

The Impact of the IFRS 9 Expected Loss Approach on Accounting Conservatism

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ABSTRACT

Using an experimental setting, this paper examines the impact of the International Financial Reporting Standard (IFRS 9) expected credit loss (ECL) approach on accounting conservatism. The ECL approach enables banks to incorporate loan loss provisions (LLP) on a timelier basis and help bank regulators anticipate weaknesses in banks' loan portfolios. Conversely, the ECL model could be more susceptible to managerial discretion. More conservative bank managers might make excessive credit provisions. Our findings show that high conservatism is positively associated with higher levels of LLP. In addition, the effect of accounting conservatism is contingent upon the type of loan loss model. We find evidence suggesting that when the ECL model is used, high conservatism leads to higher provisions. In contrast, when the incurred loan loss (ILL) model is used, accounting conservatism does not seem to impact the magnitude of LLP. Overall, our study provides insights on ramifications in IFRS 9 implementation.

Keywords: IFRS 9, expected loss model, loan loss provisions, accounting conservatism

1. Introduction

Debt instruments form a significant component of assets on a company statement of financial position. Such debt instruments are primarily loan assets of banks and trade receivable assets of non-banks. Allowance for uncollectible loans and receivables (generically termed loan provisions hereafter) are expense accruals determined using accounting rules promulgated by standard setters. Many countries in the world, including Singapore which provides the sample of our study, adopt the International Financial Reporting Standards (IFRS) as the accounting rules for companies listed in their jurisdictions.

The International Accounting Standards Board (IASB) has issued IFRS 9 *Financial Instruments*, which takes effect for annual periods after 1 January 2018. IFRS 9 brings about fundamental changes to financial instrument accounting as it replaces

IAS 39 *Financial Instruments: Recognition and Measurement*. Among the most important changes are the new expected credit loss (ECL) model for financial asset impairment, the impact of the business model on accounting and fewer classification categories for assets.

In particular under the new ECL model, loan provisions have to be recorded based on expected credit loss for the next 12 months if there has not been a significant deterioration in credit risk since initial recognition of the loan. If there has been a significant deterioration in credit risk, evidenced by increases in credit spreads or drop in credit rating, the loan provision is estimated based on expected credit loss for the remaining period to maturity of the loan. Significant deterioration in credit risk is expected to occur before the loss event when the borrower defaults and/or goes into bankruptcy.

Standard-setters regard IFRS 9 as an improvement to IAS 39, the previous standard on financial instruments, which has been sharply criticised for delaying the recognition of loan losses during the 2008 global financial crisis. An underlying reason is that under IAS 39, loan losses can only be recognised when there is objective evidence of an impairment/loss event in the debt instruments. Since such objective evidence arises typically from delinquent payments and/or bankruptcy of borrowers, the incurred loan loss (ILL) provisions recognized under IAS 39 has been criticised as ‘too little, too late’. The intent of the new ECL model under IFRS 9 is to ensure the loan provisions are ‘forward looking’, taking into account expected losses.

Early evidence shows that ECL provisions are more predictive of future bank risk than ILL provisions (Lopez-Espinosa, Ormazabal, & Sakasai, 2021). However, another study found unrecognized expected credit losses to be negatively related to bank stock prices, indicating that investors had access to information on expected credit losses not recognized on the financial statements (Wheeler, 2021). One possible consequence of the ECL model is that bank managers have greater discretion and may engage in under or overprovision of credit losses. Given the inherent difficulties of forecasting the right amount of expected credit losses, some bank managers may over (under) provide for losses if they are overly conservative (aggressive) in their estimation. In this study, we examine how loan loss model (ECL versus ILL) and superior conservatism (high versus low) influence accountants’ loan provision judgments. In particular we investigate if standards (ECL versus ILL) matter more than or less than accounting conservatism and contribute to the early evidence on the effects of ECL model versus ILL model and their association with accounting conservatism in accountants’ loan provision judgments.

Prior experimental studies on bank accounting covered fair value accounting: hedge accounting in Chen, Tan and Wang (2013) and liabilities in Gaynor, McDaniel and Yohn (2011). Studies on accounting conservatism employed archival methods. They used measures of Basu (1997) asymmetric timeliness coefficient and Khan and Watts (1999) C score firm-year measure of conservatism in general settings and timeliness in loan loss recognition in bank accounting setting (Beatty and Liao, 2011; Bushman and Williams, 2012). Our experiment measures accounting conservatism as the agreement with whether the financial institution should recognize a provision and the amount of provision to make. This is the first experimental study on the effect of accounting conservatism on loan provisions to the best of our knowledge.

Our study fills the gaps in theory on accounting conservatism and bank loan provisioning, specifically the relation between the two variables in an experimental setting. This study falls in the stream of experimental research on managerial incentives and financial accounting regulation effects on reporting decisions (Libby, Bloomfield, & Nelson, 2002). Our results also provide inputs to policy makers on the trade-off between giving accounting discretion leading to varying levels of accounting conservatism in ECL model and rules-based standards in the ILL model.

We conduct an experiment to examine the potential ramifications of IFRS 9's expected loss approach with respect to the issue of how accountants weigh standards (ECL versus ILL) and accounting conservatism in their loan provision decisions. We design two credit loss regimes - the expected credit loss (ECL) model and the incurred loan loss (ILL) model in catering for loan loss provisions. Under each regime, we operationalize supervisor conservatism by including a description of a supervisor who either generally adopts a high level of conservatism in making loan loss provisions or generally adopts a low level of conservatism in making loan loss provisions.

We randomly assign our participants to one of four experimental conditions and they are told to assume the role of an accountant of a fictitious UK-based financial institution. Participants were further told that they would be required to assess information related to a borrower and make decisions on a loan loss provision. They were provided with background information related to a borrower and also presented with information relating to the loan loss model utilized by their firm. In the *high conservatism (low conservatism)* condition, participants were told that their supervisor, who has to approve any loan loss provisions that the company provides for, generally adopts a high (low) level of conservatism in making loan loss provisions and is more (less) likely to make loan loss provisions than the average CFO.

We find that our participants whose supervisors exhibit a high level of conservatism are more likely to recognize loan loss provisions relative to participants whose supervisors exhibit a low level of conservatism, for the same debt instrument. The ANOVA for *provision_judgement* shows a significant main effect of supervisor conservatism ($F=7.70$, $p=0.01$) and an insignificant main effect of loan loss model ($F=1.55$, $p=0.22$). It also shows an insignificant interaction effect of loan loss model and supervisor conservatism ($F=0.10$, $p=0.75$). The ANOVA for *provision_amount* shows insignificant main effects of supervisor conservatism ($F=1.88$, $p=0.18$) and loan loss model ($F=0.44$, $p=0.51$). It also shows a significant interaction effect of loan loss model and supervisor conservatism ($F=5.06$, $p=0.03$).

Our study contributes to the extant research by exploring the countervailing forces of accounting standards versus the inherent level of conservatism on the level of loan provisions in the move from the ILL model to the ECL model. In this setting, we use a change in an accrual model within the international accounting standards for a major asset item on the books of banks. In contrast, prior related research has examined regulatory changes such as a move from local GAAP to IFRS (e.g., Gebhardt and Novotny-Farkas 2011; Chua, Cheong and Gould 2012). Given that the main motivation for the change in loan loss model is to improve the timeliness of loan loss recognition, our study sheds light on some of the behavioural tendencies of bank

managers to make excessive loan loss provisions due to accounting conservatism. We believe our study has implications for banking regulators, standard setters and the banking and finance industry.

The remainder of the paper proceeds as follows. Section 2 develops the hypotheses. Section 3 describes our data and the measurement of variables. Section 4 presents the main results. Section 5 concludes the paper.

2. Literature Review and Hypotheses Development

Accounting discretion could be motivated by the desire to recognize loan losses on a more or less timely basis, to manage capital or to manage earnings for income smoothing purposes and other reasons. Much of the literature on loan provisions relate to banking because of the magnitude of loans in the financial statements of banks. The banking literature provided evidence on timeliness of loan provisions, capital management and earnings management (Wall and Koch, 2000; Beatty and Liao, 2014). Bushman and Williams (2012) provided evidence of accounting discretion in both timeliness of loan provisions and earnings management using loan provisions within banks across 27 countries. Some of the early evidence of income smoothing and capital management using loan provisions include Ma (1988), Moyer (1990), Beatty, Chamberlain and Magliolo (1995), Collins, Shackelford and Wahlen (1995), Ahmed, Takeda and Thomas (1999), Kanagaretnam, Lobo and Mathieu (2002), and Kanagaretnam, Lobo and Yang (2004). An international study on income smoothing is Fonseca and Gonzalez (2008). Beatty and Liao (2011) and Bushman and Williams (2015) show that discretion could be exercised to recognize loan losses on a more timely or less timely basis. Beatty and Liao (2011) applied variation in delays of loan loss recognition under incurred loan loss model to show that the contraction in lending is lower for banks that delay less. Bushman and Williams (2015) investigated the consequences of delayed loan loss recognition. They found that such delays lead to loss overhangs and capital adequacy concerns. The huge amount of banking literature indicate that accounting discretion existed even under the incurred loan loss models.

The exercise of accounting discretion in recognizing loan losses reflect the inherent accounting conservatism within the banks. Nichols, Wahlen and Wieland (2009) argued that public banks exhibited greater levels of conditional conservatism through more timely loan losses versus private banks because the former faced greater agency costs arising from separation of ownership and control. Lim, Lee, Kausar and Walker (2014) provided evidence banks timelier in loan loss recognition charge higher spreads, but increase spreads to a lesser extent during the financial crisis. The macro environment in the form of national culture was also found to influence the level of accounting conservatism in banks (Kanagaretnam, Lim and Lobo, 2014).

Gebhardt and Novotny-Farkas (2011) analyzed how the IFRS recognition and measurement on the main accrual item loan loss provision of European banks affects its income smoothing and timely loss recognition. They found the incurred loan loss model reduced income smoothing, although the effects are weaker in countries with stricter bank supervision, widely dispersed bank ownership and European banks listed in the US. They also found that incurred loan loss model resulted in less timely loss recognition. Chua, Cheong and Gould (2012) found that IFRS adoption resulted in higher accounting quality in the reduction of income

smoothing and improvement of loss recognition, compared to Australian generally accepted accounting principles. Soderstrom and Sun (2007) argued that cross-country differences in their institutional setting such as legal and political systems create differences in accounting quality, even after IFRS adoption. Christensen, Hail and Leuz (2013) found that changes in accounting standards may have differing liquidity benefits, depending on the level of enforcement. Christensen, Lee, Walker and Zeng (2015) used a novel setting in Germany where voluntary adoption of IFRS was allowed, and found managerial incentives influence the accounting quality changes around IFRS adoption. They found that accounting quality improvements were confined to voluntary adopters.

Prior literature provided evidence that changes in the accounting standards might impact the timeliness of loan loss recognition, but the impact could vary across institutional setting (Gebhardt and Novotny-Farkas, 2011; Soderstrom and Sun, 2007; Christensen, Lee, Walker and Zeng, 2015). In contrast to these studies, we conducted an experiment to explore at the individual manager level, how managerial conservatism could have a mediating effect on the effects arising from changes in standards. We employ an experimental method because indicators/measures of managerial conservatism are not available in archival databases. An experimental approach provides a unique research method to study the effects of managerial conservatism which otherwise would be unobservable. Examples in which experimental approaches have been applied to study financial instrument related topics include Clor-Proell, Koonce and White (2016), Chen, Tan and Wang (2013), and Koonce, Nelson and Shakespeare (2011). Clor-Proell et al. (2016) experimentally tested how the features of hybrid financial instruments influenced credit-related judgements of experienced finance professionals. Chen et al. (2013) conducted experiments that found fair value accounting affected real economic hedging decisions. Koonce et al. (2011) found using experiments that investor perceptions on relevance of fair value accounting information are contingent on whether the financial instrument is an asset or a liability, whether fair values produce gains or losses, and whether the item will or will not be sold/settled soon.

Accounting conservatism is defined as anticipating losses but not profits, which results in the deferment of gains (Watts, 2003). Watts (2003) suggests that accounting conservatism exists due to contracting, as accounting conservatism reduces information asymmetry and accounting manipulation (La Fond and Watts, 2008). The higher level of verifiability required for gains than for losses causes net assets to be understated and therefore protects the lenders from downside risks in the event the borrower is liquidated. Thus, lenders demand that borrowers recognize losses on a timely basis so that the debt covenants can be more efficient in monitoring the financial health of borrowers (Beatty, Weber and Yu, 2008).

The contracting explanation is primarily applied to borrowers. This is supported by Ball, Robin and Sadka (2008) who find that the Basu (1997) conditional conservatism measure increases with the importance of debt markets but not equity markets. Borrowers benefit from being accounting conservative by getting better credit ratings (Ahmed, Billings, Morton and Harris, 2002), lower interest costs (Zhang, 2008) and lower bid-ask credit spreads (Moerman, 2008). The borrower accounting conservatism literature spans different contexts. Examples of the contexts being studied are country/legal regimes (Pope and Walker, 1999; Ball,

Kothari and Robin, 2000) and public versus private borrowers (Ball and Shivakumar, 2005).

The studies that examine the economic consequences of bank accounting conservatism are Beatty and Liao (2011), Bushman and Williams (2012) and Bhat, Ryan and Vyas (2018). Beatty and Liao find that US banks which recognize loan provisions on a more (less) timely basis reduce their lending volume to a lesser (greater) extent during recessionary periods. Bushman and Williams (2012) estimate two measures of forward-looking discretionary loan provisions for an international bank sample. The first measure is smoothing, defined as the coefficient from a regression of loan provisions on contemporaneous earnings, after controlling for the non-discretionary components of loan provisions. The second measure is the coefficient from regressing loan provisions on next year's change in non-performing loans. This second measure is intended to capture the timely recognition of expected future loan losses. Bushman and Williams find that the smoothing measure is related to reduced discipline over risk taking, while the timely recognition of loan losses is associated with enhanced risk-taking discipline. Bhat et al. (2018) document that the disclosures in banks' financial report of credit risk modelling are associated with timelier loan provisions and less pro-cyclical loan originations.

The conventional measure of conditional accounting conservatism in the prior literature is the Basu (1997) asymmetric timeliness coefficient. Khan and Watts (2009) provide an alternative measure of conservatism to the Basu (1997) measure because of the latter's limitations. Khan and Watts (2009) derive a C score firm-year measure of conservatism using firm specific characteristics leverage, market to book and size to overcome these limitations. Beatty and Liao (2011) and Francis and Martin (2010) use the Khan and Watts (2009) C score methodology in their study of the effects of timely loss recognition on loan volume and investment decisions respectively. In contrast to the above studies using archival data, we use an experimental setting to study the effects of accounting conservatism on bank loan provisions.

Our study explores the countervailing forces of accounting standards versus the inherent level of conservatism on the level of loan provisions in the move from the incurred loan loss model to the ECL model. In this setting, we are looking at a change in an accrual model within the international accounting standards for a major asset item on the books of banks, and not a move from local GAAP to IFRS such as Gebhardt and Novotny-Farkas (2011) and Chua, Cheong and Gould (2012). First, we explore the effects a manager's level of conservatism have on the level of loan provisions. Earlier studies such as Beatty and Liao (2011), Lim et al. (2014) and Bushman and Williams (2015) implied that the timeliness in loan loss recognition might be linked to managers' level of conservatism. However, these studies used archival databases which did not contain measures of managerial conservatism. Our experiment explicitly defined managerial conservatism as "high" or "low" to the participants, thus making explicit the conservatism variable that otherwise is unobservable. Our first research question examines if the conservatism variable impacts the timeliness of loan loss recognition in terms of likelihood of recognizing loan provision and the level of loan loss provision. Our first hypotheses are stated in alternate form below.

H1a: Managers whose supervisors exhibit a high level of conservatism are more likely to recognize loan loss provisions relative to managers whose supervisors exhibit a low level of conservatism, for the same debt instrument.

H1b: Managers whose supervisors exhibit a high level of conservatism are more likely to recognize higher amounts of loan loss provisions relative to managers whose supervisors exhibit a low level of conservatism, for the same debt instrument.

Given that the main motivation for the change in loan loss model from ILL to ECL is to improve the timeliness of loan loss recognition i.e. to bring forward future loan losses and recognize earlier as loan provisions, we examine whether under the ILL model and the ECL model, conservative managers are more likely to recognize loan provisions and increase the level of loan loss provisions. This allows us to compare the effects of managerial conservatism on loan provisions under the ILL model and ECL model. The ECL model provides substantial discretion to managers/accountants on deciding whether to recognize loan loss provisions and the level of loan loss provisions. Managerial conservatism is expected to affect the recognition of loan loss provisions and the level of loan loss provisions under the ECL model. In contrast the ILL model requires objective evidence prior to making loan loss provisions. There is relatively lesser discretion given to the managers/accountants on recognition of loan loss provisions and the level of loan loss provisions in the ILL model, relative to the ELL model. This leads to our second and third hypotheses stated in alternate form below.

H2a: When a company adopts the ECL model, managers are more likely to recognize loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism.

H2b: When a company adopts the ECL model, managers are more likely to recognize higher amounts of loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism.

H3a: When a company adopts the ILL model, managers are no more likely to recognize loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism.

H3b: When a company adopts the ILL model, managers are no more likely to recognize higher amounts of loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism.

The two hypotheses allow us to investigate the strengths of standards and managerial conservatism in their effects on the levels of loan loss provisions, and to understand if both or either one of them matters more. Our next section discusses the research method.

3. Research Design and Data

We conducted an experiment with 65 accountants from Singapore in 2018, the year of transition from the incurred loan loss model to the expected credit loss model.

These participants were recruited from various professional events.^{1, 2} They had a mean (standard deviation) age of 41.9 (9.2) years and mean (standard deviation) working experience of 15.1 (9.9) years. Further, participants reported a mean (standard deviation) working experience in accounting of 12.8 (9.1) years. We used a 2 (*ECL* versus *ILL*) X 2 (*high conservatism* versus *low conservatism*) between-participants design to test our hypotheses. We operationalized the loan loss model utilized by presenting participants with information stating that their company used either the expected credit loss or incurred loan loss model in catering for loan loss provisions. We operationalized supervisor conservatism by including a description of a supervisor who either generally adopts a high level of conservatism in making loan loss provisions or generally adopts a low level of conservatism in making loan loss provisions.

Before the start of experiment, we briefly explained the concepts of incurred loan loss model and expected credit loss model so that all participants had a common understanding of the terms. This is despite the fact the participants were professional accountants or auditors and had exposures to provisioning for bad debts. Participants in the experiment were randomly assigned to one of four experimental conditions and told to assume the role of an accountant in GR Ocean, a fictitious UK-based financial institution. Participants were further told that they would be required to assess information related to a borrower and make decisions on a loan loss provision. They were then provided with background information related to GR Ocean. Next, participants were presented with information relating to the loan loss model utilized by GR Ocean. The loan loss model and corresponding explanatory information provided varied according to the loan loss model condition that participants were assigned to.

Following that, participants were presented with information relating to the level of conservatism that their supervisor was known to generally exhibit in making loan loss provisions. This information varied according to the supervisor conservatism condition that participants were assigned to. After accessing this information, participants were provided with information related to Tovo Co., a fictitious customer of GR Oceans'. Tovo Co. was described as having an outstanding loan of GBP 5,000,000, with a remaining three years to maturity, with GR Ocean. We also highlighted a variety of events which had led to Standard & Poors, the credit ratings agency, recently cutting the credit rating of Tovo Co. to BB+ from AA.³ Finally, participants responded to a range of questions relating to loan loss provision decisions. They also answered questions on manipulation checks and demographic information.

In the *ECL* condition, participants were told that GR Ocean uses the expected credit loss model in catering for loan loss provisions. Further, they were told that under the

¹ We obtained approval from the Institutional Review Boards of our respective institutions for the experiment.

² These include networking and professional development events organized by professional bodies (such as the Association of Chartered Certified Accountants (ACCA)) and universities in Singapore. We note that 35 participants were paid twenty Singapore dollars in cash vouchers for participating in the experiment while the other participants received no payment. We included payment as a covariate in the ANOVA analysis presented in Table 1 ($F=1.13$, $p=0.29$) and Table 2 ($F=0.69$, $p=0.41$) and observe that the effects of payment were not significant in both cases.

³ Our manipulations of loan loss models and supervisor conservatism, and our description of TOVO Co. are provided in Appendices A, B, and C respectively.

expected credit loss model, the reporting entity sets a loan provision based on the expected credit loss for the next 12 months (remaining period to maturity date) when there is no significant (significant) deterioration in credit risk since initial recognition. They were also provided with information on how a significant deterioration could be evidenced. In the *ILL* condition, participants were told that GR Ocean uses the incurred loan loss model in catering for loan loss provisions. Further, they were told that under the incurred loan loss model, objective evidence of a loss event is required to be present before loan provisions can be made. They were also provided with information on how a loss event could be evidenced.

In the *high conservatism (low conservatism)* condition, participants were told that their supervisor, who has to approve any loan loss provisions that the company provides for, generally adopts a high (low) level of conservatism in making loan loss provisions and is more (less) likely to make loan loss provisions than the average CFO.

We used two key dependent variables to capture participant judgments about making loan loss provisions. First, to capture participants' judgements about the appropriateness of making a loan loss provision, we asked them to rate the extent to which they agreed that GR Ocean should make a loan loss provision with respect to Tovo Co's outstanding loan (*provision_judgement*).⁴ Second, to the extent that participants felt it was appropriate to make a loan loss provision, we asked them to provide the amount of loan loss provision that they would make. In our analysis, we use the standardized scores of the amount of loan loss provisions made by participants (*provision_amount*).^{5,6}

4. Main Results

4.1. Manipulation Checks

The majority of participants correctly identified the correct loan loss model they were provided with, at a rate that is greater than chance (correct=67.19%, $\chi^2 = 7.56$, $p=0.01$).⁷ In addition, the majority of participants correctly identified the correct level of supervisor conservatism, at a rate that is greater than chance (correct=76.56%, $\chi^2 = 18.06$, $p<0.01$). Hence, the manipulations of both loan loss model and supervisor conservatism are successful.

⁴ Participants rated the extent of their agreement on a fifteen-point scale, with +7 corresponding to "Strongly Agree" and -7 corresponding to "Strongly Disagree."

⁵ Participants were first asked if they would make a loan loss provision, and if yes, what the amount would be. We note that there was no difference in participants' decision whether or not to make a provision across conditions. An ANOVA with participants' decision on whether or not they would make a provision as the dependent variable, and loan loss model and supervisor conservatism as independent variables finds that the effects of loan loss model ($F=0.16$, $p=0.69$), supervisor conservatism ($F=1.85$, $p=0.18$) and the interaction of loan loss model and supervisor conservatism ($F=2.27$, $p=0.14$) are not significant.

⁶ In our experimental material, we provided participants with guidelines on how to make provisions. Specifically, we stated that loan loss provision can be computed by multiplying the probability of default of a loan and exposure to the loan. Further, the probability of default for a loan with a BB+ rating is 30% to 40% and exposure to the loan is computed by taking the present value of future cash flows associated with the loan.

⁷ Two-tailed tests are presented unless otherwise specified.

4.1. Tests of Hypothesis

Table 1: Participants' loan loss provision judgements (provision_judgement)

Panel A: Conventional ANOVA tests of between-participants effects^a

| Source | Sum of Squares | df | Mean Square | F | p-value |
|---|----------------|----|-------------|-------|---------|
| Intercept | 565.80 | 1 | 565.80 | 45.57 | 0.00 |
| Loan Loss Model | 18.78 | 1 | 18.78 | 1.55 | 0.22 |
| Supervisor Conservatism | 93.53 | 1 | 93.53 | 7.70 | 0.01 |
| Loan Loss Model * Supervisor Conservatism | 1.26 | 1 | 1.26 | 0.10 | 0.75 |
| Error | 716.86 | 59 | 12.15 | | |

Panel B: Descriptive statistics: Mean (standard deviation) [sample size]^b

| Loan Loss Model | Supervisor Conservatism | |
|-----------------|-------------------------|---------------------|
| | High | Low |
| ECL | 4.94 (1.39) [17] | 2.20 (1.18) [15] |
| ILL | 3.56 (3.94) [18] | 1.38 (3.25) [13] |

^a Table 1 presents statistical analysis related to participants' loan loss judgments in our experiment. Panel A presents the conventional analysis of variance (ANOVA).

^b Panel A presents the descriptive statistics for *provision_judgement*. Participants rated their agreement that GR Ocean should make a loan loss provision with respect to Tovo Co.'s outstanding loan on a 15-point scale (-7=Strongly disagree; 7=Strongly agree)

Table 2Participants' amount of loan loss provided for (*provision_amount*)Panel A: Conventional ANOVA tests of between-participants effects^a

| Source | Sum of Squares | df | Mean Square | F | p-value |
|---|----------------|----|-------------|------|---------|
| Intercept | 0.01 | 1 | 0.01 | 0.01 | 0.94 |
| Loan Loss Model | 0.40 | 1 | 0.40 | 0.44 | 0.51 |
| Supervisor Conservatism | 1.71 | 1 | 1.71 | 1.88 | 0.18 |
| Loan Loss Model * Supervisor Conservatism | 4.61 | 1 | 4.61 | 5.06 | 0.03 |
| Error | 41.94 | 46 | 0.92 | | |

Panel B: Descriptive statistics: Mean (standard deviation) [sample size]^b

| Loan Loss Model | Supervisor Conservatism | |
|-----------------|-------------------------|----------------------|
| | High | Low |
| ECL | 0.40 (0.71) [15] | -0.60 (1.54) [12] |
| ILL | -0.04 (0.64) [14] | 0.20 (0.66) [9] |

^a Table 1 presents statistical analysis related to participants' amount of provision provided for our experiment. Panel A presents the conventional analysis of variance (ANOVA).

^b Panel A presents the descriptive statistics for *provision_amount*.

Panel A of Table 1 presents the conventional analysis of variance (ANOVA) for *provision_judgement* while Panel A of Table 2 presents the ANOVA for *provision_amount*. The ANOVA for *provision_judgement* shows a significant main effect of supervisor conservatism ($F=7.70$, $p=0.01$) and an insignificant main effect of loan loss model ($F=1.55$, $p=0.22$). It also shows an insignificant interaction effect of loan loss model and supervisor conservatism ($F=0.10$, $p=0.75$). The ANOVA for *provision_amount* shows insignificant main effects of supervisor conservatism ($F=1.88$, $p=0.18$) and loan loss model ($F=0.44$, $p=0.51$). It also shows a significant interaction effect of loan loss model and supervisor conservatism ($F=5.06$, $p=0.03$).

Panel B of Table 1 presents descriptive statistics for *provision_judgement* while Panel B of Table 2 presents descriptive statistics for *provision_amount*. H1a states that managers whose supervisors exhibit a high level of conservatism are more likely to recognize loan loss provisions relative to managers whose supervisors exhibit a low level of conservatism, for the same debt instrument while H1b states that managers whose supervisors exhibit a high level of conservatism are more likely to recognize higher levels of loan loss provisions relative to managers whose supervisors exhibit a low level of conservatism, for the same debt instrument. We find that *provision_judgement* is significantly higher in the high conservatism (mean=4.23) than low conservatism (mean=1.82, $t=2.73$, $p=0.01$) condition. However, *provision_amount* is not significantly different across the high conservatism (mean=0.19) and low conservatism (mean=-0.26, $t=1.56$, $p=0.12$) condition. Overall these results are consistent with H1a but not H1b.

H2a states that when a company adopts the ECL model, managers are more likely to recognize loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism while H2b states that when a company adopts the ECL model, managers are more likely to recognize higher levels of loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism. We find that *provision_judgement* is significantly higher in the ECL/high conservatism condition (mean=4.94) than in the ECL/low conservatism condition (mean=2.20, $t=2.35$, $p=0.03$). At the same time, *provision_amount* is also significantly higher in the ECL/high conservatism condition (mean=0.40) than in the ECL/low conservatism condition (mean=-0.60, $t=2.23$, $p=0.04$). These results are consistent with H2a and H2b.

H3a states that when a company adopts the ILL model, managers are no more likely to recognize loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism while H3b states that when a company adopts the ILL model, managers are no more likely to recognize higher levels of loan loss provisions when their supervisor exhibits a high level of conservatism than when their supervisor exhibits a low level of conservatism. We find that *provision_judgement* is not significantly different across the ILL/high conservatism condition (mean=3.56) and the ILL/low conservatism condition (mean=1.38, $t=1.62$, $p=0.12$). Also, *provision_amount* is not significantly different across the *ILL/high conservatism* condition (mean=-0.40) and the *ILL/low conservatism* condition (mean=0.20, $t=0.88$, $p=0.39$). In table 2 ANOVA test of between-participant effects, the interaction between *Loan Loss Model* and *Supervisor Conservatism* is statistically significant ($F= 5.06$, $p=0.03$). These findings are consistent with H3a and H3b.⁸

5. Discussion and conclusion

The ECL model in IFRS 9 Financial Instruments is aimed at making the loan provisions forward looking than the ILL model in the original IAS 39. In practice,

⁸ We also find that *provision_judgement* is not significantly different across the *ECL/high conservatism* (mean=4.94) and *ILL/high conservatism* (mean=3.56, $t=1.37$, $p=0.18$) condition. It is also not significantly different across the *ECL/low conservatism* (mean=2.20) and *ILL/low conservatism* (mean=1.38, $t=0.53$, $p=0.60$) condition. In addition, we find that *provision_amount* is marginally significantly higher in the *ECL/high conservatism* (mean=0.40) condition than in the *ILL/high conservatism* (mean=-0.04, $t=1.73$, $p=0.10$) condition. It is not significantly different across the *ECL/low conservatism* (mean=-0.60) and *ILL/low conservatism* (mean=0.20, $t=1.46$, $p=0.16$) condition.

however, the level of managerial conservatism is expected to also play a role in determining accountants' loan provision judgments. In this study, we used an experiment to examine how loan loss model and superior conservatism influence accountants' loan provision judgments.

We find that accountants are more likely to recognize a loan loss provision when a manager exhibits a high level of superior conservatism (versus low level of conservatism). However, the amount of loan provision that accountants recognize is not influenced by the level of superior conservatism exhibited by the manager. We also find that when a company adopts the ECL model, accountants are both more likely to recognize a loan loss provision and to recognize a higher amount of loan loss provision when a manager exhibits a higher (versus lower) level of conservatism. Finally, we find that when a company adopts the ILL model, both accountants' decision to recognize a loan provision and the amount of loan provision recognized is not influenced by the level of superior conservatism exhibited by the manager.

Overall, these results are important to both regulators and to companies. In particular, to the extent that they show that superior conservatism can play a role in influencing accountants' loan provision judgments under the ECL model but not the ILL model, our study identifies one contextual factor, in the form of superior conservatism, that can influence accountants' judgments under the new ECL regime. Further studies can leverage on this to examine other contextual factors that may also influence accountants' judgments under the ECL regime.

Appendix A. Manipulation of Loan Loss Model

Expected Credit Loss Model

GR Ocean uses the expected credit loss model in catering for loan loss provisions.

Under expected credit loss model, the reporting entity set a loan provision based on the expected credit loss for the next 12 months (remaining period to maturity date) when there is no significant (significant) deterioration in credit risk since initial recognition. A significant deterioration in credit risk could be evidenced by significant increases in credit spreads, declines in share prices, cuts in credit ratings and adverse changes in business, economic and financial conditions that could cause a significant change in the borrower's ability to meet its debt obligations. A significant deterioration in credit risk occurs before a loss event.

Incurred Loan Loss Model

GR Ocean uses the impairment loss (incurred loan loss) model in catering for loan loss provisions.

Under the impairment loss (or incurred loan loss model), objective evidence of loss event is required to be present before loan provisions can be made. Such loss events include defaults of interest/principal payments, financial difficulties of borrower that creates uncertainty over the ability of borrower to remain as going concern, bankruptcy and bankruptcy of borrower. Loss events typically occur at a late stage when the borrower goes into bankruptcy and becomes delinquent on interest/principal payments for loans.

Appendix B. Supervisor Conservatism Model

High Conservatism Scenario

You report to the GR OCEAN group CFO, Mr Tom Brown, who must approve loan loss provisions that the company caters for. Mr Brown generally adopts a high level of conservatism in making loan loss provisions. In fact, on a number of occasions, it has been said that Mr Brown is more likely to make loan loss provisions than the average CFO.

Low Conservatism Scenario

You report to the GR OCEAN group CFO, Mr Tom Brown, who must approve loan loss provisions that the company caters for. Mr Brown generally adopts a low level of conservatism in making loan loss provisions. In fact, on a number of occasions, it has been said that Mr Brown is less likely to make loan loss provisions than the average CFO.

Appendix C. Tovo Co. and its Outstanding Loan

TOVO CO. is a large manufacturer of electronics, including televisions, computers, and other electronic products. TOVO is one of GR OCEAN's customers, and has an outstanding loan of GBP 5,000,000 that it has taken out with GR OCEAN. The loan has an annual fixed coupon rate of 6% payable at the end of each calendar year. The loan has a remaining maturity of three years from the reporting date. The market rate on reporting date was 5%.

TOVO Co. faced adverse macroeconomic and business environment downturn in the fiscal year ending 31 December 2017. TOVO lost a few major customers to its competitors and reported a net loss of GBP 20,000,000 in the current fiscal year. Standard & Poors cut the credit rating of TOVO to BB+ from AA. When the credit rating was AA, the probability of default was estimated at 0%. The share prices of TOVO Co. declined by a significant 15% in the year 2017. Despite the decline in credit rating and share prices, TOVO still maintained a strong financial and liquidity position overall, and did not default on interest payments on the loan. TOVO was expected to weather the difficult business situation and remained as a going concern.

References

- Ahmed, A., Billings, B., Morton, R., & Harris, M. (2002). The role of accounting conservatism in mitigating bondholder-shareholder conflict over dividend policy and in reducing debt cost. *The Accounting Review* 77(4), 867-890.
- Ahmed, A.S., Takeda, C., & Thomas, S. (1999). Bank loan loss provisions: a re-examination of capital management, earnings management and signaling effects. *Journal of Accounting and Economics* 28(1), 1-25.
- Ball, R, Kothari, S.P., & Robin, A. (2000). The Effects of Institutional Factors on Properties of Accounting Earnings: International Evidence. *Journal of Accounting and Economics* 29(1), 1-51.
- Ball, R., Robin, A., & Sadka, G. (2008). Is financial reporting shaped by equity markets or by debt markets? An international study of timeliness and conservatism. *Review Accounting Studies* 13(2-3), 168-205.
- Ball, R., Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics* 39(1), 83-128.
- Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics* 24(1), 3-37.
- Beatty, A., Chamberlain, S.L., & Magliolo, J. (1995). Managing Financial Reports of Commercial Banks: The Influence of Taxes, Regulatory Capital and Earnings. *Journal of Accounting Research* 33(2), 231-261.

- Beatty, A., & Liao, S. (2011). Do delays in expected loss recognition affects banks' willingness to lend? *Journal of Accounting and Economics* 52(1), 1–20.
- Beatty, A., & Liao, S. (2014). Financial accounting in the banking industry: A review of the empirical literature. *Journal of Accounting and Economics*, 58(2-3), 339-383.
- Beatty, A., Weber, J., & Yu, J.J. (2008). Conservatism and Debt. *Journal of Accounting and Economics* 45(2-3), 154-174.
- Bhat, G., Ryan, S.G., & Vyas, D. (2018). The Implications of Credit Risk Modeling for Banks' Loan Loss Provisions and Loan-Origination Procyclicalitiy. *Management Science*, 65(5).
- Bushman, R.M, & Williams, C.D. (2012). Accounting discretion, loan loss provisioning, and discipline of Banks' risk-taking. *Journal of Accounting and Economics*, 54, 1-18.
- Bushman, R. M., & Williams, C. D. (2015). Delayed expected loss recognition and the risk profile of banks. *Journal of Accounting Research*, 53(3), 511-553.
- Chen, W., Tan, H.T., & Wang, E.Y. (2013). Fair Value Accounting and Managers' Hedging Decisions. *Journal of Accounting Research* 51(1), 67–103.
- Christensen, H.B., Hail, L., & Leuz, C. (2013). Mandatory IFRS Reporting and Changes in Enforcement. *Journal of Accounting and Economics*, 56(2-3), 147-177.
- Christensen, H.B., Lee, E., Walker, M. & Zeng, C. (2015). Incentives or Standards: What Determines Accounting Quality Changes around IFRS Adoption. *European Accounting Review*, 24(1), 31-61.
- Chua, Y.L, Cheong, C.S., & Gould, G. (2012). The Impact of Mandatory IFRS Adoption on Accounting Quality: Evidence from Australia. *Journal of International Accounting Research*, 11(1), 119-146.
- Clor-Proell, S., Koonce, L., & White, B. (2016). How Do Experienced Users Evaluate Hybrid Financial Instruments? *Journal of Accounting Research* 54(5), 1267-1294.
- Collins, J.H., Shackelford, D.A., & Wahlen, J.M. (1995). Bank Differences in the Coordination of Regulatory Capital, Earnings and Taxes. *Journal of Accounting Research* 33(2), 263-291.
- Fonseca, A.R., & Gonzalez, F. (2008). Cross-country determinants of bank income smoothing by managing loan-loss provisions. *Journal of Banking & Finance* 32(2), 217-228.
- Francis, J.R., Martin, X. (2010). Acquisition profitability and timely loss recognition. *Journal of Accounting and Economics* 49(1-2), 161-178.

- Gaynor, L.M., McDaniel, L., & T.L. Yohn. (2011). Fair value accounting for liabilities: The role of disclosures in unravelling the counterintuitive income statement effect from credit risk changes. *Accounting, Organizations and Society*, 36, 125-134.
- Gebhardt, G., & Novotny-Farkas, Z. (2011). Mandatory IFRS Adoption and Accounting Quality of European Banks. *Journal of Business Finance & Accounting* 38(3-4), 289-333.
- Kanagaretnam, K., Lim, C.Y., & Lobo, G.J. (2014). Influence of National Culture on Accounting Conservatism and Risk-Taking in the Banking Industry. *The Accounting Review*, 89(3), 1115-1149.
- Kanagaretnam, K., Lobo, G.J., & Mathieu, R. (2002). Earnings Management to Reduce Earnings Variability: Evidence from Bank Loan Loss Provisions. *Review of Accounting and Finance*, 3(1), 128-148.
- Kanagaretnam, K., Lobo, G.J., & Yang, D. (2004). Joint Tests of Signalling and Income Smoothing through Bank Loan Loss Provisions. *Contemporary Accounting Research* 21(4), 843-884.
- Khan, M., & Watts, R.L. (2009). Estimation and empirical properties of a firm-year measure of accounting conservatism. *Journal of Accounting and Economics* 48(2-3), 132–150.
- Koonce, L., Nelson, K.K., & Shakespeare, C.M. (2011). Judging the Relevance of Fair Value for Financial Instruments. *The Accounting Review* 86(6), 2075-2098.
- LaFond, R., & Watts, R.L. (2008). The Information Role of Conservatism. *The Accounting Review*, 83(2), 447-478.
- Libby, R. (1981). *Accounting and human information processing: theory and applications*. Englewood Cliffs: Prentice-Hall.
- Libby, R., Bloomfield, R., & Nelson, R.W. (2002). Experimental research in financial accounting. *Accounting, Organizations and Society*, 27, 775-810.
- Lim, C.Y., Lee, E., Kausar, A., & Walker, M. (2014). Bank accounting conservatism and bank loan pricing. *Journal of Accounting and Public Policy* 33(3), 260-278.
- Lopez-Espinosa, G., Ormazabal, G., & Sakasai, Y. (2021). Switching from Incurred to Expected Loan Loss Provisioning: Early Evidence. *Journal of Accounting Research*, published online on 13 April 2021.
- Ma, C. (1988). Loan Loss Reserves and Income Smoothing: The Experience in the U.S. Banking Industry. *Journal of Business Finance and Accounting* 15(4), 487-497.

- Moerman, R. (2008). The role of information asymmetry and financial reporting quality in debt trading: Evidence from the secondary loan market. *Journal of Accounting and Economics* 46(2-3), 240-260.
- Moyer, S.E., (1990). Capital Adequacy Ratio Regulations And Accounting Choices In Commercial Banks. *Journal of Accounting and Economics* 13(2), 123-154.
- Nichols, D.C., Wahlen, J.M., & Wieland, M.M. (2009). Publicly traded versus privately held: implications for conditional conservatism in bank accounting. *Review of Accounting Studies* 14(1), 88-122.
- Pope, P.F., & Walker, M. (1999). International Differences in the Timeliness, Conservatism, and Classification of Earnings. *Journal of Accounting Research* 37(Supplement), 53–87.
- Soderstrom, N.S., & Sun, K.J. (2007). IFRS Adoption and Accounting Quality: A Review. *European Accounting Review* 16(4), 675-702.
- Wall, L. D., & Koch, T. W. (2000). Bank loan-loss accounting: A review of theoretical and empirical evidence. *Economic Review-Federal Reserve Bank of Atlanta*, 85(2), 1-19.
- Watts, R. (2003). Conservatism in Accounting Part I: Explanations and Implications. *Accounting Horizons* 17(3), 207-221.
- Wheeler, P.B. (2021). Unrecognized Expected Credit Loss and Bank Share Prices. *Journal of Accounting Research* published online on 14 March 2021.
- Zhang, J. (2008). The contracting benefits of accounting conservatism to lenders and borrowers. *Journal of Accounting and Economics* 45(1), 27–54.