P_B_Ind + \beta_{10} CEO_Age + \beta_{11} CEO_Comp + \beta_{12} Ret_{6Y} + Firm + Year + \varepsilon \quad (4)$$

$$CONS_C/Score = \beta_0 + \beta_1 Ability + \beta_2 Firm_Size + \beta_3 M/B + \beta_4 Leverage + \beta_5 ROA + \beta_6 Sales_Growth + \beta_7 Loss + \beta_8 Size + \beta_9 P_B_Ind + \beta_{10} CEO_Age + \beta_{11} CEO_Comp + Firm + Year + \varepsilon \quad (5)$$

4. Descriptive statistics

4.1. Univariate analysis

Table 1 illustrates the descriptive statistics, where the mean (median) value for $CONS_ACC$ is 0.1407 (0.0645) and the mean (median) value for the conservatism variable $CONS_B/M$ is -0.8756 and -0.5964 , respectively. Similarly, the efficiency score for managerial ability (DEA) shows a mean (median) value of 0.0009 (-0.0102). Further, the average number of *Press* articles (*Press*) for a CEO during a five-year period t to $t-4$ is 77 with a median of 29. Furthermore, the average value for Ind_Ad_R is 0.3655 with a median of 0.3702.

The mean value for the total assets ($Firm_Size$) is 869,000, M/B is 2.5990 and $Leverage$ is 1.8355. Exploring the corporate governance variables, on average there are six board of directors (B_Size) in a firm. Similarly, 36.70% of the board members are independent and the average age of the CEO is 58 years in our sample. Finally, the average CEO compensation in our Australian sample is \$791,000 and the cumulative stock returns for the six-year period (Ret_6Y) is 1.1933.

¹¹ We take sum of the industry adjusted ROA of a firm over the prior three years period for the same CEO. We take due care and confirm that the industry adjusted ROA is not belong to two different CEOs in the last three years period. We also use Ind_Ad_R for the one (current) year, instead of last three years, as a measure of CEO ability.

¹² Using Huber–White's robust regression successfully overcomes the problem of heteroscedasticity and autocorrelation, and firm clustering allows each firm to have their own intercept for multiple years, considering the heterogeneity of characteristics between firms (Gujarati, 2011).

Table 1
Descriptive statistics.

Variables	Mean	Median	Std Dev	Min	Max
CONS_ACC	0.1407	0.0645	0.3059	-0.3490	2.1796
CONS_B/M	-0.8756	-0.5964	1.0322	-6.0937	4.4541
CONS_C/Score	0.0391	0.0358	0.1389	0.0024	0.7254
DEA	0.0009	-0.0102	0.2028	-0.5018	0.6020
Press	77	29	129	0	843
Ind_Ad_R	0.3655	0.3702	1.2530	-2.9942	3.9829
Firm_Size (000 s)	869,000	31,200	4,260,000	564	57,200,000
M/B	2.5990	1.5800	3.4394	-3.0200	22.2100
Leverage	1.8355	1.3403	1.5698	0.0176	12.2533
ROA	-0.2216	-0.0516	0.6182	-4.1027	0.3527
Sales_Growth	6.2529	0.0544	32.2699	-1.0000	254.4941
Loss	0.5938				
B_Size	6.3550	6.0000	2.4174	3.0000	20.0000
P_B_Ind	0.3670	0.3750	0.2555	0.0000	0.8750
CEO_Age	58.3872	58.0000	7.1014	29.0000	80.0000
CEO_Comp (000 s)	791	375	1,210	16	7,725
Ret_6Y	1.1933	0.7534	2.4656	-2.8010	12.4625

Please refer to [Appendix 1](#) for definition of variables.

4.2. Bivariate analysis

Table 2 illustrates the Pearson correlation matrix for the variables used in the analysis. **Table 2** shows that *CONS_B/M* is positively correlated with *CONS_C/Score* at the 1 percent level of significance. However, the correlation between *CONS_ACC* and *CONS_B/M* is positive but insignificant. The results are understandable because *CONS_ACC* is an accounting based measure of conservatism whereas *CONS_B/M* is a market-based calculation for conservatism. Similarly, an insignificant positive correlation between *CONS_ACC* and *CONS_C/Score* suggests that both measures are distinct attributes of earnings. Further, prior research supports this positive insignificant correlation between these two (*CONS_B/M* and *CONS_ACC*) accounting conservatism measures ([Francis et al., 2015](#)).

Similarly, a negative correlation between our managerial ability measures *DEA* and *Press* shows that both are distinct measures of managerial ability. This is because *DEA* uses an accounting-based approach whereas *Press* is a market-based approach, which calculates managerial ability using the number of press articles referring to a CEO. Thus, a negative correlation between the two ability measures shows that both are independent of each other. Such a negative correlation between *DEA* and *Press* is also consistent with the prior literature ([Demerjian et al., 2013](#)).

The majority of the variables are correlated at the 1% level of significance. Further, *CONS_B/M* is positively correlated with *M/B*, *Leverage*, *P_B_Ind*, *CEO_Comp* and *Ret_6Y* and negatively correlated with *Firm_Size*, *ROA* and *CEO_Age*. The correlation among individual measures of managerial ability is not too high. The high correlation between *Press* and *CEO_Comp* suggests that managers with high-ability (more citations in *Press*) receive higher compensation than those with low ability.

The magnitude of correlation implies that our sample has no multicollinearity issues. The correlation among control variables is generally low except for the correlation between *Firm_Size* and *ROA*, *Firm_Size* and *CEO_Comp*, and *Firm_Size* and *Board_Size*. The high correlation between *Firm_Size* and *CEO_Comp* also makes sense in that large-size firms pay more compensation to managers than small firms.

5. Multivariate analysis

Table 3 reports the results for the relationship between managerial ability and the three main measures for accounting conservatism. Columns 1 to 3 illustrate the relationship between managerial ability and *CONS_ACC*. Results show that the coefficient on all three managerial ability variables (*DEA*, *Press* and *Ind_Ad_R*) is positive and significant at the 1% level. This is consistent with the hypothesis of the study that high-ability managers utilize more conservative accounting.

Columns 4 to 6 illustrate the results for the relationship between managerial ability and *CONS_B/M*. Column 4 shows that the coefficient on *DEA* is positive and significant at the 1% level. Similarly, in Columns 5 and 6, the coefficient on *Press* and *Ind_Ad_R* is positive and significant at the 1% level. The results support our hypothesis that managerial ability leads to greater accounting conservatism.

Columns 7 to 9 report the results for the relationship between managerial ability and *CONS_C/Score*. Column 7 shows that the coefficient on *DEA* is positive and significant at the 10% level of significance. Similarly, in Columns 8 and 9, the coefficient on *Press* and *Ind_Ad_R* is positive and significant at the 1% and 10% level, respectively. The results support the hypothesis that managerial ability leads to greater accounting conservatism.

Table 2
Pearson Correlation Matrix.

Panel A: Variable CONS_ACC to Leverage									
	CONS_ACC	CONS_B/M	CONS_C/Score	DEA	Press	Ind_Ad_R	Firm_Size	M/B	Leverage
CONS_ACC									
CONS_B/M	0.0028								
CONS_C/Score	0.0374	0.1210***							
DEA	0.0357***	0.1055***	-0.0377**						
Press	0.0561***	0.0027	0.0239	-0.0295*					
Ind_Ad_R	0.0081	0.0035	0.0793***	0.0817***	0.0276				
Firm_Size	-0.1985***	-0.0562***	-0.0485***	0.0264*	0.3741***	0.1514**			
M/B	0.0544***	0.3708***	0.1287***	0.0397**	-0.022	-0.0322*	-0.1171***		
Leverage	-0.048***	0.0277*	0.0301*	0.0907***	0.0209	0.0443**	0.2119***	0.3862***	
ROA	-0.5054***	-0.1601***	0.0002	0.0731***	0.0871***	0.2402***	0.4658***	-0.1932***	0.0916***
Sales_Growth	0.0130	0.0096	-0.0438***	0.0336**	-0.0293*	-0.0388*	-0.0662***	0.0252*	-0.0204
Loss	0.1849***	-0.0403**	-0.0161	-0.3681***	-0.1571***	-0.1769***	-0.6106***	0.0481***	-0.1980***
B_Size	0.0052	0.0154	0.0349**	-0.0321**	0.1750***	0.0395**	0.5207***	-0.0115	0.1221***
P_B_Ind	-0.0581***	0.0365**	0.0683***	0.0315*	0.2244***	0.0969***	0.3826***	0.0112	0.0926***
CEO_Age	-0.0395***	-0.0227	0.0096	0.0243*	0.0593***	0.0746***	0.1079***	-0.0133	0.0332**
CEO_Comp	-0.1096***	0.0805***	0.0241	0.0100	0.4119***	0.0957***	0.7535***	0.0223	0.1529***
Ret_6Y	-0.1152***	0.1648***	-0.0116	-0.0484**	0.0297	0.0275	0.1126***	0.1851***	-0.0549**

Panel B: Variable ROA to Ret_6Y								
	ROA	Sales_Growth	Loss	B_Size	P_B_Ind	CEO_Age	CEO_Comp	Ret_6Y
ROA								
Sales_Growth	-0.0130							
Loss	-0.4368***	0.0721***						
B_Size	0.0882***	-0.0330**	-0.2330***					
P_B_Ind	0.1534***	-0.0669***	-0.2882***	0.0661***				
CEO_Age	0.0600***	-0.0020	-0.0958***	0.0152	0.0424***			
CEO_Comp	0.2664***	-0.0634***	-0.4446***	0.3757***	0.3813***	0.0858***		
Ret_6Y	0.1175***	0.0364*	0.0013	0.0050	0.0061	0.0101	0.1226***	

* p < 0.05, ** p < 0.01, *** p < 0.001.

Please refer to [Appendix 1](#) for definition of variables.

6. Additional and sensitivity analysis

6.1. Alternative measures of accounting conservatism

6.1.1. Timeliness of earnings - Basu (1997)

In addition to the conservatism approaches used in our primary analyses, we examine three additional measures for accounting conservatism. News-based/conditional conservatism helps in monitoring management decision-making ([Ball and Shivakumar, 2005](#); [Watts, 2003](#)). We first follow [Basu's \(1997\)](#) timeliness of earnings approach. [Basu \(1997\)](#) implements the asymmetric timeliness of earnings approach and concludes that how quickly a firm's earnings reflect bad news lies in future stock returns. The model is based on the premise that the stock price reflects the news from sources other than financial statements. A negative stock return is considered bad news, whereas a positive stock return is referred to as good news. If the earnings reflect bad news (negative returns) timelier than good news, there should be a strong association between earnings and bad news in stock returns. A positive association between negative returns and earnings shows timely recognition of bad news and higher conservatism. The following regression equation explains the [Basu \(1997\)](#) asymmetric timeliness of earnings approach for conservatism:

$$X = \beta_0 + \beta_1 RET + \beta_2 DRET + \beta_3 RT * DRET + \varepsilon \quad (6)$$

where:

X	= Earnings before extraordinary items (profit after tax) divided by amount of market capitalisation at the beginning of the period t .
RET	= The value of market adjusted stock return, calculated as the difference between the stock price three months after the end of period t and the stock price three months after the end of period $t-1$.
$DRET$	= A dummy variable equal to 1 if $RET < 0$, otherwise 0.
$RT * DRET$	= Two-way interaction between RET and $DRET$.
ε	= Error term.

Table 3
Managerial Ability and Accounting Conservatism.

VARIABLES	CONS_ACC			CONS_B/M			CONS_C/Score		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ability	DEA 0.0906*** (3.7812)	Press 0.0183*** (4.8863)	Ind_Ad_R 0.0341*** (10.5144)	DEA 0.3002** (2.2933)	Press 0.0717*** (3.8709)	Ind_Ad_R 0.0832*** (3.9832)	DEA 0.0235* (1.8901)	Press 0.0035*** (2.9604)	Ind_Ad_R 0.0034* (1.9217)
Firm_Size	0.0086** (2.2382)	0.0012 (0.2882)	-0.0008 (-0.2210)	-0.0977*** (-4.1548)	-0.1354*** (-5.3420)	-0.1002*** (-3.4750)	-0.0039** (-2.2824)	-0.0049*** (-2.9255)	-0.0063*** (-2.8853)
M/B	-0.0026 (-1.3100)	-0.0047** (-2.2212)	-0.0012 (-0.7624)				0.0025** (2.5165)	0.0030*** (2.6943)	0.0037** (2.4742)
Leverage	0.0008 (0.1988)	0.0053 (1.3287)	0.0024 (0.6455)	0.0354*** (2.7296)	0.0460*** (3.4358)	0.0640*** (4.0802)	-0.0004 (-0.1670)	0.0001 (0.0415)	-0.0005 (-0.1491)
ROA	-0.2579*** (-11.8610)	-0.2420*** (-9.8612)	-0.1871*** (-8.2435)	-0.3709*** (-8.7478)	-0.3388*** (-7.4270)	-0.6300*** (-5.1900)	0.0133*** (4.2668)	0.0135*** (3.9127)	0.0224*** (3.3995)
Sales_Growth	0.0000 (0.2415)	0.0001 (0.6559)	0.0000 (0.2393)	-0.0001 (-0.2113)	-0.0001 (-0.1469)	-0.0003 (-0.2625)	-0.0000*** (-2.6389)	-0.0000** (-2.2452)	-0.0001* (-1.8367)
Loss	-0.0174 (-1.4522)	-0.0408*** (-3.4179)	-0.0264** (-2.4346)	-0.2274*** (-2.7579)	-0.3556*** (-4.9737)	-0.4401*** (-5.2308)	-0.0019 (-0.3903)	-0.0068 (-1.3099)	-0.0038 (-0.7104)
B_Size	0.0361** (2.2337)	0.0315* (1.9015)	0.0167 (1.1078)	0.1048 (1.3917)	0.0897 (1.1266)	0.0505 (0.5320)	0.0103* (1.8837)	0.0137** (2.5197)	0.0155** (2.1481)
P_B_Ind	0.0127 (0.7030)	0.0165 (0.8893)	0.0095 (0.5625)	0.0333 (0.3656)	-0.0090 (-0.0961)	-0.1155 (-1.0930)	0.0046 (0.6731)	0.0045 (0.6881)	0.0050 (0.5927)
CEO_Age	-0.0260 (-0.7133)	-0.0301 (-0.8409)	0.0214 (0.6221)	-0.2495 (-1.1719)	-0.3142 (-1.4224)	-0.3152 (-1.2084)	0.0286** (2.3432)	0.0261** (2.1683)	0.0256* (1.6586)
CEO_Comp	-0.0120** (-2.0019)	-0.0127** (-2.0618)	0.0044 (0.8328)	0.2303*** (6.0709)	0.2464*** (5.7151)	0.2688*** (5.3325)	0.0017 (0.8298)	-0.0008 (-0.3400)	0.0026 (0.8643)
Ret_6Y				0.0543*** (4.4482)	0.0541*** (3.9143)	0.0596*** (3.6720)			
Constant	0.0476 (0.3017)	0.1687 (1.0671)	-0.2256 (-1.5546)	-1.1513 (-1.2595)	-0.4897 (-0.5055)	-1.2590 (-1.1067)	-0.0591 (-1.1344)	-0.0155 (-0.2935)	-0.0298 (-0.4728)
Observations	5,670	5,228	3,382	3,329	3,055	2,038	5,817	5,424	3,482
Adjusted R-squared	0.2756	0.2553	0.1936	0.1940	0.2059	0.1972	0.0966	0.1008	0.1129
Firm and Year FE	Included	Included	Included	Included	Included	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to Appendix 1 for definition of variables.

In the regression Equation (6), RET refers to the stock return and DRET denotes the dummy variable for negative stock returns (bad news). β_3 is the primary variable of interest and captures the conservatism. A positive and higher value at β_3 represents a higher level of conservatism. We use Equation 7 to empirically test the impact of managerial ability on accounting conservatism.

$$\begin{aligned}
 X = & \beta_0 + \beta_1RET + \beta_2DRET + \beta_3RET * DRET + \beta_4RET * Ability + \beta_5DRET * Ability + \beta_6RET * DRET * Ability \\
 & + \beta_7Firm_Size + \beta_8RET * Firm_Size + \beta_9DRET * Firm_Size + \beta_{10}RET * DRET * Firm_Size + \beta_{11}M/B + \beta_{12}RET \\
 & * M/B + \beta_{13}DRET * M/B + \beta_{14}RET * DRET * M/B + \beta_{15}Leverage + \beta_{16}RET * Leverage + \beta_{17}DRET * Leverage \\
 & + \beta_{18}RET * DRET * Leverage + \beta_{19}B_Size + \beta_{20}RET * B_Size + \beta_{21}DRET * B_Size + \beta_{22}RET * DRET * B_Size \\
 & + \beta_{23}P_B_Ind + \beta_{24}RET * P_B_Ind + \beta_{25}DRET * P_B_Ind + \beta_{26}RET * DRET * P_B_Ind + \beta_{27}CEO_Age + \beta_{28}RET \\
 & * CEO_Age + \beta_{29}DRET * CEO_Age + \beta_{30}RET * DRET * CEO_Age + \beta_{31}CEO_Comp + \beta_{32}RET * CEO_Comp \\
 & + \beta_{33}DRET * CEO_Comp + \beta_{34}RET * DRET * CEO_Comp + Firm + Year + \epsilon
 \end{aligned}
 \tag{7}$$

Table 4 reports the results from the empirical analysis. As per equation 6 and 7, the dependent variable is earnings before extraordinary items (X). In Column 1, the interaction term RET*DRET shows a positive and significant coefficient at the 1 per cent level of significance. This shows that overall conservatism exists in our sample firms. The primary variables of interest are the interaction terms of RET*DRET with managerial ability measures. Columns 2 to 4 show that RET*DRET*DEA and RET*DRET*Ind_Ad_R are positive and significant at the 5 and 10 per cent level, however the coefficient on RET*DRET*Press is numerically positive, but not statistically different from zero.

6.1.2. Accruals to cash flow approach - Ball and Shivakumar (2005)

The Ball and Shivakumar (2005) conservatism model uses operating cash flow to measure bad news. The underlying construct for conservatism is that bad news in operating cash flow should reflect quickly in accruals. Thus, a high level of conservatism requires a strong relationship between the cash flows and accruals of a company, as presented in the following regression equation:

$$ACC = \beta_0 + \beta_1CFO + \beta_2DCFO + \beta_3CFO * DCFO + \epsilon
 \tag{8}$$

Table 4
Managerial ability and accounting conservatism - Basu (1997) timeliness of earnings.

VARIABLES	(1) Base Model	(2) DEA	(3) Press	(4) Ind_Ad_R
RET	0.0057 (0.6569)	0.2065 (0.9807)	0.3284 (0.6936)	-0.0734 (-0.1360)
DRET	0.1318*** (5.8491)	-0.1173 (-0.1935)	0.0548 (0.0673)	-0.4108 (-0.4969)
RET*DRET	1.0563*** (15.3602)	0.0087 (0.0046)	0.3830 (0.2512)	-0.0839 (-0.0525)
DEA		0.0199** (2.0171)		
RET*DEA		-0.0150 (-0.7508)		
DRET*DEA		0.0417 (1.5563)		
RET*DRET*DEA		0.1938** (2.1617)		
Press			0.0046 (0.4310)	
RET*Press			-0.0014 (-0.1271)	
DRET*Press			0.0074 (0.4358)	
RET*DRET*Press			0.0373 (1.1794)	
Ind_Ad_R				0.0370*** (3.3406)
RET*Ind_Ad_R				-0.0085 (-0.7521)
DRET*Ind_Ad_R				-0.0059 (-0.3600)
RET_DRET*Ind_Ad_R				0.0573* (1.9421)
Constant	0.0802*** (3.1581)	-0.6944*** (-3.0585)	-0.7956 (-1.6017)	-0.2256 (-0.4535)
Control Variables	Included	Included	Included	Included
Observations	5,606	5,276	5,337	4,197
Adjusted R-squared	0.2004	0.3113	0.3112	0.3064
Firm and Year FE	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to [Appendix 1](#) for definition of variables.

where:

ACC	=	Accruals, calculated as the difference between net income before extraordinary items and operating cash flows for period t , divided by the book value of total assets at the beginning of period t .
CFO	=	Cash flow from operations divided by book value of total assets at the beginning of period t .
DCFO	=	Dummy variable equal to 1 if the CFO is negative, otherwise 0.
CFO*DCFO	=	Interaction term between CFO and DCFO.
ε	=	Error term.

In the regression Equation (8), CFO is the cash flow from operations and DCFO is the dummy variable if the CFO is negative (bad news). The primary variable of interest is β_3 , and a greater/positive value of coefficient on β_3 represents greater accounting conservatism. Equation 9 is used to test the impact of managerial ability on accounting conservatism.

$$\begin{aligned}
 ACC = & \beta_0 + \beta_1CFO + \beta_2DCFO + \beta_3CFO * DCFO + \beta_4CFO * Ability + \beta_5DCFO * Ability + \beta_6CFO * DCFO * Ability \\
 & + \beta_7Firm_Size + \beta_8CFO * Firm_Size + \beta_9DCFO * Firm_Size + \beta_{10}CFO * DCFO * Firm_Size + \beta_{11}M/B \\
 & + \beta_{12}CFO * M/B + \beta_{13}DCFO * M/B + \beta_{14}CFO * DCFO * M/B + \beta_{15}Leverage + \beta_{16}CFO * Leverage + \beta_{17}DCFO \\
 & * Leverage + \beta_{18}CFO * DCFO * Leverage + \beta_{19}B_Size + \beta_{20}CFO * B_Size + \beta_{21}DCFO * B_Size + \beta_{22}CFO \\
 & * DCFO * B_Size + \beta_{23}P_B_Ind + \beta_{24}CFO * P_B_Ind + \beta_{25}DCFO * P_B_Ind + \beta_{26}CFO * DCFO * P_B_Ind \\
 & + \beta_{27}CEO_Age + \beta_{28}CFO * CEO_Age + \beta_{29}DCFO * CEO_Age + \beta_{30}CFO * DCFO * CEO_Age + \beta_{31}CEO_Comp \\
 & + \beta_{32}CFO * CEO_Comp + \beta_{33}DCFO * CEO_Comp + \beta_{34}CFO * DCFO * CEO_Comp + Firm + Year + \varepsilon
 \end{aligned} \tag{9}$$

Table 5 reports the results for the empirical analysis. The dependent variable is ACC and in Column 1, the interaction term $CFO*DCFO$ shows a positive and significant coefficient at the 1 per cent level of significance. This shows that overall conservatism exists in our sample firms. The primary variables of interest are the interaction terms of $CFO*DCFO$ with managerial ability measures. Columns 2 to 4 show that all three interaction terms $CFO*DCFO*DEA$, $CFO*DCFO*Press$ and $CFO_DCFO*Ind_Ad_R$ are positive and significant.

6.1.3. Earnings persistence model - Basu (1997)

Our third alternative measure for accounting conservatism follows the earnings persistence approach suggested by Basu (1997). This model assumes that bad news may not be completely reflected in the share price and good news persists longer than bad news. Hence, the delay in recognising good news leads to positive changes in income and this will persist longer than negative changes in income due to bad news. The following equation presents the base model.

$$CX = \beta_0 + \beta_1PX + \beta_2DPX + \beta_3PX * DPX + \varepsilon \quad (10)$$

CX	=	Change in operating profit after tax of firm j for period t from operating profit after tax of firm i for period t-1 deflated by market capitalisation of firm i at the end of period t-1.
PX	=	Change in operating profit after tax of firm i for period t-1 from operating profit after tax of firm i for period t-2 deflated by market capitalisation of firm i at the end of period t-2.
DPX	=	Dummy variable where firm i scores one (1) if PX is negative; otherwise zero (0).
PX*DPX	=	The two-way interaction between change in operating profit after tax of firm i for period t from operating profit after tax of firm i for period t-1 deflated by market capitalisation of firm i at the end of period t-1 and indicator variable where firm i scores one (1) if PX is negative; otherwise zero (0).
ε	=	Error term.

Since, as discussed above, positive changes in earnings are more likely to persist than negative changes in earnings, a negative and significant coefficient on β_3 will reflect higher accounting conservatism. The regression Equation 11 empirically tests the impact of managerial ability on accounting conservatism. Similarly, we expect a negative and significant coefficient on β_6 , suggesting that managerial ability improves accounting conservatism.

$$CX = \beta_0 + \beta_1PX + \beta_2DPX + \beta_3PX * DPX + \beta_4PX * Ability + \beta_5DPX * Ability + \beta_6PX * DPX * Ability + \beta_7Firm_Size + \beta_8PX * Firm_Size + \beta_9DPX * Firm_Size + \beta_{10}PX * DPX * Firm_Size + \beta_{11}M/B + \beta_{12}PX * M/B + \beta_{13}DPX * M/B + \beta_{14}PX * DPX * M/B + \beta_{15}Leverage + \beta_{16}PX * Leverage + \beta_{17}DPX * Leverage + \beta_{18}PX * DPX * Leverage + \beta_{19}B_Size + \beta_{20}PX * B_Size + \beta_{21}DPX * B_Size + \beta_{22}PX * DPX * B_Size + \beta_{23}P_B_Ind + \beta_{24}PX * P_B_Ind + \beta_{25}DPX * P_B_Ind + \beta_{26}PX * DPX * P_B_Ind + \beta_{27}CEO_Age + \beta_{28}PX * CEO_Age + \beta_{29}DPX * CEO_Age + \beta_{30}PX * DPX * CEO_Age + \beta_{31}CEO_Comp + \beta_{32}PX * CEO_Comp + \beta_{33}DPX * CEO_Comp + \beta_{34}PX * DPX * CEO_Comp + Firm + Year + \varepsilon \quad (11)$$

Table 6 reports the results for the empirical analysis. The dependent variable is CX and in Column 1, the interaction term $PX*DPX$ shows a negative and significant coefficient at the 1 per cent level of significance. This shows that overall conservatism exists in our sample firms. The primary variables of interest are the interaction terms of $PX*DPX$ with managerial ability measures. Columns 2 to 4 show that $PX*DPX*DEA$ and $PX_DPX*Ind_Ad_R$ are negatively significant at the 1 per cent level, however the coefficient on $PX*DPX*Press$ is positive and significant. Hence, two of the three measures for managerial ability show that the results are consistent with the primary analysis.

6.2. Two-Stage Heckman model

Our sample may suffer a selection bias where high-ability managers choose to elect firms with high accounting conservatism. To resolve this potential self-selection issue in our study, we rely on the two-stage Heckman (1976) procedure. In the first stage, we use a probit model to calculate the inverse Mills ratio ($IMR_Ability$), the probability of a high-ability manager choosing a firm. In order to calculate the $IMR_Ability$, we follow previous studies (Cheung et al., 2017; Custodio and Metzger, 2013; Mishra, 2014) and apply the variables $Firm_Size$, $Leverage$, $R\&D$, B_Size and $Cong_Dummy$ as determinants of managerial ability.¹³ In the first-stage results, we find that the variables $Leverage$, B_Size and $Cong_Dummy$ are significantly related to managerial ability. In the second stage, we run the regression with the inclusion of $IMR_Ability$ as an additional control variable.

Table 7 reports the results for the relationship between managerial ability and accounting conservatism with the addition of $IMR_Ability$ as a control variable. Columns 1 to 9 illustrate that the coefficient on all three measures of managerial ability (DEA , $Press$ and Ind_Ad_R) is positively significant. Thus, controlling for self-selection bias, our results remain consistent with the primary results.

¹³ $Cong_Dummy$ is an indicator variable that is equal to 1 if a firm has more than one business segments, and 0 otherwise. Similarly, $R\&D$ refers to the research and development expenditures of a firm.

Table 5
Managerial ability and accounting conservatism - Ball and Shivakumar (2005) accruals to cash flow.

VARIABLES	(1) Base Model	(2) DEA	(3) Press	(4) Ind_Ad_R
CFO	-0.4964*** (-9.5718)	-1.2679 (-0.8902)	-0.5634 (-0.3291)	-0.0953 (-0.0708)
DCFO	-0.0383*** (-3.7505)	-0.1399 (-0.5116)	-0.1104 (-0.3649)	0.2297 (0.7225)
CFO*DCFO	0.7674*** (13.1760)	1.4877 (0.8689)	0.9062 (0.4360)	0.8168 (0.5542)
DEA		0.0365*** (6.0683)		
CFO*DEA		-0.0672 (-1.4195)		
DCFO*DEA		-0.0222** (-2.2270)		
CFO*DCFO*DEA		0.1125** (1.9971)		
Press			-0.0095** (-2.0742)	
CFO*Press			0.0587* (1.8946)	
DCFO*Press			0.0017 (0.2636)	
CFO*DCFO_Press			0.0833** (2.3236)	
Ind_Ad_R				0.0097 (1.5665)
CFO*Ind_Ad_R				0.0623** (2.1008)
DCFO*Ind_Ad_R				0.0186*** (2.6852)
CFO*DCFO*Ind_Ad_R				0.0851*** (2.7817)
Constant	0.0101 (0.6233)	-0.1690 (-0.9329)	-0.1760 (-0.8273)	-0.2743 (-1.1209)
Control Variables	Included	Included	Included	Included
Observations	6,267	5,934	5,571	4,230
Adjusted R-squared	0.1751	0.2325	0.2177	0.1954
Firm and Year FE	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to [Appendix 1](#) for definition of variables.

6.3. High managerial ability and accounting conservatism

To check the robustness of the results, we follow [Demerjian et al. \(2017\)](#) and transform managerial ability variables into a dichotomous variable on the basis of high- and low-ability managers. We convert managerial ability (*DEA*, *Press* and *Ind_Ad_R*) into a dummy variable (*High_DEA*, *High_Press* and *High_Ind_Ad_R*), which is equal to 1 if a manager has an ability score in the top quartile within each industry and year, and 0 otherwise.

[Table 8](#) reports the results for the relationship between high managerial ability and accounting conservatism. Columns 1 to 9 illustrate that *High_DEA*, *High_Press* and *High_Ind_Ad_R* are positively significant and suggest that high managerial ability improves accounting conservatism.

6.4. Change analyses and pre and post GFC analyses

We perform additional analyses in two different ways. First, we perform a change analysis by regressing the change (year *t* to *t-1*) in managerial ability on the change (year *t* to *t-1*) in accounting conservatism. We calculate managerial ability change variables (*Chg_DEA*, *Chg_Press*, *Chg_Ind_Ad_R*) by taking the difference between managerial ability in year *t* and managerial ability in *t-1*.

Similarly, we calculate the change variables for accounting conservatism for year *t* to *t-1*. We rerun the analyses using these variables and present the results in [Table 9](#). The results in Columns 1 to 9 show that most of the managerial ability measures are positive and significant.

Second, we subdivide the sample on the basis of the global financial crisis (GFC) in 2008 and test whether managerial ability has a different impact on accounting conservatism. [Table 10](#) shows that managerial ability is positively and significantly related to accounting conservatism in both pre- and post-GFC time periods. We show that the GFC did not have any significant impact on the relationship between managerial ability and accounting conservatism.

Table 6
Managerial ability and accounting conservatism - Basu (1997) earnings persistence.

VARIABLES	(1) Base Model	(2) DEA	(3) Press	(4) Ind_Ad_R
PX	0.0403 (1.1346)	-0.3097 (-0.2697)	0.4826 (0.6011)	1.0429 (1.0815)
DPX	0.0026 (0.2204)	-0.1983 (-0.6235)	0.2042 (0.5140)	-0.1712 (-0.4061)
PX*DPX	-0.7953*** (-8.8201)	-1.8311 (-0.6542)	-4.2732*** (-3.1738)	-4.1586** (-2.5527)
DEA		0.0380*** (5.2770)		
PX*DEA		0.0020 (0.0361)		
DPX*DEA		-0.0111 (-0.7657)		
PX*DPX*DEA		-0.2899*** (-3.8767)		
Press			0.0020 (0.3478)	
PX*Press			0.0008 (0.0489)	
DPX*Press			0.0048 (0.5856)	
PX*DPX_Press			0.0823*** (3.1825)	
Ind_Ad_R				0.0047** (2.1353)
PX*Ind_Ad_R				-0.0193*** (-3.7965)
DPX*Ind_Ad_R				-0.0023 (-0.6989)
PX*DPX*Ind_Ad_R_				-0.0269*** (-3.6881)
Constant	0.0420 (1.5215)	0.0780 (0.4420)	-0.0991 (-0.3714)	0.0622 (0.2235)
Control Variables	Included	Included	Included	Included
Observations	5,804	5,489	5,159	3,898
Adjusted R-squared	0.1301	0.1643	0.1348	0.1745
Firm and Year FE	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to [Appendix 1](#) for definition of variables.

6.5. Cross-sectional analysis

Previous research shows that lenders demand greater accounting conservatism to protect their debts (Beatty et al., 2008; Nikolaev, 2010). This is because accounting conservatism, showing the lowest value of assets, helps to protect bondholders and loan providers wealth. Further, lenders reduce the interest rate on borrowings for firms reporting conservatism, leading to lower cost of debt for such firms (Ahmed et al., 2002). Therefore, high ability managers are expected to incorporate conservatism efficiently into accounting in order to reduce the cost of debt for high debt firms. We perform cross-sectional analyses between low and high leveraged firms and examine whether accounting conservatism reported by high ability managers differ with the level of firm debt. We divide our sample between low and high leveraged firms based on the median value of leverage and rerun our main analysis. We report the results in [Table 11](#).

[Table 11](#), panel A reports the results of the relationship between firms with leverage below the median value of our sample whereas panel B shows results for sample firms having a leverage value above the median. Overall, we find a stronger positive association between managerial ability and accounting conservatism in high leveraged firms as compared low leveraged firms. Our results show a positive and significant association between managerial ability and accounting conservatism for high leveraged firms. However, for low leverage firms, we find positive but insignificant association between managerial ability and accounting conservatism in most of the instances. Our results show that high ability managers apply greater levels of conservatism for high debt firms, which is consistent with the idea that high-ability managers use conservative reporting because it benefits the firm and stakeholders.

Prior research suggests that the large firms face greater public scrutiny and political costs which motivate them to be more conservative compared to small firms (Ahmed and Duellman, 2007; Watts and Zimmerman, 1978). Research show that the asymmetric timeliness of earnings is smaller for large firms as compared to small firms (Lafond and Roychowdhury, 2007). Therefore, we expect high ability managers to apply greater levels of accounting conservatism in large firms as com-

Table 7
Heckman self-selection model - managerial ability and accounting conservatism.

VARIABLES	CONS_ACC			CONS_B/M			CONS_C/Score		
	(1) DEA	(2) Press	(3) Ind_Ad_R	(4) DEA	(5) Press	(6) Ind_Ad_R	(7) DEA	(8) Press	(9) Ind_Ad_R
Ability	0.0915*** (3.8352)	0.0178*** (4.6787)	0.0336*** (10.2440)	0.2912** (2.2046)	0.0752*** (3.9449)	0.0850*** (4.0116)	0.0217* (1.7168)	0.0037*** (3.0214)	0.0036** (2.0076)
Firm_Size	0.0097** (2.4527)	0.0017 (0.4112)	-0.0005 (-0.1179)	-0.0940*** (-3.8802)	-0.1341*** (-5.1126)	-0.0952*** (-3.2743)	-0.0050*** (-2.8129)	-0.0061*** (-3.4775)	-0.0074*** (-3.2607)
M/B	-0.0031 (-1.5407)	-0.0049** (-2.3557)	-0.0014 (-0.8588)				0.0026** (2.5489)	0.0031*** (2.7193)	0.0038** (2.4971)
Leverage	0.0015 (0.3774)	0.0052 (1.2525)	0.0025 (0.6370)	0.0353*** (2.7262)	0.0446*** (3.2565)	0.0593*** (3.7100)	-0.0020 (-0.9064)	-0.0017 (-0.7169)	-0.0023 (-0.6583)
ROA	-0.2597*** (-11.7803)	-0.2463*** (-10.5505)	-0.1910*** (-8.1586)	-0.3774*** (-8.7401)	-0.3477*** (-7.7413)	-0.6896*** (-5.7095)	0.0137*** (4.3345)	0.0141*** (4.0319)	0.0228*** (3.4130)
Sales_Growth	0.0000 (0.2495)	0.0001 (0.6470)	0.0000 (0.2632)	-0.0001 (-0.2285)	-0.0002 (-0.2439)	-0.0003 (-0.2739)	-0.0000** (-2.2529)	-0.0000* (-1.7719)	-0.0000 (-1.5741)
Loss	-0.0162 (-1.3722)	-0.0426*** (-3.5304)	-0.0293*** (-2.6343)	-0.2360*** (-2.8710)	-0.3552*** (-4.9042)	-0.4494*** (-5.3181)	-0.0008 (-0.1685)	-0.0052 (-0.9902)	-0.0022 (-0.4011)
B_Size	0.0323* (1.9112)	0.0332* (1.8767)	0.0191 (1.2410)	0.1080 (1.3705)	0.1047 (1.2414)	0.0828 (0.8363)	0.0186*** (2.8687)	0.0232*** (3.5213)	0.0252*** (2.9911)
P_B_Ind	0.0123 (0.6815)	0.0159 (0.8506)	0.0071 (0.4147)	0.0244 (0.2682)	-0.0140 (-0.1475)	-0.1288 (-1.2188)	0.0047 (0.6788)	0.0044 (0.6669)	0.0052 (0.6108)
CEO_Age	-0.0239 (-0.6548)	-0.0275 (-0.7562)	0.0252 (0.7177)	-0.2491 (-1.1658)	-0.3452 (-1.5445)	-0.3380 (-1.2711)	0.0279** (2.2905)	0.0257** (2.1222)	0.0267* (1.7056)
CEO_Comp	-0.0113* (-1.8863)	-0.0132** (-2.0991)	0.0042 (0.7550)	0.2235*** (5.9528)	0.2399*** (5.5460)	0.2532*** (5.1692)	0.0017 (0.8154)	-0.0009 (-0.3749)	0.0021 (0.6916)
Ret_6Y				0.0547*** (4.3733)	0.0545*** (3.8966)	0.0610*** (3.6937)			
IMR (Mills Ratio)	0.0201 (0.1667)	-0.0445 (-0.3586)	0.0317 (0.2933)	-0.0902 (-0.1410)	-0.2039 (-0.3086)	-0.7467 (-0.9864)	-0.1972*** (-3.3489)	-0.2320*** (-3.8735)	-0.2445*** (-3.6698)
Constant	0.0105 (0.0662)	0.1553 (0.9593)	-0.2482* (-1.6697)	-1.1342 (-1.2262)	-0.3266 (-0.3316)	-1.0532 (-0.9096)	-0.0367 (-0.7284)	0.0092 (0.1784)	-0.0084 (-0.1369)
Observations	5,670	5,228	3,382	3,329	3,055	2,038	5,817	5,424	3,482
Adjusted R-squared	0.2776	0.2610	0.1972	0.1929	0.2059	0.1974	0.1023	0.1091	0.1223
Firm and Year FE	Included	Included	Included	Included	Included	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1. Please refer to [Appendix 1](#) for definition of variables.

pared to small firms. We perform empirical tests by categorising our sample on the basis of firm size. We divide the sample on the base median value of total assets and re-estimate our regression equations.

Table 12 reports the results of the relationship between managerial ability and accounting conservatism after classifying our sample into large and small firms. Panel A reports the results for the relationship between managerial ability and accounting conservatism for large firms. We find that managerial ability has a significant positive relationship with accounting conservatism for large firms. Panel B presents the results for the relationship between managerial ability and accounting conservatism in small firms. We find some evidence that high ability managers apply conservative accounting in small firms however our results are much stronger for large firms as compared to small firms. We therefore show that high ability managers apply greater levels of conservatism in large firms and help to remove information asymmetry and meet public demand.

6.6. Alternative control parameters and industry fixed effects

Previous research suggests that audit committee independence and audit committee financial expertise are positively associated with accounting conservatism (Krishnan and Visvanathan, 2008; Sultana, 2015; Sultana and Van der Zahn, 2015). Similarly, external institutional ownership is considered an effective way of monitoring management and leads to high conservative accounting (Krishnan and Visvanathan, 2008; Ramalingegowda and Yu, 2012). Therefore, we include three corporate governance variables, *P_Ac_Ind*, *P_Ac_Fin* and *Inst_Own*, as additional control variables and run the regression analysis.¹⁴ Unreported results show that the coefficient on the managerial ability variables *DEA*, *Press* and *Ind_Ad_R* remains positive and significant across all three main measures of accounting conservatism.

Furthermore, first, we perform our analysis (for all reported tables) using industry fixed effects instead of firm fixed effects with robust standard error. Second, we measure the managerial ability variable *Press* by taking the sum of the number

¹⁴ The variable *P_Ac_Ind* refers to the percentage of audit committee members who are independent, *P_Ac_Fin* represents the percentage of board members with financial expertise and *Inst_Own* denotes the percentage of shares owned by institutions.

Table 8
High Managerial Ability and Accounting Conservatism.

VARIABLES	CONS_ACC			CONS_B/M			CONS_C/Score		
	(1) High_DEA	(2) High_Press	(3) High_Ind_Ad_R	(4) High_DEA	(5) High_Press	(6) High_Ind_Ad_R	(7) High_DEA	(8) High_Press	(9) High_Ind_Ad_R
Ability	0.0169** (1.9629)	0.0626*** (5.6619)	0.0993*** (9.4837)	0.1045** (1.9710)	0.2021*** (3.8707)	0.1276** (2.2327)	0.0123** (2.0786)	0.0085* (1.6915)	0.0105** (2.2382)
Firm_Size	0.0062* (1.8605)	0.0006 (0.1394)	-0.0004 (-0.1089)	-0.1021*** (-4.4422)	-0.1215*** (-5.2137)	-0.1052*** (-3.9067)	-0.0044** (-2.5668)	-0.0053*** (-3.2344)	-0.0055** (-2.4782)
M/B	-0.0027 (-1.5457)	-0.0032 (-1.6454)	-0.0017 (-1.0735)				0.0025** (2.4621)	0.0024** (2.4860)	0.0036*** (2.8952)
Leverage	0.0020 (0.5354)	0.0031 (0.8008)	0.0022 (0.5850)	0.0371*** (2.8714)	0.0397*** (3.1049)	0.0457*** (2.9996)	-0.0002 (-0.0861)	0.0002 (0.0957)	-0.0006 (-0.2117)
ROA	-0.2586*** (-15.8944)	-0.2521*** (-10.9496)	-0.1590*** (-7.0444)	-0.3721*** (-8.8617)	-0.3512*** (-8.1995)	-0.4112*** (-6.6188)	0.0134*** (4.2983)	0.0136*** (4.2932)	0.0132*** (3.2586)
Sales_Growth	0.0000 (0.3110)	0.0001 (0.4492)	0.0000 (0.1179)	-0.0001 (-0.1294)	-0.0000 (-0.0271)	-0.0007 (-0.7462)	-0.0000*** (-2.6524)	-0.0000** (-2.4589)	-0.0001** (-2.2068)
Loss	-0.0373*** (-3.9038)	-0.0427*** (-3.6826)	-0.0233** (-2.1075)	-0.2693*** (-3.7097)	-0.3062*** (-4.5937)	-0.3585*** (-4.6599)	-0.0036 (-0.7405)	-0.0084* (-1.6507)	-0.0075 (-1.2759)
B_Size	0.0355*** (2.7408)	0.0379** (2.3529)	0.0149 (0.9944)	0.1024 (1.3575)	0.1135 (1.5262)	0.0645 (0.6945)	0.0103* (1.8690)	0.0105* (1.9368)	0.0145** (1.9717)
P_B_Ind	0.0136 (0.9255)	0.0092 (0.5103)	0.0084 (0.5031)	0.0353 (0.3876)	0.0183 (0.1999)	-0.0898 (-0.8771)	0.0050 (0.7396)	0.0041 (0.5982)	-0.0027 (-0.3306)
CEO_Age	-0.0250 (-1.0058)	-0.0331 (-0.9136)	0.0185 (0.5446)	-0.2453 (-1.1512)	-0.2904 (-1.3723)	-0.3548 (-1.3812)	0.0291** (2.3770)	0.0277** (2.2622)	0.0243* (1.6713)
CEO_Comp	-0.0121** (-2.3014)	-0.0147** (-2.4432)	0.0036 (0.6596)	0.2290*** (6.0162)	0.2152*** (5.7379)	0.2649*** (5.3907)	0.0017 (0.8047)	0.0014 (0.6545)	0.0018 (0.6351)
Ret_6Y				0.0532*** (4.3528)	0.0530*** (4.2980)	0.0552*** (3.1241)			
Constant	0.0889 (0.7988)	0.2527 (1.5915)	-0.2000 (-1.3950)	-1.0860 (-1.1893)	-0.3729 (-0.4097)	-0.9883 (-0.9044)	-0.0555 (-1.0614)	-0.0254 (-0.4877)	-0.0164 (-0.2675)
Observations	5,670	5,228	3,382	3,329	3,055	2,038	5,817	5,424	3,482
Adjusted R-squared	0.2732	0.2763	0.1858	0.1927	0.1959	0.1889	0.0972	0.0958	0.1148
Firm and Year FE	Included	Included	Included	Included	Included	Included	Included	Included	Included

Robust t-statistics in parentheses

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to [Appendix 1](#) for definition of variables

Table 9
Change in Managerial Ability and Change in Accounting Conservatism.

VARIABLES	CONS_ACC			CONS_B/M			CONS_C/Score		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ability	Chg_DEA 0.0514*	Chg_Press 0.0155***	Chg_Ind_Ad_R 0.0174***	Chg_DEA 0.0428**	Chg_Press 0.0064	Chg_Ind_Ad_R 0.0022*	Chg_DEA 0.0145***	Chg_Press 0.0033***	Chg_Ind_Ad_R -0.0082
Firm_Size	(1.8418)	(3.8305)	(11.0526)	(2.1773)	(0.3517)	(1.8169)	(2.9722)	(1.8523)	(-1.0906)
M/B	0.0054*	0.0050*	-0.0019	-0.0365***	-0.0419***	-0.0627***	-0.0185	-0.0196	-0.0296
Leverage	(1.7138)	(1.6731)	(-0.5734)	(-2.7188)	(-2.7753)	(-3.5884)	(-1.3663)	(-1.2586)	(-1.0314)
ROA	-0.0017	-0.0014	-0.0028**				-0.0030**	-0.0029**	-0.0020
Sales_Growth	(-1.1425)	(-0.9726)	(-2.2213)				(-1.9781)	(-2.0416)	(-0.9460)
Loss	0.0056	0.0027	0.0038	0.0391***	0.0391***	0.0566***	0.0053**	0.0063**	0.0047
B_Size	(1.5501)	(0.8163)	(1.0927)	(2.7809)	(2.6056)	(2.6285)	(2.3693)	(2.3352)	(1.0308)
P_B_Ind	-0.0026	0.0001	0.0159	-0.2490***	-0.2621***	-0.2430***	-0.0026	-0.0006	0.0255
CEO_Age	(-0.2919)	(0.0119)	(0.9375)	(-5.5065)	(-4.9683)	(-3.5995)	(-0.4171)	(-0.0910)	(0.8218)
CEO_Comp	0.0002	0.0002*	0.0003*	-0.0011**	-0.0004	-0.0002	-0.0001	-0.0001	0.0002
Ret_6Y	(1.1658)	(1.9236)	(1.6669)	(-2.0949)	(-0.8819)	(-0.3835)	(-0.6189)	(-0.4854)	(0.9539)
Constant	0.0172**	0.0141	0.0167*	-0.1864***	-0.2010***	-0.2243***	-0.0064	-0.0073	-0.0041
Observations	(2.1757)	(1.6160)	(1.9117)	(-4.3614)	(-4.3258)	(-4.3496)	(-0.5936)	(-0.5852)	(-0.3479)
Adjusted R-squared	-0.0171	-0.0163	-0.0086	-0.0367	-0.0198	0.0066	0.0477	0.0439	0.0929
Firm and Year FE	(-1.5072)	(-1.4489)	(-0.7210)	(-0.6584)	(-0.3381)	(0.0899)	(1.0343)	(0.8860)	(1.0706)
	-0.0061	0.0003	0.0061	0.0144	-0.0065	0.0523	0.0396	0.0438	0.0624
	(-0.4402)	(0.0203)	(0.4320)	(0.2616)	(-0.1108)	(0.8038)	(1.0502)	(1.0485)	(0.9416)
	0.0216	0.0259	-0.0082	-0.0017	-0.0092	-0.0173	-0.0222	-0.0050	-0.0064
	(1.0605)	(1.1792)	(-0.3586)	(-0.0180)	(-0.0940)	(-0.1563)	(-1.2058)	(-0.3311)	(-0.3511)
	-0.0047	-0.0071	-0.0036	0.0656***	0.0777***	0.0899***	0.0312	0.0355	0.0472
	(-0.8644)	(-1.2817)	(-0.7648)	(2.5981)	(2.5849)	(2.7045)	(1.4342)	(1.4275)	(1.0272)
				0.0131***	0.0109**	0.0095			
				(2.8604)	(2.3957)	(1.4607)			
	-0.1174	-0.0955	0.1448	-0.0523	-0.1044	0.0692	-0.0844	-0.1803	-0.2256
	(-1.2655)	(-0.9326)	(1.3057)	(-0.1380)	(-0.2530)	(0.1462)	(-0.6419)	(-1.2898)	(-1.0364)
	4,478	4,056	2,345	2,800	2,494	1,714	4,624	4,187	2,364
	0.0243	0.0261	0.1119	0.0769	0.0754	0.0743	0.0000	-0.0005	-0.0028
	Included	Included	Included	Included	Included	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to Appendix 1 for definition of variables.

Table 10
Before and After GFC (2008).

VARIABLES	CONS_ACC			CONS_B/M			CONS_C/Score		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Ability	DEA 0.0706*	Press 0.0142**	Ind_Ad_R 0.0301**	DEA 0.1399	Press 0.0135	Ind_Ad_R 0.0580**	DEA 0.0304**	Press 0.0059***	Ind_Ad_R -0.0058
Constant	(1.9276)	(2.3841)	(2.4637)	(0.9703)	(0.8356)	(2.0587)	(2.1044)	(2.7425)	(-0.7765)
Control Variables	0.4709*	0.5885**	0.4248	-2.1678**	-1.8346*	-1.8646	-0.0880	-0.0495	-0.1431
Observations	(1.8325)	(2.0847)	(1.3695)	(-2.3929)	(-1.8978)	(-1.5893)	(-1.1341)	(-0.5618)	(-1.2175)
Adjusted R-Squared	Included	Included	Included	Included	Included	Included	Included	Included	Included
Firm and Year FE	1,446	1,288	770	852	740	458	1,512	1,338	787
	0.2773	0.2556	0.2058	0.1644	0.1413	0.2289	0.1141	0.1246	0.1279
	Included	Included	Included	Included	Included	Included	Included	Included	Included
Ability	0.0874***	0.0205***	0.0330***	0.3477**	0.0969***	0.0621**	0.0124	0.0031**	0.0047**
Constant	(2.8217)	(4.4155)	(7.8121)	(1.9838)	(3.9301)	(2.2372)	(0.8019)	(2.4174)	(2.4998)
Control Variables	-0.0318	0.0556	-0.3296**	-1.3055	-0.7372	-1.4999	-0.0287	0.0060	0.0227
Observations	(-0.1674)	(0.3042)	(-2.0098)	(-1.1182)	(-0.6173)	(-1.1299)	(-0.4728)	(0.0956)	(0.3340)
Adjusted R-Squared	Included	Included	Included	Included	Included	Included	Included	Included	Included
Firm and Year FE	3,696	3,522	2,325	2,175	2,043	1,378	3,717	3,542	2,327
	0.2643	0.2440	0.1822	0.1895	0.2034	0.1902	0.0979	0.1000	0.1152
	Included	Included	Included	Included	Included	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to Appendix 1 for definition of variables.

Table 11
Cross-sectional analyses for low and high leverage firms.

VARIABLES	CONS_ACC			CONS_B/M			CONS_C/Score		
	(1) DEA	(2) Press	(3) Ind_Ad_R	(4) DEA	(5) Press	(6) Ind_Ad_R	(7) DEA	(8) Press	(9) Ind_Ad_R
Panel A: Low Leverage Firms									
Ability	0.1295 (1.1489)	0.0143** (2.2424)	0.0307 (1.1244)	0.4473** (2.2995)	0.0837 (1.1011)	0.1023 (0.2586)	0.0290 (1.5441)	0.0042* (1.7241)	0.0011 (0.3403)
Constant	0.3386 (1.1841)	0.3791 (1.4142)	-0.0741 (-0.2893)	0.1564 (0.1243)	1.2021 (0.9349)	-0.2217 (-0.1275)	-0.0319 (-0.5271)	0.0384 (0.5798)	0.1294** (2.0399)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included
Observations	2,835	2,614	1,691	1,664	1,527	1,019	2,908	2,712	1,741
Adjusted R-Squared	0.2614	0.2414	0.1545	0.2785	0.2846	0.2631	0.1343	0.1375	0.1481
Firm and Year FE	Included	Included	Included	Included	Included	Included	Included	Included	Included
Panel B: High Leverage Firms									
Ability	0.0338* (1.7170)	0.0220*** (6.0827)	0.0423*** (7.7003)	0.0358 (0.2207)	0.0594*** (2.6320)	0.0679*** (2.6936)	0.0306* (1.9522)	0.0031* (1.7375)	0.0057** (2.5352)
Constant	-0.0467 (-0.3094)	0.1473 (0.9419)	-0.2114 (-1.4232)	-1.5650 (-1.3188)	-1.2295 (-0.9785)	-1.5050 (-1.0300)	-0.0948 (-1.2699)	-0.0569 (-0.7876)	-0.1006 (-1.0773)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included
Observations	2,835	2,614	1,691	1,664	1,527	1,019	2,908	2,712	1,741
Adjusted R-Squared	0.3150	0.2976	0.2780	0.2068	0.2173	0.2040	0.0760	0.0824	0.1001
Firm and Year FE	Included	Included	Included	Included	Included	Included	Included	Included	Included

Robust t-statistics in parentheses.

*** p < 0.01, ** p < 0.05, * p < 0.1, Please refer to [Appendix 1](#) for definition of variables.

Table 12
Cross-Sectional Analyses for Large and Small Firms.

VARIABLES	CONS_ACC			CONS_B/M			CONS_C/Score		
	(1) DEA	(2) Press	(3) Ind_Ad_R	(4) DEA	(5) Press	(6) Ind_Ad_R	(7) DEA	(8) Press	(9) Ind_Ad_R
Panel A: Large Firms									
Ability	0.1126*** (3.2082)	0.0229*** (8.5995)	0.0445*** (15.4467)	-0.0411 (-0.2706)	0.0423** (2.1393)	0.1040*** (4.3291)	0.1040*** (4.3291)	0.0038** (2.2492)	0.0014 (1.0743)
Constant	-0.2603* (-1.9361)	-0.0698 (-0.5567)	-0.3346** (-2.4610)	-1.2357 (-1.0991)	-0.9143 (-0.8090)	-1.1819 (-0.8647)	-0.0678 (-0.9253)	-0.0540 (-0.7394)	-0.0660 (-0.7840)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included
Observations	2,835	2,614	1,691	1,664	1,527	1,019	2,908	2,712	1,741
Adjusted R-Squared	0.1769	0.2213	0.3785	0.2100	0.2243	0.2302	0.1568	0.1704	0.1712
Firm and Year FE	Included	Included	Included	Included	Included	Included	Included	Included	Included
Panel B: Small Firms									
Ability	0.0580* (1.8421)	0.0100 (1.3356)	0.0258*** (4.6852)	0.8212*** (4.0122)	0.0536* (1.6499)	0.0466 (1.2599)	0.0353 (1.4936)	0.0024 (1.3941)	0.0041 (1.1829)
Constant	0.7674** (2.3171)	0.6567** (2.0017)	0.2444 (0.7749)	-1.6856 (-1.2277)	-1.6580 (-1.0820)	-2.5744 (-1.2966)	-0.1270** (-2.0619)	-0.0429 (-0.6935)	-0.0475 (-0.6116)
Control Variables	Included	Included	Included	Included	Included	Included	Included	Included	Included
Observations	2,835	2,614	1,691	1,664	1,527	1,019	2,908	2,712	1,741
Adjusted R-Squared	0.2823	0.2590	0.1461	0.2159	0.2011	0.1722	0.0852	0.0779	0.0990
Firm and Year FE	Included	Included	Included	Included	Included	Included	Included	Included	Included

Robust t-statistics in parentheses.

***p < 0.01, ** p < 0.05, * p < 0.1, Please refer to [Appendix 1](#) for definition of variables.

of Press articles over the three-year (t to $t-2$) period instead of a five-year period and use the variable in analysis. Third, we exclude the control variable cumulative six-year-lagged return Ret_{6Y} from the $CONS_B/M$ model and use the simple book-to-market ratio as our dependent variable. Fourth, we replace the $Firm_Size$ variable by taking the log of market capitalisation and include the big4 auditor dummy variable. Fifth, we exclude the M/B , $Loss$, CEO_Age and CEO_Comp variables one by one from our models. Unreported results suggest that, applying all these approaches, there is no qualitative difference in the reported results.

7. Conclusion

We examine the relationship between managerial ability and accounting conservatism. We find that accounting conservatism is significantly higher for firms with higher managerial ability. We draw two interpretations from the positive asso-

ciation between managerial ability and accounting conservatism. First, high-ability managers use their exceptional skills and expertise to report conservative accounting on the basis of efficient contracts. Second, high-ability managers follow conservatism to also avoid the loss of any reputation and future careers.

This study provides several contributions. This study provides insights into managerial ability effects for Australian firms, an important area currently under-researched. We thus provide evidence on the behavior of high-ability managers in a different institutional setting to that in the US. Our results show that managerial ability significantly affects both conditional and unconditional conservatism, both accepted financial reporting quality measures. There are therefore implications for investors, regulators and other stakeholders in assessing managerial ability when assessing the level of accounting conservatism in financial statements or when making efficient contractual arrangements with managers. Finally, we also contribute to the literature on accounting conservatism and managerial ability

Although our study makes a number of contributions, it is not without limitations. First, despite including a number of control variables (several firm and corporate governance characteristics), we are unable to completely rule out the impact of omitted variables on our regression analyses. Second, although we measure managerial ability using three different approaches, alternative ways to measure managerial ability are not considered in this study.

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Appendix 1

<i>CONS_ACC</i>	Average total accruals calculated as net profit before extraordinary items less cash flow from operations plus depreciation scaled by total assets multiplied by -1 and averaged over three-year period ($t, t + 1$ and $t - 1$) with a centre point at year t for a firm i following Givoly and Hayn (2000) .
<i>CONS_B/M</i>	Book-to-market ratio, conservatism variable calculated as total assets less total liabilities divided by market value of equity of firm i for time period t multiplied by -1 following Beaver and Ryan (2000) .
<i>CONS_C/Score</i>	Sum of the amount of research & development reserve, inventory reserve and advertising reserve scaled by net operating assets of a firm (Penman and Zhang, 2002).
<i>DEA</i>	Managerial ability (efficiency) score calculated following Demerjian et al. (2012) .
<i>Press</i>	Managerial ability measured as a sum of the number of articles published in all local and international major publications (including all news wires and newspapers) with the name of a CEO and company name, accumulated over different time horizons for a firm i at the end of period t .
<i>Ind_Ad_R</i>	Managerial ability calculated as an average industry-adjusted return on assets during the previous three years of a particular CEO's tenure.
<i>Firm_Size</i>	Natural log of total assets of a firm i for period t .
<i>M/B</i>	Market-to-book ratio calculated as a ratio of market value of equity and book value of equity of a firm i for period t .
<i>Leverage</i>	Total liabilities divided by total assets of firm i in period t .
<i>ROA</i>	Net profit after tax divided by total assets of firm i for time period t .
<i>Sales_Growth</i>	Annual percentage change in sales of firm i for time period t .
<i>Loss</i>	Dummy variable equal to 1 if a firm i for time period t reported a <i>Loss</i> , otherwise 0.
<i>B_Size</i>	Natural log for number of board of directors of firm i for time period t .
<i>P_B_Ind</i>	Percentage of board of directors that sit on board who are independent of firm i for time period t .
<i>CEO_Age</i>	Natural log of CEO age in years of firm i for time period t .
<i>CEO_Comp</i>	Natural log of total compensation for the CEO of firm i for time period t .
<i>Ret_6Y</i>	Cumulated current and six-year-lagged security returns of firm i for time period t .
ε	Error term.
<i>Year</i>	Variable representing year dummies.

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