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Uncertainty, Corporate Investment and the Role of Conservative Financial Reporting: Empirical Evidence from Pakistan

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Abstract

The objective of this study is to analyze the impact of conservative financial reporting on investment during uncertainty. It was assumed that during uncertainty conservative financial reporting can play an important role to improve investment decision-making. For our analysis, data sets from 2005–2020 of nonfinancial companies are used. To measure the impact of conservative financial reporting in the non-financial sector of Pakistan, Khan and Watts' (2009) model is applied. "Prospector" and "Defender" Business strategy is applied for measuring firm-level uncertainty. Investment is measured by adding the change in fixed assets (property, plant, and equipment). To check the robustness of conservative financial reporting, Givoly and Hayn's (2000) Negative Accruals measure is applied. To measure the robustness of uncertainty, environmental scanning and alertness technique is applied. According to environmental scanning and alertness technique, companies are divided into two groups named 'inert' and 'alert'. 'Inert' are those firms that are not scanning their environment, and 'alert' are those firms who continuously analyze their environment. The empirical estimations support our hypothesis. The empirical findings provide the proof that in the wake of uncertainty conservative financial reporting may facilitate to take optimal investment decisions in the developing economy of Pakistan. Our results provide critical and practical implications for investors, researchers, and standard setters.

Keywords: Conservatism, Investment, Uncertainty, Business Strategy

JEL Classification Code: M00, M40, M51

1. Introduction

Uncertainty is one of the elementary truths of economic life. While taking decisions and formulating plans, humans and businesses always grapple with uncertainty. However, the proportion and nature of uncertainty change with time. Sometimes, these changes occur gradually and sometimes occur abruptly, which in turn alters the perspective of decision-makers and also affects their selection of choices. Incidents

from recent history provide some evocative examples; 9/11 U.S. terrorist attack (2001), the Global Financial Crisis (2007–2008), the Eurozone debt crisis (2009), the Brexit referendum (UK-2016), 'First America' a dramatic hike of Trump's Administration's trade policy and novel coronavirus disease (2019–2020). The above-given examples underline the importance of sound research work to respond to uncertainty which has a direct impact on business as, during the present era, it is very hard to overlook the significance of refining and to improve the effect of uncertainty on business and the economy. Moreover, according to Roychowdhury et al. (2019), during present times, research about uncertainty is a very critical aspect of gaining knowledge about financial reporting as there are very few studies about financial reporting and investment during uncertainty. Hence, this study expects to bridge the gap between financial reporting and investment during uncertainty.

Literature documents the effect of macro-level uncertainty on economic growth, business cycle, and investment (Bloom et al., 2018; Bloom, 2009; Basu & Bundick, 2017; Bachmann & Bayer, 2014). Tough, both macro and firm-level uncertainty

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is important that could impact the managerial decision making, including financial reporting, investment, hiring, and advertising (Stein & Stone, 2013; Arif et al., 2016; Gulen & Ion, 2015), but a few papers analyzed the impact of micro-level uncertainty on managerial decision making related to reporting of the firm's earnings (Cormier et al., 2013). Worldwide, Annual reports and financial statements are the major sources of financial information. That's why the presentation of financial data is extremely important. To measure the quality of financial statement, researcher introduced numerous tools such as earnings persistence, stock market reactions, earnings smoothing, and discretionary accruals. According to Dechow et al. (2010) and Dechow and Skinner (2000), there is no single best measure for earnings quality as each measure have its own positives and negatives according to their construct.

Financial statements are based on certain accounting standards to make their information more reliable and transparent. The objective of these standards is to provide information that can safeguard shareholders' interests, management optimism, and creditors' rights. Conservatism is of these accounting principles which try to keep balance among the interested parties of accounting information users.

A critical element of high standard financial data representation is Conservatism. Mostly, conservatism is used to analyze the high standard of accounting reports of companies. It is the most basic and important feature of financial accounting, since the 20th century (Watts, 2003; Sterling, 1967; Basu & Bundick, 2017). However, so far literature has a very limited empirical affirmation to support the idea related to the ability of financial reporting to take optimal decisions for investments during uncertainty. Specifically, moderating the role of accounting conservatism in the association between investment during micro-level uncertainty. Moreover, Imhof (2014) suggested that conservative financial reporting facilitates easier access to investments and finance at less cost as conservative financial reporting relies on contractual benefits. A similar study conducted by Balakrishnan et al. (2016) suggests that conservative financial reporting facilitates firms to improve their investment ability. Hansen et al. (2018) suggested that conservative reporting may facilitate the firms to improve investments during timings of oscillating internal cash flows. Lara et al. (2020) also proved that conservative financial reporting facilitates resolving the overinvestment or underinvestment conflict of a firm.

This paper aims to examine the impact of firm-level uncertainty on managerial decision-making, i.e. reporting and investment, and the role of accounting conservatism in investment decisions during micro-level uncertainty for firms listed on the Pakistan stock exchange for the period 2005–2020. The rationale for conducting this research work for Pakistan as it is an emerging economy with a lower saving rate (13.5 percent only), higher macro and micro-level

uncertainty, and weak investors' protection. According to the Pakistan Economic survey (2018–2019), investment in the country has dropped from 10.3 to 9%. The only way to gain investor confidence and attract investment is to present true, fair, and unbiased financial information by applying accounting rules like conservatism (Hsieh et al., 2019; Lara et al., 2020). This unique context justifies the need for the research and could contribute to policymaking.

In this study, Khan and Watts' (2009) model is applied to measure accounting conservatism. Management literature documents that firms with varied business strategies face different levels of uncertainty (Miller & Friesen, 1982; March 1991; Miles & Snow, 2007). In accounting literature, a dichotomous measure based on business strategy is applied as a proxy for uncertainty (Hsieh et al., 2019). This strategy identifies firms as a prospector or as a defender. Prospectors are those companies that actively look for new business opportunities by focusing on innovation and investing substantially in R&D while "Defenders" are those firms whose goal is an efficient provision of current products and to develop expertise in a very narrow area. Prospector firms face a higher level of uncertainty than defenders, and firm-level investment is measured by applying the ratio of net investment to assets, whereas investment is calculated by adding the changes in fixed assets.

Following the literature, we analyze (i) the link between investment and firm-level uncertainty (ii) the association between accounting conservatism and investment (iii) the impact of accounting conservatism on investments during firm-level uncertainty. Our theoretical predictions are supported by empirical results. First, Prospector firms have a negative and significant relationship with investments. Secondly, we find that firms that have high conservatism have a positive impact on the investments of the firm. Thirdly, we document that interaction term of uncertainty and conservatism has statistically significant effects on investments. Section 2 is for literature review and hypothesis development; Section 3 discusses variables and material, Section 4 for empirical specification, Section 5 for Empirical Estimations, and Section 6 concludes the study with recommendations and limitations.

2. Theoretical Background

2.1. Positive Accounting Theory

According to Vorster (2007), there are two major theories in the field of accounting one is normative and the other is PAT. Normative theory (1960–1970) describes the fact what the researcher believes is true and is not based on examinations or observations. Normative theory cannot be evaluated. The second important theory in the field of accounting is positive accounting theory.

Modern PAT started to flourish in the 1960s after the introduction of empirical methods related to finance and financial accounting by Watts and Zimmerman (1990). According to Christenson (1983), PAT is about developing a theory or hypotheses that may help to give meaningful and productive predictions and to persuade about an event that has not yet been detected. This theory gives a credible outline for developing a grasp of accounting. PAT states that it helps to reduce agency conflicts as PAT examines how a wealth of parties involved in contracts has maximized how it has been influenced by a specific accounting rule or method. According to Lambert and Spone (2005), accounting numbers are important for stakeholders because of two reasons. First, there is an existing framework to measure the performance of firms which helps to reduce the cost of the individual framework. The second reason is that audited published annual reports are considered to be more trustworthy, transparent, and reliable sources of financial information.

PAT is connected with three hypotheses that help to explain and forecast the positive and negative response of a company to a specific accounting standard or method Watts and Zimmerman (1978). Following are three hypotheses linked with PAT.

1. Bonus plan hypothesis
2. Debt/equity hypothesis
3. Political cost hypothesis

2.2. Investment Under Uncertainty and Financial Reporting

Modigliani and Miller (1958) assumed that the investment of any company depends on the profitability of available investment options (Stein, 2003). and it may also depend on the optimal decision rule related to investment which is to invest when the incremental unit of capital equals the cost of investment (Tobin, 1969). In a frictionless market and having no agency issue, management will investment only when the expected value of returns is higher than the cost of investment (Jorgenson, 1963). Following (Roychowdhury et al., 2019), we assume that a firm is investing efficiently if it is investing in all projects having a net present value greater the zero or positive. The neoclassical model does not include financial reporting. However, research by Roychowdhury et al. (2019) has included different frictions which open the door for financial reporting having an effect on investment-related decisions. The thorough research by Roychowdhury et al. (2019) proved that the main focus of literature related to financial reporting and firms 'investment is about investment inefficiencies caused by information asymmetry between investors and management. But there is less research on the relationship between investment, uncertainty, and financial reporting.

2.3. Impact of Uncertainty on Investment

This section discusses how uncertainty has an impact on investment decisions. Here, uncertainty is defined as impotence to forecast the exact return from an investment decision. There are two implicit assumptions related to a neoclassical model of investment that mostly appear in the investment decisions undertaken by any firm (Dixit et al., 1994).

1. The management cannot postpone the decisions related to investment as opportunities may disappear if not opted instantly.
2. The decisions related to investment are reversible that they can be unperformed and the full invested amount can be recovered at some future time if management wants to recover it.

The investment-related decisions can be complicated if the investment decision cannot be postponed or there is a cost associated with reversing the investment decision. In such type of situation, management should not decide only where to do their investment but also has to decide when to invest. Therefore, investment decisions, specifically optimal investment decisions, are better defined by applying the theory of optimal sequential decisions making while having uncertainty.

The important apprehension of the optimal decision-making theory is that there is a choice linked with keeping away from irrevocable actions Arrow et al. (1949) or in general, measures can only be reversed after having some cost. According to Bernanke (1983) if there is uncertainty related to the changeability of future related cash flows from the irrevocable investment. Then, there is an option value linked with investment decisions that can be postponed as postponing entails the probability to review the investment options in the succeeding time before that irrevocable investment may commit resources. But in a setting, managers must consider the value to delay. Furthermore, according to (McDonald & Siegel, 1986), option value is related to delaying increases during uncertainty. According to Bloom (2009), to some extent, financial reporting may reduce uncertainty related to expected investment output. In this way, firms will be less likely to delay decisions related to investments and hence, will be more responsive toward opportunities related to investments.

2.4. Uncertainty and Investment

Uncertainty is almost an integral element of almost all future-oriented analysis. However, being not homogenous in its sense, different firms face different types of uncertainty. The more distant future is to be analyzed, the more difficult

is to evaluate it. This increasing problem in the analysis is mostly due to

1. The more complex environment (higher number of alternates and limited cognitive ability of decision-maker) append with future.
2. Having a lesser amount of knowledge and information about the future (Kuittinen et al., 2013).

The latter type of uncertainty is due to our ability/inability to find out the probability of events in the future. In extreme situations, all possibilities related to a specific issue cannot be figured out; the only way to cope with these types of situations is through intuition and hunches. Similarly, uncertainty faced by different businesses is different.

According to Neoclassical economics, there are possible outcomes, and each outcome has a set of probabilities (Varian & Varian, 1992). Therefore, there is a distinction between risk and uncertainty (Heinsalu, 2011). In risk, all potential consequences are known at the beginning of the issue, whereas under uncertainty all possibility of outcomes is not known. Knight (1971), almost a millennium ago, suggested that risk is different from uncertainty. The critical difference is that the decision-making process is different under risk and uncertainty. To solve risk, the decision maker has maximum information about all outcomes which facilitates taking the best solution. While responding to uncertainty, there is a lack of information as a result decision is always susceptible to error. As a result, such error can cause damage, in such situations, decision-makers are suggested to apply robust decision rules rather than finding the best solution (Ben-Haim, 2014).

The following two most important reasons why the differentiation between risk and uncertainty has imperative inference in finance and accounting. Further, current research provides the evidence about the explanatory and projecting supremacy of the ordinary set of asset outlay theory resulting in given models with the element of risk considerably getting better while uncertainty is also well-thought-out (Epstein & Schneider, 2010; Ju & Miao, 2012; Maccheroni et al., 2013). In addition, more than a few significant happenings that challenge clarification within the standard logical framework with risk, for example, a trading collapse in the period of the alarming situations (Dow & Da Costa Werlang, 1992), and there is restricted involvement of investors in asset-related markets (Easley & O'Hara, 2009, 2010). This can be simply clarified by research models through uncertainty.

H1: Higher uncertainty results in lower investment.

2.5. Investment and Accounting Conservatism

Investment and accounting conservatism has a critical role in the growth of any firm and in creating value for its shareholders. As per the contractual explanation of conservative accounting, it can improve the potential of a firm to borrow and as a result, put a limit on a trend to minimize the investment (Balakrishnan et al., 2016). According to some previous studies, creditors give preference to conservative reporting. An analytical model presented by Göx and Wagenhofer (2009) proved that conservative financial reporting is ideal for firms that have some financial constraints. Another study by Kravet (2014) showed that conservative reporting might facilitate the creditors to track the investment decisions of the company. Donovan et al. (2015) showed that conservative firms mostly have a higher coverage rate. A study by Hui et al. (2012) proved that conservative reporting support building long-term relations with stakeholders.

A few studies (Haw et al., 2014; Gormley et al., 2012) showed that businesses may get low-interest rates by following conservative reporting. However, studies by Gigler et al. (2009) and Ishida and Ito (2014) have opposite results as compared to the above-stated studies. In conclusion following hypotheses are formulated.

H2: There is a positive relationship between accounting conservatism and investments.

2.6. Financial Reporting, Uncertainty, and Investments

According to Leahy and Whitcd (1996), there are two primary elements of uncertainty: Fundamental uncertainty and Information uncertainty; fundamental uncertainty arises due to underlying economic circumstances and cannot be resolved through gathering information, while information uncertainty can be further divided into two components, one is uncertainty related to outcome due to manager's actions irrespective of how other firms react and another type is related to actions of other firms. The negative outcomes of uncertainty due to incomplete information can be minimized due to improved financial reporting (Ferracuti & Stubben, 2019). The firm's own financial reporting and the financial reporting of its peer firms both have an impact on uncertainty and investment but in this paper, only the impact of the firm's financial reporting is discussed as the impact of the peer firm's financial reporting is not within the scope of this paper.

2.7. Impact of Corporate Own Financial Reporting on Firm's Investment

Research by Roychowdhury et al. (2019) showed that the investment of a firm might be affected by its financial reporting. Ferracuti and Stubben (2019) discussed some more ways through which a corporate's own financial reporting might have an influence on its decisions related to investments. Other sources of data like prices of shares and analysts might enhance the learning opportunities, and hence corporate own financial reporting may affect decisions related to investments. Recent studies by researchers related to disclosure prove that financial reporting may have an impact on management's ability to grasp their available investment options and hence, reducing information uncertainty (Gao & Liang, 2013; Banerjee et al., 2018; Chen et al., 2014; Goldstein & Yang, 2019).

Market coordination is another way by which a corporation's financial reporting affects its investments, as its financial reporting facilitates decreasing uncertainty for both investors and competitors related to the firm's activities (Healy & Bernard, 2000). In this way, financial reporting not only serves as a tool to provide information about the basics of a firm but is also used as a device to coordinate with others. According to Arya and Mittendorf (2016), financial reporting reduces uncertainty for firms as it may also serve as a coordination device.

Lastly, the relationship between investment and uncertainty can be affected by a corporation's financial reporting as it can change the available investment opportunities. As discussed previously, investment decision under uncertainty and NPV of any project relies on the assumption the investment decision can be reversed without incurring any cost. A study by Plantin and Tirole (2018) concluded that conservative accounting informed buyers to have more aggressive bids which in turn reduces the expected cost to resell assets in the secondary market. This study shows that financial reporting may facilitate reducing the cost of reversing the investment decisions which in turn will mitigate the effect of the delayed investment decisions during uncertainty. Based on the above-cited literature, the following hypothesis is formulated.

H3: *Conservative financial reporting mitigates the impact of uncertainty and improves investment.*

3. Material and Methods

The data set of this study is the 557 listed companies of the Pakistan Stock Exchange (PSX) 2005–2020. The focal point of the study is that nonfinancial listed companies in the financial sector work under a different regulatory

environment, and estimation of earning management for financial companies are quite challenging (Tsipouridou & Spathis, 2012). The companies that were not listed or not remained operational throughout the study were excluded. Only those companies are selected which have financial data of all variables. The data has been gathered from Pakistan Stock Exchange, annual reports of respective companies, business recorders, and the State Bank of Pakistan (see Appendix).

3.1. Measuring Uncertainty

3.1.1. 'Defender' and 'Prospector' Business Strategy

According to management literature, Miller and Friesen (1982) and March (1991), firms who adopt different/business strategies face different levels of uncertainty. This paper applies Bentley et al. (2014) business strategy as a dichotomous empirical measure of uncertainty. This strategy is based on the earlier work of Ittner et al. (1997) and Simons (1987). The rationale for applying Bentley et al. (2014) business strategy as a proxy of uncertainty is that it is based on publicly disclosed accounting information. This strategy identifies firms as a prospector or as a defender. This study applies Ittner et al. (1997) business strategy score as a proxy of uncertainty.

3.1.2. Environmental Scanning and Alertness

The second measure of uncertainty is environmental uncertainty which is based on managerial perceptions about environmental uncertainty. Literature about uncertainty documents that firms facing the same type of environment have different perceptions about uncertainty as compared to firms that are working under continuously changing environments and doing inspection of their environment for emergent issues (Bourgeois III, 1985). According to Boyd and Fulk (1996) inspection of the environment is costly and for changing environment cost of scanning can be material. Hsieh et al. (2019) named 'inert' those firms that are not continually scanning their environment and 'alert' are those firms who continuously analyze their environment and can early notice signs of problems and have plenty of time to investigate the problem and possible outcomes of a problem and hence can convert uncertainty to risk. As a result, alert firms have lower uncertainty, and inert firms face a higher level of uncertainty.

3.1.3. Decrease in Capital Investment

Following Hsieh et al. (2019) and Titman et al. (2004), to calculate the decrease in capital investment three-year

moving average is used as the benchmark. Then the abnormal level of capital investment is calculated as follows:

$$\Delta CI_t = CE_t - (CE_{t-1} + CE_{t-2} + CE_{t-3})/3$$

Where CE_t is for capital expenditure. CI_t is an investment indicator and is 1 if CI_t is negative and 0 otherwise.

3.1.4. Freeze in Hiring

Freeze in hiring also uses a three-year moving average as a benchmark. The motivation to use this ratio is studied by Bloom (2009) and Hsieh et al. (2019) who document that to respond to uncertainty firms use it to reduce payrolls. This ratio is calculated as follows:

$$\Delta CT_t = CT_t - (CT_{t-1} + CT_{t-2} + CT_{t-3})/3$$

Where CT_{t-1} is the number of employees. ΔCT_t is employee indicator and is one for negative value and 0 otherwise.

3.2. Measuring Accounting Conservatism

3.2.1. Measuring Accounting Conservatism Khan and Watts Model (C score and G score)

To measure conservatism, this study applies Khan and Watts' (2009) model that is based on the actual model of the Basu, 1997)

$$E_{it}/P_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 R_{it} + \beta_3 D_{it} R_{it} + \varepsilon_{it} \quad (1)$$

Where:

E_{it}/P_{it} = Earnings per share scaled by the share price at the beginning of the period

D_{it} = Indicator variable that takes a value of one if is negative and zero otherwise

R_{it} = Rate of return (cumulative, 12 months)

β_2 represents timeliness measurement for good news and β_3 represent timeliness measurement for bad news Khan & Watts (2009) referred to good news timelines as G-score and bad news timelines measurement as C-score.

$$G_Score = \beta_2 = \mu_{1t} + \mu_{2t} SIZE_{it} + \mu_{3t} MTB_{it} + \mu_{4t} LEV_{it} \quad (i)$$

$$C_Score = \beta_3 = \lambda_{1t} + \lambda_{2t} SIZE_{it} + \lambda_{3t} MTB_{it} + \lambda_{4t} LEV_{it} \quad (ii)$$

Where SIZE is log (Total Assets), MKTB for the market to book ratio is estimated as equity market value divided by equity book value, and LEV is leverage and is calculated as total debts (long term + short term) divided by total assets.

Equations (i) and (ii) are firm-year timelines estimations of G-Score and C-Score, respectively. Equations (i) and (ii) are not regression models; we put these values in equation (1)

to estimate the annual cross-sectional regression model. The following annual cross-sectional model is used to estimate bad news timelines (c-score) and good news timelines (G-score).

$$E_{it}/P_{it} = \beta_0 + \beta_1 D_{it} + R_{it}(\mu_1 + \mu_2 SIZE_{it} + \mu_3 MTB_{it} + \mu_4 LEV_{it}) + D_{it} R_{it}(\lambda_1 + \lambda_2 SIZE_{it} + \lambda_3 MTB_{it} + \lambda_4 LEV_{it}) + (\delta_1 SIZE_{it} + \delta_2 MTB_{it} + \delta_3 LEV_{it} + \delta_4 D_{it} SIZE_{it} + \delta_5 D_{it} MTB_{it} + \delta_6 D_{it} LEV_{it} + \varepsilon_{it}) \quad (2)$$

3.2.2. Accounting Conservatism Givoly and Hayn (2000) Negative Accruals Measure

Givoly and Hayn (2000) used non-operating accruals as a subset of the book value of the firm to measure unconditional conservatism. The rationale for using a negative component of accruals is that conservatism uses accruals to postpone the recognition of economic gains and early recognition of losses. Through the process of delaying gains and early recognition of losses, more negative accruals increase within the firm. This measure is as follows:

Unconditional

$$\text{Conservatism} = (\text{Total Accruals} / \text{Total Assets}) * -1$$

$$\text{Total Accruals} = \text{Net income before extraordinary items} - \text{Operating cash flows} + \text{depreciation expense}$$

4. Empirical Results

To the above-stated hypotheses, the regression (OLS) model is applied. The following OLS model is applied to estimate the first hypothesis.

$$INV_{it} = \beta_0 + \beta_1 \text{Uncertainty}_{it} + \beta_4 \Sigma \text{Control}_{it} + \varepsilon_{it} \quad (1)$$

where INV_{it} is for investment and is measured by adding the change in fixed assets (property, plant, and equipment). $Uncertainty_{it}$ is a dummy variable that is equal to 1 when a firm is a prospector and otherwise 0. Control is for control variables which include: $SIZE_{it}$, $MktLev_{it}$, $PrtB_{it}$, ROA_{it} , $Cycle_{it}$.

To test hypothesis 2, the impact of accounting conservatism on Investment, the following model is applied.

$$INV_{it} = \beta_0 + \beta_1 \text{AcctConv}_{it} + \beta_4 \Sigma \text{Control}_{it} + \text{industry_FE} + \text{Year_FE} + \varepsilon_{it} \quad (2)$$

AcctConv is accounting conservatism measured by applying Khan & Watts model (Thijssen & Iatridis, 2016; Khurana & Wang, 2019; Khalil et al., 2019; Lobo et al.,

2019). and Control is the same as in model-1 except that this model includes more variables to control information asymmetry as it has an impact on accounting conservatism. In the third stage, Hypotheses 3, analyze the relationship between uncertainty and INV_{it} and the role of accounting conservatism in taking investment decisions. For this purpose, following the regression model has been constructed.

$$\begin{aligned}
 INV_{it} = & \beta_0 + \beta_1 AcctConv_{it} + \beta_2 Uncertainty_{it} \\
 & + \beta_3 AcctConv_{it} * Uncertainty_{it} \quad (2) \\
 & + \beta_4 \Sigma Control_{it} + \varepsilon_{it}
 \end{aligned}$$

Control is control variables which include: Size is equity's book value (expected sign Positive) to control firm size in the relative sector, Market Leverage is the book value of debt scaled by assets market worth (expected sign Positive). $PrtB_{it}$ is Price to book ratio is per share market value scaled per-share book value, and per-share book value is total assets minus total liabilities divided by outstanding shares; firm performance is measured by ROA and is obtained as net income divided by total assets (expected sign both positive and negative) cycle measured by receivables

in days plus inventory in days less payable in days, all at the start of the year longer the firm operating cycle more chance to manage earnings measured by Dechow (1994) (expected sign Positive). Sales is the log of total sales revenue, and $MktShare_{it}$ is a percentage of the company's sales divided by industry sales.

Table 1 reports the output from model 2. The findings reported in Table 1 are according to our predictions. In Table 1, col (1) reports regression output with book value accounting measures, and col(2) includes market measure variables in addition to book value accounting measures for M1 and M2. Empirical findings are based on the results reported in col(2) for M1 and M2 as it includes all book-based and market-based measures. M1 is for 'prospector' and 'defender' business strategy used to measure the uncertainty model and M2 is for environmental uncertainty() There is a significant and negative impact of uncertainty on investment as supported by Pindyck (1993) and Lestari et al. (2020). Overall, empirical results are supported by the arguments of Roychowdhury et al. (2019) that the investment of any company is affected by uncertainty. Most of the control variables are statistically significant and have signs as

Table 1: Regression Output of H1 Investment and Uncertainty

Independent Variables	Dependent Variable (INV)			
	M1		M2	
	Col (1)	Col (2)	Col (1)	Col (2)
Uncertainty _{it}	-0.489*** (0.038)	-0.134** (0.171)		
EUncertainty _{it}			-0.110** (0.012)	-0.063*** (1.24)
ROA _{it}	-0.133*** (0.001)	-0.382*** (0.005)	0.231*** (0.203)	-0.030*** (0.24)
Size _{it}	-0.136 (0.150)	-0.264*** (0.532)	1.24*** (0.575)	-0.010 (0.82)***
Cycle _{it}	0.674*** (0.024)	0.005 (0.0156)	0.543 (0.544)	-0.0545*** (0.322)
PrtB _{it}		0.733*** (0.091)		-0.020 (-0.56)
MktShare _{it}		0.790*** (0.054)		-0.098 (-0.23)***
		-0.007 (0.035)		0.563 (-01.78)

*** for 0.01 significance, ** for 0.05 significance, * for 0.1 significance. Standard errors are reported in parentheses.

Table 2: Regression Output H2 Investment and Accounting Conservatism

Independent Variable	Dependent Variable (INV)			
	Col (1)	Col (2)	Col (1)	Col (2)
AcctConv _{it} (M1)	0.341***	0.335**		
	(0.313)	(0.234)		
AcctConv _{it} (M2)			0.322***	0.343***
			(0.221)	(0.423)
ROA _{it}	0.451***	0.562***	0.432***	0.023***
	(0.453)	(0.431)	(0.234)	(0.452)
Size _{it}	0.743	0.451***	0.453***	0.451***
	(0.653)	(0.675)	(0.733)	(0.343)
Cycle _{it}	0.632***	0.345***	0.632	-0.452***
	(0.684)	(0.546)	(0.435)	(0.343)***
PrtB _{it}	0.232***	0.643***	0.342**	-0.454**
	(0.342)	(0.453)	(0.342)	(0.242)
MktLEV _{it}		0.455***		0.642*
		(0.453)		(0.234)
MktShare _{it}		-0.322		0.342
		(0.234)		(0.342)

*** for 0.01 significance, ** for 0.05 significance, * for 0.1 significance. Standard errors are reported in parentheses.

predicted. Only is statistically insignificant. is significant in models M1 and is positively related to M1 and is negative in M2.

Table 2 reports the output from model 2. The findings reported in Table 2 are according to our predictions. In Table 3, col (1) reports regression output with book value accounting measures, and col(2) includes market measure variables in addition to book value accounting measures for M1 and M2. Empirical findings are based on the results reported in col(2) for M1 and M2 as it includes all book-based and market-based measures. M1 is for Khan and Watts' (2009) model and M2 is the negative accruals measure approach. Accounting conservatism measured by both Khan and Watts' (2009) model and negative accruals measure has a positive and significant impact on investment that is according to our predictions. Overall, empirical results are supported by the arguments of Watts (2003) and Guay and Verrecchia (2006) that conservatism improves investment opportunities. Most of the control variables are statistically significant and have signs as predicted. Only Mktshare is statistically insignificant.

Table 3 reports the output from model 2. The findings reported in Table 3 are according to our predictions. In Table 3, col(1) reports regression output with book value accounting measures, and col(2) includes market measure variables in addition to book value accounting measures for M1 and M2. Empirical findings are based on the results reported in col(2) for M1 and M2 as it includes all book-based and market-based measures. M1 is for Khan and Watts' (2009) model and M2 is the negative accruals measure approach. Accounting conservatism measured by both Khan and Watt's (2009) model and negative accruals measure has a positive and significant impact on investment that is according to our predictions. Overall, empirical results are supported by the arguments of Watts (2003) and Guay and Verrecchia (2006) that conservatism improves investment opportunities. Moreover, the interaction term of accounting conservatism and uncertainty shows a positive impact on investment providing evidence that conservative financial reporting during uncertainty may facilitate the companies to take better investment decisions. Ason et al. (2021) and Owais (2021). Most of the control variables are statistically significant and have signed as predicted.

Table 3: Regression Output H3 Investment, Uncertainty, and Role of Accounting Conservatism

Independent Variables	Dependent Variable (INV)			
	Col (1)	Col (2)	Col (1)	Col (2)
AcctConv _{it} (M1)	0.564** (0.655)	0.521*** (0.785)		
AcctConv _{it} (M2)			0.244** (0.355)	0.241*** (0.575)
Uncertainty _{it}	-0.345** (0.358)	-0.344** (0.129)		
EUncertainty _{it}			-0.455** (0.356)	-0.743*** (0.259)
UAcctConv * Uncertainty _{it}	0.456*** (0.674)	0.4220** (0.123)		
AcctConv _{it} (M2) * Uncertainty _{it}			0.566*** (0.345)	0.257** (0.356)
Size _{it}	0.345*** (0.457)	0.123** (0.433)	0.445** (0.234)	0.543* (0.354)
Sales _{it}	0.644*** (0.556)	0.827** (0.445)	0.434*** (0.256)	0.726** (0.775)
Cycle _{it}	-0.354*** (0.464)	-0.421** (0.977)	-0.344*** (0.464)	-0.545** (0.777)
ROA _{it}	0.545** (0.678)	0.123** (0.455)	0.334** (0.743)	0.244** (0.245)
PrtB _{it}		0.932** (0.964)		0.456** (0.245)
MktLEV _{it}		0.134* (0.981)		0.255 (0.251)
MktShare _{it}		0.134** (0.138)		0.256** (0.768)
Volatility _{it}		-0.976** (0.876)		-0.254** (0.255)

*** for 0.01 significance, ** for 0.05 significance, * for 0.1 significance. Standard errors are reported in parentheses.

5. Conclusion

Our paper provides empirical evidence on the impact of uncertainty on investment and the moderating role of accounting conservatism. The association between uncertainty, investment, and accounting conservatism is measured by using proxies for uncertainty (Bentley et al., 2014) prospector-defender business strategy) and conservatism (Khan & Watts, 2009). Empirical estimations confirm the hypothesis that during uncertainty, firms faces problems related to investment decisions, but accounting conservatism reduces uncertainty and improves the firm investment decisions. We document a positive and significant effect of uncertainty on investments and a positive relationship between investments and accounting conservatism as supported by literature (LaFond & Watts, 2008; Lara et al., 2020).

The findings of this study contribute to the literature on accounting by providing additional insight into the understanding of investments during uncertainty and the role of accounting conservatism. These findings will be useful to market participants by explicitly documenting the relationship between accounting conservatism and the extent of investments during uncertainty.

Our empirical findings have implications for both academics and practitioners. Our study provides counter-arguments to the decision by the policymakers about the removal of conservatism from the conceptual framework. Although all organizations face uncertainty, the level of uncertainty varies across firms. When firms face high uncertainty conservative financial reporting will facilitate managers to make the right decisions. Due to its certain limitations, this research also opens new research horizons for future researchers. This study is using data from one country which may influence the generalizability of the findings. A cross country might be conducted to overcome the issue of generalizability.

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Appendix

Variables	Description
Accounting Conservatism	Accounting conservatism is measured by Khan and Watts model and the Negative Accrual Measure
Investment	
Uncertainty	Measured by Bentley et al. (2014) 'Prospectors' and 'Defenders' business strategy and Environmental Scanning
Control Variables	
ROA	Net Income (<i>N/it</i>), calculated as net income before extraordinary items divided by average total assets, corresponds to return on assets
Size	Calculated as the natural logarithm book value of equity
MktLeverage	Calculated as the book value of debt scaled by assets market worth
Price to Book Ratio	Calculated as per share market value scaled by per-share book value and per-share book value is total assets minus total liabilities divided by outstanding shares
Volatility	The standard deviation of daily stock returns
Cycle	Measured by receivables in days plus inventory in days less payable in days
MktShare	Measured as a percentage of a company's sales divided by industry sales