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The Determinants of IFRS 9 Disclosure in the Context of the Expected Credit
Loss Model: Evidence from the Turkish Banking Sector

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This project is entirely the original work of student registration number 28953541. I declare that this dissertation is my own work, and that where material is obtained from published or unpublished works, this has been fully acknowledged in the references. This dissertation **includes** material of my own work from a research proposal that has been previously submitted for assessment for this programme.

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Abstract

Purpose: The aim of this research is to investigate the disclosure level of ‘expected credit loss model (ECL)’ for the banking industry in Turkey and examine the relationship between ECL disclosure level and some bank characteristics, namely size, profitability and bank leverage ratio, for the Turkish banking sector.

Methodology: The paper is based on a sample of 44 banks operating in Turkey for the year 2018, which is the first effective date of IFRS 9 and its impairment model (ECL). To determine the ECL disclosure level, a content analysis was made by the word counting method. Then a multiple regression analysis was conducted to explore the relationship between ECL disclosure quality and some bank characteristics (size, profitability and bank leverage ratio) using the OLS method.

Findings: The results reveal that size, profitability, the bank leverage ratio (capital adequacy) are significantly associated with the ECL disclosure level. While bank size and profitability have a positive correlation with ECL disclosure level, bank leverage ratio (capital adequacy) is negatively associated. The interpretation of the results is that large and profitable Turkish banks disclose more about their ECL practices, but ECL disclosure level decreases if banks depend on their capital more than debt in asset financing in Turkey.

Originality: To the best of my knowledge, this is the first study that investigates ECL disclosure and one of the few risk disclosure studies for a developing country.

Keywords: Expected credit loss, disclosure, IFRS 9, bank, Turkey

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Chapter 1: Introduction

1.1. Overview

After the 2008 financial crisis, the accounting standard for financial instruments was criticised for deepening the crisis both with the evaluation method and impairment model. As a result of criticism, accounting standard setter bodies prepared a new standard which is 'International Financial Reporting Standard (IFRS) 9: Financial Instruments'. It has been effective since 1st January 2018 replacing the previous standard 'International Accounting Standard (IAS) 39: Financial Instruments: Recognition and measurement'.

The notable change introduced by IFRS 9 is the new impairment model which is 'expected credit loss (ECL)¹'. Unlike the previous 'incurred credit loss (ICL)', the new ECL model provides impairment before the loss occurred. In a nutshell, foreseeing risk and provisioning based on this risk without waiting for the actual loss is possible in the application of ECL.

The risk estimation is the most tricky part of the ECL model, which gives discretion to the management of the company for risk assessment since the risk for financial instrument changes depending on company characteristics. On the other hand, leaving a considerable judgemental area to management may weaken risk-taking discipline and result in loss of transparency. In that case, disclosure is the primary way to maintain transparency.

Due to the involvement of managerial discretion in the ECL model impairment calculation, ECL disclosure is important to fulfil transparency. There is a specific standard devoted to the disclosure of financial instruments which is 'IFRS 7: Financial Instruments Disclosures'. This standard includes some requirements regarding ECL disclosure, but company-specific risk issues affect the ECL computation. Therefore, companies need to disclose more or different than the required information for a clear understanding and transparency.

¹ ECL and 'ECL model' are used interchangeably in this document.

This research explores company characteristics that influence the ECL disclosure level for the banking sector which has been affected by ECL model more than any other industries due to the high amount of financial instruments in its asset structure.

1.2. Insight into IFRS 9 Adoption

1.2.1. Background of IFRS 9

Accounting standards for financial instruments started to be criticised after the 2008 financial crisis (Gomaa *et al.*, 2019). The sharp fall in the price of assets during the 2008 crisis prompted questions about evaluation methods for financial assets. Many observers believe that fair value accounting worsened the economic downturn. However, fair value standards were not solely responsible for the deterioration of the crisis, inconsistent implementation of standards contributed to deepening the crisis (Kothari and Lester, 2012).

Provisioning based on ICL became another matter of debate after the 2008 crisis. Policymakers complained about the accounting standard prescribed ICL, which caused a procyclical effect on provisions and bank regulatory capital (Bushman and Williams, 2012). Strict ICL model requires impairment when the loss is accurate or occurs. As a result of this approach, during good economic times there is less loan loss so the provision is less. However, under adverse economic conditions, loan loss rises which requires higher provision. But the rise in losses during crisis makes it necessary to increase the allowance and causes erosion in profits. The ICL model does not have any room to compensate for the increasing need of provisions by saving more in good times. Criticism of the existing standard, IAS 39, its complexity, insufficiency on risk management, and deferring recognition of credit losses until it is too late compelled accounting standard setters to revise the standard (PWC, 2017a). The US Government Accountability Office (2013) published a report mentioning that the procyclicality in the crisis could have been minimised with early recognition of loan losses. Lastly, accounting standard setters were called on to review standards related to valuation and provisioning by G20 World Leaders in 2009, 2 April (International Monetary Fund, 2009).

As a result of the call and criticisms, both the 'International Accounting Standards Board (IASB)' and the 'Financial Accounting Standards Board (FASB)' started to work in 2009 on the new version of the standard for financial instruments. In 2014, the IASB issued the final version of the IFRS 9 which came into effect on 1 January 2018² replacing the previous standard IAS 39. The IASB divided problematic issues in IAS 39 into phases, and introduced proposed changes with IFRS 9 in three phases:

1-Classification and measurement of financial assets: According to the IFRS 9, financial assets are measured at amortised cost or fair value, but the main principle is to measure at fair value. Amortised cost is applied if the asset's cash flows are meeting some requirements ('Solely payment of principal and interest (SPPI)' test)³ and the company holds the asset with the purpose of keeping it at the end of its due date (business model test)⁴. If an asset meets the requirements of both SPPI and business model tests, it can be measured at amortised cost, and the rest at fair value. The classification categories in IFRS 9 are in line with the measurement categories, amortised cost, fair value which is divided into two according to the accounts where the difference in fair value is recognised ('fair value through profit or loss' and 'fair value through other comprehensive income'). IFRS 9 simplifies the IAS 39 classification which had four categories for assets 'held to maturity', 'loans and receivables', 'fair value through profit or loss', and 'available-for-sale'. IFRS 9 replaced the IAS 39 rule-based classification with the principle-based one which depends on SPPI and the business model tests. Another simplification in IFRS 9 is for derivatives. IFRS 9 voided the exemption of IAS 39 which was for using the cost method for derivatives. There is no separate application for derivatives' measurement and classification in IFRS 9. Derivatives' structure is not suitable to pass the SPPI test, so they are measured at fair value according to IFRS 9.

² FASB issued 'ASU 2016-13: Measurement of Credit Losses on Financial Instrument' in 2016 and it will be effective on December 15, 2019.

³ SPPI test is an evaluation for future cash flow of an asset to see if its cash flows comprise of solely interest payments and the principal.

⁴ Business model test is an evaluation to see if the objective of holding an asset is collecting contractual cash flows and selling the asset on the due date of the contract.

2-Impairment: IFRS 9 has introduced a dynamic provisioning model, ECL, and recognises loss before it occurs opposite the IAS 39 ICL approach. Recognising loss before it happens requires risk evaluation. IFRS granted a discretion right to management for risk assessment, and the provision amount is determined depending on this estimation. However, managerial discretion is not a right that depends solely on the forecast. Each estimate made by management should be materialised. For risk and loss assessment; default scenarios, probability of them, loss percentage under these scenarios and outstanding balance exposed at risk should be determined depending on historical data of bank and macroeconomic conditions.

3-Hedge Accounting: IFRS 9 has created a connection between hedge accounting and risk management activities and replaced arbitrary rules with principle-based requirements. With these changes, more hedging instruments and their related risk strategies become the subject of hedge accounting (Ernst & Young, 2014). However, there are some criteria for qualifying the hedging relation under hedge accounting so; hedge accounting is applied to hedging relations which meet the criteria. IFRS 9 hedge accounting application is optional so entities can apply IAS 39 requirements.

According to the report of one audit company in 2014, hedge accounting was expected to be the most crucial change in IFRS 9 (Ernst & Young, 2014). After the completion of IFRS 9, in 2016, IASB's Chairman expressed that the ECL is the most significant element in IFRS 9 and was expected to affect mostly the banking industry due to the timely recognition of credit losses, which prevents banks from either hiding credit losses or early recognition of substantial amount of provisions without any sign of risk/loss. Therefore, the ECL approach motivates banks to steer loans to sound companies, which contributes to a healthy credit flow and pave the road for a resilient, stable financial system as demanded by policymakers (Hans Hoogervorst, 2016).

1.2.2. New Impairment Model: Expected Credit Loss

The IASB regards the impairment model as the most significant change of IFRS 9 due to the damage caused by previous standard's impairment model. The

previous standard, IAS 39, prescribed the ICL model for impairment. The ICL model based on the approach of recognising loss either when a loss occurs, or if strong evidence for the risk of default arises. The logic behind the delayed impairment with ICL model is to avoid entities using provisions for income smoothing. However, the side effects of ICL model appeared during the crisis. Entities', specifically banks' credit losses increased during the crisis, but they did not have enough reserves to compensate aggregated losses due to the strict impairment approach of ICL. The crisis revealed that ICL model caused the postponement of losses and delayed impairment until it was 'too late' (European Banking Authority, 2018). It was a likely factor that deepened the crisis. The complexity of IAS 39 with multiple impairment models also raised some questions (IFRS Foundation, 2014).

IFRS 9 reduces and simplifies the many rules in IAS 39 by giving management greater discretion on impairment. Dichev *et al.* (2012) confirm the simplification of a regulatory framework for IFRS 9 by presenting the expectations of CFOs regarding the decline in the number of secondary regulation.

According to Marton and Runesson (2017), the ICL model of IAS 39 gives very little discretion to managers. On the contrary, the ECL model is constructed on the basis of decisions made by entity management and estimation of future credit loss to take precautions before a loss occurs as a result of the perspective gained after the 2008 financial crisis.

Unlike the IAS 39 ruled-based ICL model, there is no need to have any threshold or trigger event for loss recognition in ECL. IFRS 9's forward-looking new impairment model, ECL, allows estimating future credit loss and impairment before it occurs. ECL grants the right of judgement for risk evaluation and future loss estimation to the management of the entity. Moreover, risk/loss recognition and impairment according to the risk/loss estimation are always possible in the ECL model (Marton and Runesson, 2017). The ICL approach, on the other hand, does not consider potential future events and focuses on past or current events for loss recognition (IFRS Foundation, 2014).

The ECL model augments the information need with its forward-looking approach. For risk evaluation and future loss estimations, it is important that management is provided with information that is accurate and transparent comprising of historical and current data of the entity and forecasts both based on prospects for the economy and business of entity. Materiality and timely information are required in the ECL model to avoid over-provisioning for the benefit of management rather than the sake of the entity and the economy (UK Taskforce, 2018).

1.2.3. Association between IFRS 9 and IFRS 7

The IFRS 9 does not have disclosure requirements for financial instruments. It sets accounting transactions for financial instruments. Disclosure requirements are the subject of another standard which is IFRS 7. IASB consolidated all disclosure requirements related to financial instruments in this standard, and it has been effective since the beginning of 2007 superseding the 'IAS 30: Disclosure in the Financial Statements of Bank and Similar Financial Institutions.' Amendments to IFRS 7 related to IFRS 9 was applied until the end of 2013.

IFRS 7 sets out not only principle for disclosure, but also some specific disclosure requirements derived from principles. Both principles and specific requirements are listed within the standard. Even though IFRS 7 is a demanding top-down standard, applying all specific requirements is not sufficient to satisfy the standard (Hellman *et al.*, 2018). Full compliance is not enough for a quality disclosure in the context of IFRS 7. Materiality should be considered together with the requirements of IFRS 7. Instead of disclosing all specific requirements listed in the standard, eliminating irrelevant ones and providing relevant company-specific information is the appropriate way to illustrate the actual situation. It is also the approach expected in the context of IFRS 7 by IASB (IASB, 2017a; IASB, 2017b).

Although the IFRS 7 has been amended including the changes introduced by IFRS 9, discretion-based impairment model of IFRS 9 highlights the need to

provide more tailor-made disclosure reflecting the entity's individual circumstances (Ernst & Young, 2017).

As a result of the need for clarification pertaining to ECL disclosure, some banking authorities formed task forces, before the effective date of IFRS 9 to clarify the IFRS 7 requirements and determine the applicable supplementary disclosure items for directing entities to present more precise explanation about complex ECL calculation and intrinsic risk management practices for report-users. Task forces are;

- Enhanced Disclosure Task Force (EDTF) established by Financial Stability Board in 2012 aiming to improve the quality, comparability and transparency of risk disclosures (Enhanced Disclosure Task Force, 2015) and,
- Another one is the UK based Task Force established jointly by three UK regulators (Financial Conduct Authority, Financial Reporting Council, Prudential Regulatory Authority) in 2017 aiming to contribute ECL disclosure (UK Taskforce, 2018).

All task forces are banking-industry-related bodies. Given the fact that IFRS 7 is applicable to all types of entities, it is more critical for banks due to the magnitude of the financial instruments in banks asset structure. Tahat et al. (2016) conducted a study in one developing country which emphasised the significance of IFRS 7 for banks with the result that the banking industry discloses more information regarding financial instruments than any other industries.

Additionally, the banking sector is a well-regulated sector (Khlif and Hussainey, 2016) which leads to establishing the market discipline (Bushman and Williams, 2012) and banks' pioneering role made aforementioned task forces create detailed disclosure guidance for IFRS 9 for the banking industry.

Following task forces recommendations, some big audit companies also published guidance for financial instrument disclosure putting the ECL

disclosure in the centre (Ernst & Young, 2017; PWC, 2017b). It is understood from task forces', and audit companies' approach that following IFRS 7 requirements do not guarantee quality disclosure regarding financial instruments. IFRS 7 requirements should be applied considering the relevance and materiality with entity's circumstances (Ernst & Young, 2017).

Consequently, IFRS 7 provides the framework of the financial instrument but filling the context depends on the entity and applying all disclosure requirements do not result in good quality disclosure. Companies should consider their own circumstances' relevance and materiality in terms of disclosure requirements. After IFRS 9 adoption, the importance of company specific-information in disclosure increases with the inclusion of managerial decisions in the new ECL impairment model.

1.3. Role of the Banking Sector

1.3.1. IFRS 9 and Banking Sector

During the 2008 financial crisis, banks came under the spotlight with a high proportion of financial instruments which devaluated dramatically and rapid increase in credit losses which depleted their capital (Fontes *et al.*, 2018).

Worsening economic conditions during the crisis affected borrowers' repayment capacity and raised the total amount of default loans. The consequent insolvency crisis mostly affected the banking sector which had substantial amounts of credit in their assets (Ozili and Outa, 2017). The increase in loan loss boomed the amount of provisions which corroded profits directly and the regulatory capital indirectly.

The high default in banks loans underlined the critical importance of measuring risk and taking precautions in line with the risk. Provisions are a kind of buffer for mitigating the damage of credit losses and stabilising profitability (Ozili and Outa, 2017). The anticipation of credit loss is crucial for banks to maintain enough provision (Laeven and Majnoni, 2003). However, the 2008 financial crisis showed that the banking sector made insufficient provision to absorb the credit loss due to the impairment model of the existing accounting standard and

this impairment model was also procyclical which deepened the crisis in 2008 (United States Government Accountability Office, 2013).

IFRS 9 improves the accounting treatment on measurement and provisioning for financial instruments. Banks become more prominent in the implementation of IFRS 9 than any institution from other sectors due to the large portion of financial instruments in their assets (Fontes *et al.*, 2018).

The main impact of IFRS 9 on the banking sector is a forward-looking impairment model. This model, ECL, provides an impairment system allows to an aggregation of provisions according to the credit loss expectation. The importance of creating a cushion for huge losses was comprehended during an economic downturn, and ECL model was born as a response of the criticism steered to ICL. The insufficiency of IAS 39 impairment model, ICL, was articulated in G20 with the expression 'too little too late' which pointed the inadequacy of the existing impairment model in provisioning both in terms of timing and the amount (European Banking Authority, 2018).

The disclosure of banks' transactions and activities is another crucial subject for the industry. Since, disclosure is a kind of control mechanism for report users and contributes to the efficiency of corporate governance within a company (Bushman and Smith, 2001). Banks have a pioneering role in establishing market discipline (Bushman and Williams, 2012). As a well-regulated sector, other sector companies follow banks' implementations. Therefore, ensuring transparency in the banking sector is essential not only for the industry itself but also for other industries following banks.

1.3.2. Banking Sector in Turkey

As a natural result of being a developing country, the banking industry is the primary funding source for other sectors in Turkey. It has critical importance on the stability of the Turkish economy as a leading sector. Moreover, it is a well-regulated sector which is an example for other industries in terms of implementation of regulation and standards.

Banking Regulation and Supervision Agency (BRSA) is the government body responsible for the banking industry in Turkey. It regulates, monitors and supervises the whole banking sector. Each bank operating in Turkey is overseen by BRSA without no exception.

IFRS 9 was adopted in Turkey from the effective date of the standard, which was 1st January 2018. Before the application of IFRS 9, a survey was conducted by BRSA to gauge the possible effect of the Standard's new impairment model, ECL, on bank's provision and regulatory capital. A similar survey was run by the European Banking Authority in Europe. However, results in Europe and Turkey were contradictory. While European banks' provision was increasing and the regulatory capital was decreasing, Turkish banks' provision and regulatory capital remained almost stable. Furthermore, a slight increase in capital adequacy was detected according to the survey results (Sultanoglu, 2018).

Diverging results of the same ECL model between Turkey and Europe makes Turkey a more interesting case study in the application of IFRS 9 and its disclosure.

1.4. Purpose and Significance of the Research

This research explores the company characteristics that affect the disclosure quality regarding ECL related subjects for the banking sector in a developing country, Turkey.

ECL is the name of the new impairment model introduced by IFRS 9. The provisioning method of this new model is based on risk assessment, so the information to be disclosed about ECL is a part of the risk disclosure.

Unlike this research, risk disclosure research focuses mainly on developed countries (Beretta and Bozzolan, 2004; Lajili and Zéghal, 2005; Linsley and Shrives, 2006; Elzahar and Hussainey, 2012; Elshandidy *et al.*, 2013) and to the best of my knowledge; there is currently no research based on empirical evidence about the determinants of ECL disclosure.

Risk disclosure studies use different sector companies in their sample. Linsley and Shrives (2006) have questioned studies which combine financial and non-financial companies in the same research since the results are often biased because of the difference in risk items needs to be disclosed for these two company groups. This research was conducted using the sample from the banking sector. It is therefore expected that the results will be unbiased in the light of authors critique.

To sum up, this research examines the following questions;

- What is the disclosure level of banks in the context of the impairment model -ECL- introduced by IFRS 9 in Turkey?
- What is the relationship between bank characteristics and ECL disclosure level in Turkey?

The aim is to fulfil the objectives below by answering the aforementioned research questions;

- Investigating the ECL disclosure level of the banking sector in Turkey.
- Exploring bank characteristics influence the disclosure level of ECL related issues in Turkey.

By looking at the objectives and research questions, the noteworthy features of this study are;

- To the best of my knowledge, it is the first study focused on ECL disclosure within risk disclosure literature.
- This research focuses on a developing country in contrast to previous studies on risk disclosure which focused on developed countries.
- Diverging from other risk disclosure studies that combine both financial and non-financial companies in their sample, this study uses financial sector companies, namely the banking sector, in its sample, to avoid bias.

1.5. Structure of the Research

The structure of the paper for the next chapters are as follows. Chapter 2 provides relevant risk literature with the theoretical framework and ends with the generation of hypotheses. Chapter 3 describes the research methodology. Chapter 4 presents the data and the result of the empirical analysis. Lastly, Chapter 5 concludes the overall study providing contributions and limitations.



Chapter 2: Literature Review

2.1. Overview

IFRS 9 introduced new accounting procedures for financial instruments, but the disclosure of financial instruments is the subject of another accounting standard, IFRS 7, which was amended in line with the changes made by IFRS 9.

IFRS 7 set the rules for financial instrument disclosure including ECL application. However, the ECL model includes managerial judgement and company-specific elements both of which change the items and/or the focus on the items to be disclosed according to IFRS 7. Apart from items recommended in IFRS 7, depending on the risk assessment of each company, there might be additional factors which need to be disclosed to make the ECL measurement clearer for financial report users.

ECL disclosure is a part of IFRS 7 disclosure and also risk disclosure as a result of risk assessment in ECL calculation based on the discretion given to management. Management discretion mitigates the transparency (Bushman and Williams, 2012) for stakeholders, so the importance of disclosure becomes more remarkable with the ECL model.

However, rather than disclosure of the new impairment model, extant literature regarding IFRS 9 examines the impact (European Banking Authority, 2018) and market reaction to the standard (Onali *et al.*, 2017) (Onali and Ginesti, 2014) or compare the ECL and ICL models in terms of the effect on financial statements (Gomaa *et al.*, 2019) and risk-taking behavior of management (Bushman and Williams, 2012)(Marton and Runesson, 2017). The banking sector is the main subject for the majority of prior research due to the magnitude of financial instruments in quantity in the balance sheets and the importance of the sector for the stability of the whole economy.

The disclosure literature for financial instruments mainly focuses on the determinants of IFRS 7 compliance. There is no prior research that focuses

specifically on the factors that have an impact on the disclosure level of IFRS 9 new impairment model, ECL.

Due to the lack of previous research focusing solely on investigating disclosure of the newly established ECL model, the literature of this research is carried out utilising the risk reporting literature due to the risk evaluation process of ECL model to estimate the future loss.

2.2. Conceptual Framework

2.2.1. Identifying Risk and Risk Disclosure

Risk refers to uncertainty when probabilities cannot match the outcomes (Reddy, 1996), and a risk exists even an outcome is positive (Linsley and Shrives, 2006). Parallel to this broad risk definition, which embraces both good and bad consequences, risk disclosure includes reporting both opportunity and/or any hazard, harm, exposure (Linsley and Shrives, 2006).

Any reported uncertainty can be labelled as a risk disclosure in line with the extensive definition of risk. More specifically, Hassan (2009) defines risk reporting as a set of information which is based on accounting policies such as impairment, financial instruments, management risks and includes managers' estimates, judgements.

2.2.2. Risk Disclosure under Voluntary-Mandatory Concept

Parallel to the risk definition by Hassan (2009); risk disclosure can be divided into two groups, mandatory and voluntary. Mandatory risk disclosure is the information made publicly available due to legal requirements while voluntary risk disclosure is the divulging of information beyond minimum requirements prescribed in accounting standards and risk-related regulation (Popova, 2013). Companies which follow mandatory risk reporting, abide by requirements prescribed in regulations or standards, so applying the same requirements limits variations among companies. Mandatory risk disclosure process contributes to the standardisation of risk reports and mitigates the effects of company features on the risk disclosure process (Khelif and Hussainey, 2016).

By contrast, voluntary risk disclosure grants management freedom to include any risk element they prefer to notify in the risk report (Lajili and Zéghal, 2005). Unlike mandatory risk disclosure, voluntary disclosure increases variations among companies. However, it enables the company to customise the report to incorporate company-specific risk issues. According to Ahmed and Courtis (1999), there should be a balance between mandatory and voluntary risk disclosure, in other words, between risk disclosure and characteristics unique to the company.

Regulators aim to improve transparency by developing mandatory risk disclosure. Whereas, companies expect to increase their competitive position in the market by disclosing more than required (Miller, 2004). In both cases, risk reporting is a tool to mitigate information asymmetry between directors and stakeholders and contribute to enhancing stakeholders' confidence in the company (Kothari *et al.*, 2009).

However, reporting information about risk is not enough to establish transparency if the information is not useful for stakeholders (Linsley and Shrives, 2005). Cabedo and Tirado (2004) claim that report-users do not find risk disclosure sufficient, considering the result of previous studies. Linsley and Shrives' (2006) study note that companies disclose some risk information in annual reports, but it is far from comprehensible. Comprehensive risk disclosure is essential to picture the risk situation of a company and disclosing every piece of risk information is not good practice in transparent risk reporting (Linsley and Shrives, 2005).

2.2.3. Risk Disclosure and Banking Sector

Before the 2008 financial crisis, risk disclosure regulation was fragmented, and the focus was on the market risk arising from the use of derivatives (Beretta and Bozzolan, 2004). After the crisis, the Basel Committee introduced a framework for risk disclosure to increase transparency and revised it in 2017 focusing on credit risk measurement and risk management for banks to improve market discipline (Basel Committee on Banking Supervision, 2018). According to the Basel Committee, risk disclosure should be comprehensive, material,

timely, relevant, reliable, and comparable to fulfil the transparency in the banking sector.

Moreover, with the lesson learnt from the crisis, financial instrument disclosure requirements consolidated in one reporting standard (IFRS 7) involving risk reporting. IFRS 7 standardises disclosure and promotes the comparability to enhance transparency not only for banks but also for all companies applying the standard's requirements. Bischof (2009) found that disclosure quality including risk reporting for European companies has improved with the adoption of IFRS 7 and also noticed that the focal point of risk disclosures started to change from market risk to credit risk.

As a result of being a highly regulated sector, the banking industry is expected to show less variation in risk disclosure among banks and to be influenced less by company characteristics in risk reporting (Khlif and Hussainey, 2016).

However, with the adoption of IFRS 9, significant changes have occurred to financial instruments' accounting procedures for all types of companies. Banks and financial institutions have been affected more by high amount of financial instruments. New impairment model, ECL, presented by IFRS 9 changes the recognition process and the magnitude of impairment provisions, and grants comprehensive decision making powers to management for the impairment. These changes affect both the application of impairment and profit amount, ultimately balance sheets figures through profit. As a result of the potential to impact the performance of a company, understanding the ECL model becomes important for report users to make sense of credit risk of an institution (UK Taskforce, 2018).

Disclosure of the new impairment model have been standardised by IFRS 7, and through the standard, variation among companies in reporting has been reduced in terms of the ECL model, which has a notable impact on profit of entities and also capital adequacy of the banking industry.

However, the ECL model involves management discretion in determining risk and impairment based on this determined risk level. Historical loss data, current and macroeconomic condition are the components in ECL computation, and each element is incorporated in the calculation using a methodology whose details are determined by the management. Therefore, company characteristics become a part of ECL calculation and the disclosure of this calculation to maintain the transparency between report users and a company.

2.2.4. Mandatory ECL Disclosure in the Context of IFRS 7

The relationship between accounting standards and disclosure have received significant attention in the academic field and there is a remarkable amount of research testing the effects of accounting standard on disclosure either as a whole set of adopted accounting standards (Lambert *et al.*, 2007; Healy and Palepu, 2001) or individually at standard base (Glaum *et al.*, 2012; Bischof, 2009).

According to Hellman *et al.* (2018), compliance with accounting standards does not result in a high level of disclosure except for some accounting standards which specifically focus on disclosure requirements such as IFRS 7.

Studies conducted before the adoption of IFRS 7 found that disclosure practices in reporting are inadequate in terms of comparability (Hossfeld, 2004), integrity (Edwards and Eller, 1996), sufficiency for report-users (Woods and Marginson, 2004).

After the adoption of IFRS 7, Bischof (2009) reviewed the impact of IFRS 7 on disclosure for European companies and noticed an improvement in disclosure quality. Also, Tahat *et al.* (2016) undertook a study for a developing country and concluded that IFRS 7 affected disclosure practices of listed companies positively.

A survey was conducted for the banking industry after the IFRS 7 adoption, and it revealed that entity size is an indicator for an improvement on disclosure quality (Bischof, 2009). IFRS 7 has affected banking sector disclosure quality

positively for both financial and risk reporting and increased the importance of credit risk exposures (PWC, 2008).

As a result of the requirements brought by IFRS 9, new disclosure items related to credit risk have been added to IFRS 7. Amendments regarding credit risk include both narrative and numerical components to provide a proper understanding of complex credit risk evaluation. The narrative part pertains to explanation about assumption, inputs and models used for assessing credit risk and ECL, while quantitative disclosure provides information for carrying amounts of credit risk grouped in three stages and allowances accounted for credit risk.

IFRS 7 has improved the comparability of reports with applicable-to-all requirements and limits the variation in disclosure among companies. Synchronously, it provides a better picture pertaining to an entity's risk management and strategy with the involvement of company-specific information declarable within requirements after the amendments made in the context of IFRS 9.

Even though, an improvement has been observed in disclosure quality of financial instruments with IFRS 7, adopting the standard and applying it as it is, is not enough for a good disclosure quality (Bischof, 2009).

Company interests, management incentives are as important as setting specific disclosure standards (Hellman *et al.*, 2018). Disclosing useful information and avoiding boilerplate clauses is a key factor in ensuring a better understanding of reports. Selecting useful information and eliminating irrelevant ones in disclosure depending on management discretion signals what managers want to tell the market (Verrecchia, 1983). Therefore, besides accounting regulation, company features become a remarkable factor for disclosure quality.

2.2.5. Voluntary Risk Disclosure Concept and ECL Disclosure

IFRS 9 necessitates calculating future credit loss and impairment in advance based on this computed credit loss expectation. ECL is the model prescribed in

IFRS 9 for impairment. It is necessary to estimate the risk to calculate the provision arising from credit risk, and ECL model leaves judgement to management to forecast default risk arising from credits.

The ECL model helps to determine the risk, so the figure found with ECL is just an estimation, not the actual loss. Therefore, expectations for risk changes depending on the evaluation of management who needs to apply ECL using methodologies supported by the entity's historical data, current company conditions and macroeconomic models to foresee the economic situation. The risk evaluation of each company for impairment varies depending on the methodology prescribed by the management of the institution.

According to Linsley and Shrives (2005), the reluctance of management is the main problem in risk disclosure. Company-specific factors are also crucial for managerial judgement. Management utilises firm characteristics (Lang and Lundholm, 1993) to send a signal to decision-makers, which serves best to both their and company interests. Company-specific factors and directors judgement drive the risk determination in ECL model.

Granting comprehensive decision making to management has the potential to dilute the disciplinary pressure on risk-taking and results in a managerial divergence which might harm the transparency and leads to agency problem (Wall and Koch, 2000). The main aim of divulging company information is to support a wide range of decision-making processes (Bushman and Williams, 2012). But managerial discretion is a factor mitigating transparency (Bushman and Williams, 2012).

Therefore, the complexity of ECL calculation and involvement of management discretion increases the importance of transparency to help report-users in comprehending the impairment of credit risk of the company. Each entity needs to develop its own way by considering its circumstances in ECL measurement and disclosure to maintain transparency (PWC, 2017b). Inevitably, it is expected that the content, quantity, and quality of disclosed ECL information will change depending on the company characteristics.

For the banking sector, the Financial Stability Board's Task Force on Enhanced Disclosure believes that IFRS 9 will have a considerable effect on disclosure. The quality of disclosure becomes more important with the implementation of the ECL model which causes a variation in exposed risk information due to management decisions and company features involved in its calculation (Enhanced Disclosure Task Force, 2015).

Increasing uncertainties push companies measuring and managing risk using more sophisticated methods which increases the information asymmetry between the company and stakeholders (Linsley and Shrives, 2006). As a result of the existing information gap, more studies focused on risk-related issues, and the corporate characteristics influence the risk disclosure (Khelif and Hussainey, 2016).

Current risk disclosure studies mainly focused on developed countries such as Canada (Lajili and Zéghal, 2005), USA and Germany (Dobler *et al.*, 2011), Italy (Beretta and Bozzolan, 2004), UK (Linsley and Shrives, 2006) (Elzahar and Hussainey, 2012) (Elshandidy *et al.*, 2013). These studies investigated the relationship between company features risk disclosure without differentiating financial-non financial companies. There are also studies conducted on emerging markets such as the United Arab Emirates (UAE) (Hassan, 2009) but which still examine both financial and non-financial companies together.

Khelif and Hussainey (2016) analysed the result of risk disclosure studies which extend over a long period. They found that size, profitability and leverage ratio positively related to risk disclosure. Moreover, size and leverage ratio are also positively correlated with voluntary disclosure. Their result is in line with the approach of agency and signalling theories. One last finding of the study is related to the sample of previous research. When the sample includes both financial and non-financial companies, the relationship between risk disclosure and company features become blurred which indicates the homogeneity in sample in terms of the industry ensure an unbiased analysis (Khelif and Hussainey, 2016; Linsley and Shrives, 2006).

2.2.6. Measurement of Risk Disclosure

There are many ways to measure disclosure quality. Creating index, counting the number of related words or sentences, using dummy variables, making survey/ interviews are main methods. Risk disclosure literature also utilises these methods. Generating index (Beretta and Bozzolan, 2004; Lipunga, 2014) and counting word or sentence (Linsley and Shrives, 2006; Elzahar and Hussainey, 2012) are the most common ways in the literature. Both methods have pros and cons.

The index method is a multi-level process. First, index items should be selected, then the validity and reliability of the index need to be tested. These phases are for the generation of the index. The third stage is the evaluation of the content according to the index items. Each item in the document is searched for individually, and this process is repeated for each unit in the sample, so it is a long and labour-intensive method. These features appear as a limitation and restrict the sample size (Ibrahim and Hussainey, 2019).

However, it is an effective way if the aim is to examine the compliance level of the disclosed information for a regulation. For this objective, index items are created based on requirements represented by regulation or standard (Ibrahim and Hussainey, 2019). In the end, researcher can conclude to what extent requirements are disclosed by the sample, so the interpretation of index result is straightforward for measuring compliance level.

The counting method is basic compared to the index method. It is simply based on counting the words or sentences, and the number of repetitions is assumed to be the indicator of disclosure level. In other words, this method attributes meaning to quantity for evaluating the quality of disclosure (Ibrahim and Hussainey, 2019).

The main difficulties are choosing the proper word or phrase to count (Hassan and Marston, 2010) and while counting, being aware of the different meanings of the selected word in the sentence arising from the syntax (Linsley and Shrives, 2006). Many researchers have argued that counting sentences

produce a more reliable result than counting words. Since, a word can have more than one meaning while a sentence has just one meaning (Elshandidy and Neri, 2015), in one sentence there might be more than one codeword which results in double-counting (Kravet and Muslu, 2013).

Even though using a word as a coding unit is arguable for content analysis, simplicity is the strength of the word counting method, and it is a convenient method under time limitation and if working with large samples.

This research investigates the effects of company characteristic on the disclosure level of the IFRS 9 new impairment model. This model has been named as 'Expected Credit Loss' by standard setters. It is a technical term and represents the new impairment concept which is evaluated by the IASB representatives as the most significant change introduced by IFRS 9 (Hans Hoogervorst, 2016). Due to the time limitations of the project, the counting method has been chosen for its practicality. Also, the main criticism arising from syntax for word counting method is solved by selecting the technical term, 'expected credit loss(es)', to count.

2.3. Theoretical Framework

2.3.1. Agency Theory

Agency theory based on a conflict of interest between principal and agent stems from the separation of ownership and control within a company (Jensen and Meckling, 1976). This conflict has a cost according to the theory (Jensen and Meckling, 1976), which predicts that both parties have different interests (Cooke, 1989). Agent's opportunist approach raises the agency problem. Disclosing information and decreasing information asymmetry is an efficient way to avoid the agency problem (Jensen and Meckling, 1976).

The forward-looking impairment model of IFRS 9 grants the risk assessment right to management. There is some evidence in the literature for forward-looking provisioning since it provides an environment which relaxes the risk-taking discipline of the agent and results in the agency problem with the deterioration in transparency (Bushman and Williams, 2012).

However, Linsley and Shrives (2000) explain that the disclosure level of risk information increases as a result of conflict between agent and principle. When a principal has limited information about the entity's risk, he monitors the agent closely, and the pressure of close monitoring forces the agent to disclose more about the company's risks to gratify the principle.

According to the theory, agency cost changes with company characteristics. For instance, large and highly leveraged companies disclose more to satisfy shareholders and creditors respectively (Celik *et al.*, 2006).

2.3.2. Signalling Theory

The signalling theory is constructed on the information asymmetry between parties (Morris, 1987). According to the theory, the main aim of disclosure is to reduce information asymmetry. Managers use disclosure as a signal for delivering a message to the market about a company's financial performance (Lang and Lundholm, 1993; LaPointe *et al.*, 2006; Uyar and Kilic, 2012).

This study analyses the determinants of IFRS 9 discretionary disclosure for forward-looking provisioning in the context of signalling theory. Some studies examined the association between provisioning and investor perception for large banks (Grammatikos and Saunders, 1990; Musumeci and Sinkey, 1990; Elliott *et al.*, 1991). Beaver *et al.* (1989) conclude that reserves have an impact on market values. There are some studies for banks (Wahlen, 1994; Kanagaretnam *et al.*, 2005; Eng and Nabar, 2007) which test whether discretionary provisioning is a signal for earnings and find a positive relationship. Kanagaretnam *et al.* (2005) analyse the determinants of signalling for the banking sector, and again provisioning is revealed as a signal for future earnings.

2.4. Hypothesis Development

Hypotheses were developed to find out some company characteristics which influence the disclosure quality of banks regarding the ECL model. While structuring hypotheses, previous research on risk disclosure was utilised due to the absence of studies which focus specifically on ECL disclosure.

ECL is an impairment model prescribed by IFRS 9. The philosophy of the ECL model is to assess credit risk and impairment according to the assessment result, so it is a part of credit risk, and the disclosure of the subject related to ECL model is a part of credit risk disclosure.

Disclosure of risk is closely related to management discretion. In compliance with the agency and signalling theories, company characteristics influence the director's approach while disclosing risk.

Company size, profitability and leverage ratio are the notable company features examined in the risk disclosure literature. For this research, these three characteristics are hypothesised to explore their relationship with the ECL disclosure level for the banking sector in Turkey.

Size:

Disclosing information and decreasing information asymmetry is an efficient way to avoid the agency problem (Jensen and Meckling, 1976). But disclosure also has a cost in terms of time and human resources which is more bearable for larger companies (Alsaeed, 2006). To prevent the agency conflict and its damage, large companies disclose more by accepting the cost of disclosure (Meek *et al.*, 1995)

Prior studies investigating determinants of risk disclosure found a positive relationship for developed countries (Beretta and Bozzolan, 2004; Linsley and Shrivs, 2006; Elzahar and Hussainey, 2012) while an emerging country-based study reached a negative association (Hassan, 2009).

Although this study conducted for an emerging market, the results regarding size-ECL relation may diverge from the previous research (Hassan, 2009) conducted for an emerging market for two reasons.

The first one is that the sample comprises banks, unlike Hassan's (2009) study which chose companies from different industries for the sample. According to Linsley and Shrivs (2006) examining both financial and non-financial

companies together leads to an empirical bias result, so it is expected that this research result may not be in line with Hassan's (2009) result.

The second reason for expecting a divergence from the previous emerging market study is that banking sector is well-regulated (Khlif and Hussainey, 2016), and this feature of the industry leads to a different result from other emerging market studies. A positive association between ECL disclosure level and size of an entity for the Turkish banking industry is therefore expected.

H1: There is a positive association between the size of a bank and its ECL disclosure level.

Profitability:

Profits are related to a company's performance, and high profitability means a company has performed well. Disclosing high performance of a company benefits managers both in reputation and compensation, so managers tend to disclose more when the company makes a profit (Alsaeed, 2006).

However, results from prior studies are mixed for risk disclosure and profitability relationship. Lajili and Zéghal (2005) found a negative association for Canadian companies. Some UK based studies could not observe a significant association between risk disclosure and profitability (Elzahar and Hussainey, 2012; Elshandidy *et al.*, 2013) while one finds a positive correlation (Iatridis, 2008).

Consistent with the agency and signalling theories, it is expected that profitable companies will release more risk information for justifying the company's financial performance. By disclosing more risk information, directors send a signal to stakeholders about the entity's performance under the existing risk level.

As a result of inconclusive results on risk disclosure studies, hypothesis related to profitability and ECL disclosure association was constructed considering theoretical approach.

H2: There is a positive association between the profitability of a bank and its ECL disclosure level.

Leverage Ratio:

Leverage ratio is used to measure the percentage of company asset acquired using sources other than the company's own capital. However, after the 2008 financial crisis, Basel Committee on Banking Supervision proposed a new leverage ratio for the banking industry (Atkinson and Blundell-Wignall, 2010) which has opposite meaning compared to the commonly used leverage ratio. Bank leverage ratio shows a bank's sources (capital) used for financing assets. The banking industry leverage is roughly the ratio of 'equity to asset' (simple leverage ratio for the banking industry) (Atkinson and Blundell-Wignall, 2010) while it is 'debt to asset' for other industries.

High bank leverage indicates intensive use of equity for asset financing which is a good sign in terms of self-sufficiency (capital adequacy). However, a high leverage ratio for other sectors shows utilising foreign sources rather than the company's capital. The contrast in measuring banking sector leverage and other sector's leverage affects the interpretation of empirical results.

According to the theoretical approach, a highly leveraged entity, which uses debt as a finance source intensively instead of equity, needs to satisfy its creditors to reduce agency cost (Jensen and Meckling, 1976). Also, a highly leveraged company needs to send a signal to the market that the entity is competent to fulfil its obligation. Due to these reasons, companies which utilise debt as leverage, are expected to disclose more risk information than other entities using their own sources.

Prior studies investigating the association between risk disclosure and debt leverage had different results. Linsley and Shrives (2006) could not find an association for UK companies for whom Elzahar and Hussainey's (2012) result was insignificant. An emerging market study (Hassan, 2009) acquired a positive correlation for risk disclosure and debt leverage which means more debt leads to more risk disclosure.

The emerging-market study result is parallel to agency and signalling theories' predictions. So, while running emerging market research, the hypothesis for

bank leverage ratio and risk disclosure association was constructed taking into account previous study but comprehending the contrast in the interpretation of banking industry leverage ratio and as a whole other sectors leverage ratio.

H3: There is a negative association between bank leverage ratio and bank's ECL disclosure level.



Chapter 3: Methodology

3.1. Research Philosophy

Saunders et al. (2016) define research philosophy as a 'system of belief and assumption' for evolving knowledge, so there is no one philosophy fits all types of research. Two philosophies namely, positivism and interpretivism, are notable in social sciences.

Positivism is based on realism (Guba and Lincoln, 1994). According to positivism, the reality is given and quantifiable regardless of the researcher and its instrument. Positivist study forecasts the general patterns of phenomena objectively and tests its prediction (Willmott, 1997). Myers (1997) expressed that positivist study is mainly based on testing theory to increase the knowledge for the predicted components of phenomena. The main contribution of positivist studies is explaining the cause-effect relationship by measuring facts using scientific methods (Saunders *et al.*, 2016). As a result of the scientific approach, positivist studies have an unbiased, objective stance distinct from its researcher's view.

In contrast, interpretivism involves researcher interpretations and subjectivity to contribute to creating new views and a deeper understanding of a social phenomenon. Interpretivism depends on the philosophy of people's difference in interpreting realism, so it involves subjectivity as a result of using experiences, perceptions, views of people to provide a new understanding (Saunders *et al.*, 2016).

Table 1. Comparison of positivism and interpretivism

Positivism	Interpretivism
Focus on realism	Focus on critical realism
Aim is to explain causal relation	Aim is to provide a new/deeper understanding
Uses scientific method	Uses narratives, interpretations, perceptions
Objective stance	Subjective stance
Deductive	Inductive
Uses large sample	Uses small sample
Uses quantitative method	Uses qualitative method
Range of data analysed	Range of data interpreted

Source: Saunders *et al.*, 2016

This research adopts the positivist paradigm aiming to explain the drivers of an existing phenomenon, which is disclosure level. Specifically, the disclosure level of ECL and its association with firm characteristics for the whole Turkish banking sector are examined. Predicted associations between ECL disclosure level and firm characteristics are hypothesised using data gathered from bank annual reports and a database. Hypotheses are tested using the statistical method. Hypotheses are rejected or confirmed depending on the result of the statistical method. Three steps, namely explanation (defining fact), prediction (developing hypothesis), control (testing hypothesis) for the application of positivist paradigm are closely followed in this research.

3.2. Research Strategy and Research Approach

Both quantitative and qualitative strategies are applicable to disclosure studies. According to the Crotty (1998), the objectivity of processes about data collection, testing and interpretation of quantitative strategy renders it suitable for positivist philosophy. The aim of this research is to explain a causal relationship between ECL disclosure and the affecting factors with an unbiased way. Therefore, positivist philosophy, and the objectivity to be deployed in data collection, analysis, and hypothesis testing processes, make the quantitative approach more suitable for this research.

Research approach, namely inductive and deductive, is another categorisation which shows the design of the study. Deductive study starts with a prediction which is hypothesised and continues with collecting data to test the hypothesis (Saunders *et al.*, 2016). However, the inductive approach starts with data collection without making assumptions and continues with analysing data to reach the result (Bryman and Bell, 2015). In inductive study data leads the researcher, in deductive study the researcher makes an assumption before data collection and data is used to test the assumption. The deductive approach is adopted in this research which starts with the hypotheses development followed by the hypotheses testing using collected data.

3.3. Research Design

3.3.1. Overview

This research investigates the association between ECL disclosure level and some bank characteristics for the Turkish banking sector. Positivist paradigm guided this study with a deductive strategy and quantitative approach. As a result of the positivist perspective;

1. A content analysis was made to examine the IFRS 9 new impairment model -ECL- disclosure practices among banks operating in Turkey based on the count of ECL(s) phrase,
2. A multiple regression analysis was run to explore the effects of bank characteristics on the practice of ECL disclosure using an Ordinary Least Squares (OLS) method.

This methodology will help to answer the research questions of the study. The data was obtained;

1. From annual reports published at bank website for content analysis,
2. From Fitch Connect Database for regression analysis.

Content analysis was made using a holistic approach, counting ECL(s) phrase in all narrative parts, table and financial parts of annual reports. The total number of ECL in each report was divided into the total page numbers of an annual report. This ratio represented the frequency of the ECL phrase in every hundred pages and measured the level of ECL disclosure of Turkish banks.

Detection of the relationship between selected company characteristics and ECL disclosure level utilised a multiple regression model, namely OLS. This model was used in similar previous research, and also it helps to address the research questions of this study. The dependent variable in this model is the ECL disclosure level measured with the generated ratio above, and independent variables were company characteristics, namely size, profitability and leverage ratio specific for the banking sector.

3.3.2. Sample Description and Data Collection

This research examines the firm characteristics that affect the IFRS 9 disclosure level in the context of ECL model for the banking industry in Turkey for the year 2018.

According to the list published by the BRSA, there are 53 banks in Turkey⁵:

- Two of them are default banks and operated by the government agency, whose duty is resolving failed banks.
- Five banks are branches of foreign banks, so they are not a legal entity in Turkey.
- Two banks were founded for specific purposes, one operates as a clearinghouse, and the other one is an intermediary for the funding of municipalities.

After excluding these nine banks, 44 banks remain, which actively operate in Turkey in 2018. These 44 banks constituted the sample of this study represents the entire Turkish banking industry.

IFRS 9 which prescribes the ECL impairment model, has been effective since 1st January 2018. Therefore, the observation term is one year, which is 2018. To sum up, 44 bank-year observations were used for this study.

Annual reports and FitchConnect Database were the sources for secondary data collection. Data collected from annual reports were used for calculating the ECL disclosure level (dependent variable). Ratios and balance sheet figure for independent variables were extracted from FitchConnect. The fiscal year for the whole population is 1 January-31 December, so the data collected from sources are homogeneous in terms of timeline.

⁵ List of banks are accessible (09.09.2019) from <https://www.bddk.org.tr/Kuruluslar-Kategori/Bankalar/1>

Also, the data set was controlled to detect the outliers and incomplete or missing data by using the descriptive analysis function of SPSS. In the case of having outliers, these values lead to unreliable findings (Pallant, 2007) and bias output may deform the OLS analysis (Brown and Tucker, 2011), so they should be eliminated from the dataset. Values higher or less than three standard deviations from the mean are treated as outliers. The descriptive analysis result showed that there was no outliers and missing data. Therefore, data manipulation was not applied to the data set.

The only intervention was transforming the dependent variable and one independent variable from the original value to natural logarithm to improve the linearity and normality of the distribution (Tabachnick and Fidell, 2013).

3.3.3. Measurement of Variables

There are four variables; one is dependent variable represents disclosure level, and the other three are independent variables represent the factors that possibly affect the disclosure level, namely size, profitability and leverage ratio for the banking industry.

Table 2. Summary of variables and proxies

Variable	Code of Variable	Measurement
ECL Disclosure	ECL_DIS	Number of ECL(s) /Total Page Numbers of Annual Report
Bank Size	SIZE	Natural Logarithm of Total Asset
Profitability	PROFIT	Pre-Impairment Operating Profit /Average Equity
Leverage Ratio	LEVER	Equity / Total Asset

3.3.3.1. Dependent Variable

There are several ways to measure the disclosure level. Creating an index (Botosan, 1997), counting relevant words or sentences (Linsley and Shrives, 2006; Elshandidy *et al.*, 2013), using a dummy variable (Iatridis, 2008), surveys or interviews (Tauringana and Chithambo, 2016) are methods for gauging the disclosure level for narrative information.

This study attempts to determine the disclosure level of the IFRS 9 new impairment model for the banking industry. To measure the information released about the new impairment model, the conceptual content analysis (Hassan and Marston, 2010) method was applied by counting the frequency of keywords/concepts in an annual report. The expression of 'expected credit loss(es)' -ECL(s)- was used for counting and the annual report was searched for the expression with a holistic approach (Beattie *et al.*, 2004).

The importance of ECL for the banking sector and the reasons that make it more significant among other changes introduced by IFRS 9 are explained in the 'Introduction Chapter'. Basically, the change in impairment computation based on ECL model is the most dominant impact of IFRS 9 on the banking sector.

The counting method seems primitive and using a word for a counting unit has been criticised due to the changing meaning of the word depending on the syntax in the sentence (Ibrahim and Hussainey, 2019). But there are many studies (Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Elzahar and Hussainey, 2012) which have followed this method in the literature and it was preferred for this research for two reasons.

First, an expression was chosen for counting but ignoring words whose meaning may vary depending on syntax. The chosen expression, ECL(s), is a technical term, and the sequence of words in the expression is unalterable. This feature eliminates the risk of semantic shift arising syntax, so the main drawback has been eliminated for the purpose of this research.

The second reason is the time limitation of the research. After identifying the related word(s), automatic counting and using the total number of words is an efficient and time-saving way for measuring disclosure level.

All ECL(s) expression in each bank's annual report, both in long-form expected credit loss(es) and short-form (ECL/s) were counted. Then, in contrast to the generally accepted application of transforming results to the natural logarithm, each bank's result was divided by the total page numbers of the 2018 annual report of the relevant bank. The formula for the dependent variable is;

Equation 1. Dependent variable ratio

$$\frac{\text{Number of ECL(s)}}{\text{Total Page Numbers of Annual Report}}$$

For finding the disclosure level of IFRS 9 new impairment model, this formula was applied to each bank in the sample using the information extracted from 2018 annual reports for numerator and denominator.

The main approach using the page number of an annual report as a denominator is; IFRS 9 impairment model disclosure does not solely depend on the discretion, in other words, it is not just a voluntary forward-looking information disclosure. There are some disclosure requirements set by IFRS 7, which is a specific standard for financial instrument disclosure, including the rules for ECL disclosure.

After the IFRS 7 adoption, Bischof (2009) observed that the volume of European banks annual reports has increased, and he pointed out two reasons. Firstly, banks have more financial instruments, so they have more to explain compared to other industries. Second is the integration of risk reports to annual reports after IFRS 7 adoption. To sum up, IFRS 7 affects the length of annual reports, and IFRS 7 required to disclose information regarding ECL model so, the ECL model disclosure is expected to contribute to the increase in the length of an annual report.

3.3.3.2. Independent Variables

Size:

Many studies have used company size as an independent variable to explain the disclosure level. Total asset (Lajili and Zéghal, 2005; Hassan, 2009; Dobler *et al.*, 2011; Elzahar and Hussainey, 2012) and market capitalisation (Linsley and Shrives, 2006; Elshandidy *et al.*, 2013; Celik *et al.*, 2006) are the primary proxies preferred by many researchers. Turnover (Beretta and Bozzolan, 2004), and total revenue (Iatridis, 2008) are also chosen as a proxy to represent company size in some studies.

Total revenue and turnover are more meaningful for companies operating in the manufacturing industry. The focus of this research is the banking industry, so the total asset and market capitalisation are more suitable than total revenue and turnover. However, only 14 banks in the sample are listed, so the market capitalisation is not applicable in this case.

Moreover, Khelif and Hussainey (2016) found that the relationship between risk disclosure and company size is significant when the total asset is used as a proxy for company size. Therefore, the total asset became the proxy for this research.

Total asset figures for 44 banks in the sample were gathered from FitchConnect Database, and the natural logarithm of total asset was used in the analysis.

Profitability:

Profitability is another predictor variable used to explain the relationship between disclosure level and company characteristics. Dominant proxies for profitability are 'return on asset' (Lajili and Zéghal, 2005) and 'return on equity' (Elzahar and Hussainey, 2012; Elshandidy *et al.*, 2013) in the literature. Different than the majority, Iatridis (2008) used 'operating profit margin' as a proxy.

Additionally, IFRS 9 new impairment model ECL affects the amount of provisions and profit as a result of impairment. To eliminate the effect of ECL

impairment on profit 'pre-impairment profit to average equity' was chosen as a proxy. This ratio was directly extracted from the FitchConnect Database for each bank in the sample and added to the analysis without applying any transformation.

Leverage Ratio:

Leverage is the mechanism showing the financing structure of a company asset. It is generally measured using two ratios, 'debt to asset', 'debt to equity'. However, the banking sector is the driver to maintain the stability of the economy, and its soundness is more important than any other sector due to its key role. The leverage ratio used for banks shows how much of the asset is financed by equity. The main stress is on the equity since it is the source that can be liquidated easily in the event of economic downturn than any other sources. In other words, banks leverage ratio tells the capital adequacy of the institution. Tier 1, regulatory capital, 'equity to total asset' are common ratios measuring the bank's leverage.

The majority of disclosure studies measure leverage of a company with 'debt to asset' (Lajili and Zéghal, 2005; Hassan, 2009; Elzahar and Hussainey, 2012) and 'debt to equity' (Linsley and Shrivess, 2006; Iatridis, 2008; Dobler *et al.*, 2011) ratios. Also, Khlif and Hussainey (2016) argue that the relationship between risk disclosure and leverage is more significant when 'debt to equity' ratio is used as a proxy.

However, after the 2008 financial crisis, Basel Committee on Banking Supervision introduced a new perspective in leverage ratio for the banking industry (Atkinson and Blundell-Wignall, 2010) whose calculation is roughly the opposite of the commonly used leverage ratio.

This research utilised one of these bank-specific leverage ratios as a proxy which is 'equity to total asset'. The focus of this study is the banking industry, so a bank-specific proxy has potential to explain the leverage ratio better than a general one.

The ratio of 'equity to total asset' for the whole sample was collected from FitchConnect Database and included in the analysis without applying any transformation.

3.3.4. Empirical Model

Regression analysis is a frequently used statistical method to determine the cause-effect relationship between two or more variables. A mathematical model is developed in regression analysis to examine the relationship between variables, and it is called a regression model (Birkes and Dodge, 1993).

This research investigates the relationship between IFRS 9 disclosure level in the context of ECL impairment model and company characteristics that influence the disclosure level. There was more than one independent variable, size, profitability and the leverage ratio for the banking sector, so multiple regression analysis (OLS) was run to examine their effect on disclosure level using the regression model below;

Equation 2. Regression Model

$$Y = \beta_0 + \beta_1 \text{SIZE} + \beta_2 \text{LEVER} + \beta_3 \text{PROFIT} + \varepsilon$$

Y :Disclosure ratio

β_0 :Regression intercept

$\beta_1, \beta_2, \beta_3$:Regression coefficients

ε : Error term

The validity of the model should be tested before the application of the model otherwise the results will be misleading. There are two types of OLS analysis; ranked and unranked. Wallace et al. (1994) offer the ranked OLS if the data is monotonic and non-linear. To eliminate these problems, data is transformed into ranked scores. According to Camfferman and Cooke (2002) unranked OLS has advantages over ranked OLS. Unranked OLS produces exact statistical results without transforming scores to ranks, so the statistical result and coefficients in the model are meaningful. Moreover, unranked OLS analysis provides ways to establish normality without rank transformation.

This study's data set did not have the features Wallace et al. (1994) pointed out, and the advantages of unranked OLS analysis in interpreting statistical result motivated using unranked OLS regression analysis for this research.



Chapter 4: Findings and Discussion

4.1. Descriptive Analysis and Components of Dependent Variable

Table 3 presents some statistical information about the variables used in the regression model. Profitability and leverage ratio for banks dispersed to a broader range compared to other variables in the model. The mean of the profitability is almost in the middle of the minimum and maximum values, so there is a balance in data distribution both side of the mean in the series for profitability. The mean of banking sector leverage ratio is close to the minimum value, so the leverage ratios for banks is expected to distribute close to the lower halves of the data set.

Table 3. Descriptive statistics of variables

	N	Minimum	Maximum	Mean	Std. Deviation
ECL_DIS	44	.00	.24	.0875	.0599
SIZE	44	4.50	13.25	9.7279	2.2831
PROFIT	44	1.91	54.90	28.6556	13.1034
LEVER	44	5.41	97.53	22.3420	27.2314
<u>Dependent Variable</u> ECL_DIS: ECL Disclosure Level					
<u>Independent Variables</u> SIZE: Bank Size LEVER: Leverage Ratio for Banks PROFIT: Profitability					

The dependent variable range is smaller than other independent variables' range which means that variation in ECL disclosure level among banks level is not high. The mean of the ECL disclosure level is close to the minimum value. Even the variation is not high for ECL disclosure, having a mean close the minimum limit points that the majority of banks' ECL disclosure is close to the minimum point.

Table 4. Components of Dependent Variable

Bank	Number of 'ECL(s)'	Total Page Numbers of Annual Report	ECL Disclosure Level
Bank 1	0	104	0
Bank 2	0	57	0
Bank 3	0	23	0
Bank 4	0	150	0
Bank 5	0	40	0
Bank 6	1	143	0.006993007
Bank 7	1	115	0.008695652
Bank 8	2	47	0.042553191
Bank 9	3	252	0.011904762
Bank 10	5	162	0.030864198
Bank 11	5	208	0.024038462
Bank 12	11	168	0.06547619
Bank 13	14	452	0.030973451
Bank 14	16	183	0.087431694
Bank 15	17	173	0.098265896
Bank 16	19	145	0.131034483
Bank 17	19	99	0.191919192
Bank 18	20	311	0.064308682
Bank 19	20	220	0.090909091
Bank 20	22	333	0.066066066
Bank 21	23	348	0.066091954
Bank 22	26	402	0.064676617
Bank 23	32	400	0.08
Bank 24	32	312	0.102564103
Bank 25	33	504	0.06547619
Bank 26	34	212	0.160377358
Bank 27	34	364	0.093406593
Bank 28	34	486	0.069958848
Bank 29	38	464	0.081896552
Bank 30	40	356	0.112359551
Bank 31	42	388	0.108247423
Bank 32	42	362	0.116022099
Bank 33	43	370	0.116216216
Bank 34	43	399	0.107769424
Bank 35	46	376	0.122340426
Bank 36	46	188	0.244680851
Bank 37	54	414	0.130434783
Bank 38	60	524	0.114503817
Bank 39	62	426	0.145539906
Bank 40	67	420	0.15952381
Bank 41	72	478	0.150627615
Bank 42	76	401	0.189526185
Bank 43	78	630	0.123809524
Bank 44	83	476	0.174369748

Table 4 present the details of the independent variable. According to this table, 20 banks' ECL disclosure is higher than the mean (0.0875) while the 24 of them disclose lower than the average. 5 of these 24 banks did not disclose anything related to ECL.

The maximum ECL disclosure level is 24% which means that ECL(s) is mentioned 24 times in every 100 pages of annual report. Some banks used ECL(s) in more frequently than other banks, but long length of annual report decreases the frequency of ECL(s) and lowers the ECL disclosure level of the bank.

4.2. Correlation Analysis

The correlation matrix shows the association between variables. A significant correlation between dependent and independent variables is a desirable result to explain the variation in the dependent variable with the hypothesised independent variables. However, a significant relationship among independent variables points to a problem called multicollinearity. A coefficient which is higher than 0.80 in the matrix, indicates substantial correlation which damages the regression analysis result. Therefore, collinearity should be inspected before the evaluation of the regression analysis result.

Correlation matrix provides an initial-screen to identify the multicollinearity. Variance inflation factor (VIF) value also diagnoses the collinearity. There is no hard and fast rule about the limit value of VIF; 3, 5, 10 are the limit values mentioned in the literature. '1' is the minimum value for VIF (Bowerman and O'Connell, 1990).

According to the Table 5, all coefficients are less than 0.8 and the VIF values in the Table 7 are higher than '1' and less than the smallest limit value which is '3'. These inspections show that there is no multicollinearity in this regression analysis which can be carried on.

Table 5. Results of Pearson Correlation

	ECL_DIS	SIZE	PROFIT	LEVER
ECL_DIS	1.000			
SIZE	.604*	1.000		
PROFIT	.277**	.143	1.000	
LEVER	-.580**	-.739	.025	1.000
*p<.10 ; **p<.05				

As mentioned before, the correlation matrix provides the relationship between dependent and independent variables. Based on Pearson Correlation Result; two independent variables (SIZE and PROFIT) have a positive, while the third one (LEVER) has a negative correlation with the dependent variable (ECL_DIS). Each of them has a significant relationship with the dependent variable. Precisely,

-Bank size has a positive and significant (at the 0.10 level) relationship with ECL disclosure.

-Bank profitability has a positive and significant (at the 0.05 level) relationship with ECL disclosure.

-The bank leverage ratio has a negative and significant (at the 0.05 level) relationship with ECL disclosure.

These results reveal that; big and profitable banks tend to disclose more about ECL, while capital leveraged banks tend to disclose less in the context of ECL.

4.3. Regression Analysis

Multiple regression analysis (OLS) was run to test the model structured to find out the determinants of ECL disclosure. According to the Table 6, the model is statistically significant with the F value (Sig. F Change), which is '0.000'. Adjusted R Square of the model is 42%, which indicates that independent variables explain 42% of the variation of the dependent variable (ECL disclosure).

Table 6. Model Summary

Adjusted R Square	.420
R Square	.460
F Change	11.370
Sig. F Change	.000

The overall model is significant (F value=0.000) to explain the relationship between ECL disclosure (dependent variable) and predictors, namely bank size, profitability and leverage ratio for banks. The significance of each predictor should be evaluated to see which independent variable is more significant to explain the inspected relationship.

Table 7. Results of Multiple Regression

Variable	Unstandardised Coefficients				Collinearity Statistics
	B	Std. Error	T	Sig.	VIF
CONSTANT	-.003	.051	-.061	.952	
SIZE	.008	.005	1.692	.098	2.337
PROFIT	.001	.001	2.030	.049	1.062
LEVER	-.001	.000	-2.072	.045	2.290

Table 7 shows that all explanatory variable in the model are statistically significant, specifically;

- Bank size (SIZE) is significant at the level at the 0.10 level (0.098),
- Bank profitability (PROFIT) is significant at the 0.05 level (0.049),
- Bank leverage ratio (LEVER) is significant at the 0.05 level (0.045).

Additionally, coefficients show the direction of the relationship between the independent and dependent variable, which is positive for the predictor size and profitability, negative for leverage ratio for the banking sector.

4.4. Discussion

Size:

There is significant ($p < 0.10$; 0.098) positive ($B = 0.008$) relationship between bank size (SIZE) and ECL disclosure, which means large banks tend to disclose more information about ECL related issues. Therefore, H1 is accepted.

This result is in line with agency theory. Information asymmetry between agent and principal is high due to the size of the company, and large companies' agents tend to expose more information to fill the information gap and decrease the pressure coming from the principal (Watts and Zimmerman, 1983).

The ECL model includes risk evaluation, so the disclosure of ECL is inevitably a part of risk disclosure. Due to the scarce literature pertaining to ECL disclosure, the results of this research will be compared with the studies focused on risk disclosure.

There are many studies on the determinants of companies' risk disclosure, and most of them (Beretta and Bozzolan, 2004; Linsley and Shrives, 2006; Elzahar and Hussainey, 2012) found a positive association between company size and risk disclosure level which is also confirmed by this research.

However, another research conducted in an emerging country (UAE) found an insignificant relationship between company size and risk disclosure (Hassan, 2009). This study was also done in an emerging market (Turkey), but the result contradicts prior research (Hassan, 2009). The main difference between these two studies is that this one focuses on the banking industry in an emerging market while the previous study included companies from different sectors. Moreover, the banking industry in Turkey is well-regulated and closely-monitored as it is in developed countries.

Profitability:

Bank profitability (PROFIT) has significant ($p < 0.05$; 0.049) positive ($B = 0.001$) association with ECL disclosure. Therefore, the H2 is supported by this result, which corresponds to the signalling and agency theories.

Based on the agency theory, the dissemination of risk-related information decreases the asymmetry between agent and principal (Khlif and Hussainey, 2016). Managers, as an agent, are inclined to share risk-related information for signalling their risk management performance (Iatridis, 2008) and high-profitability encourages managers to communicate more risk-related information as a signal of a successful risk management performance (Elshandidy *et al.*, 2013).

Even though this study found a positive association between profitability and ECL disclosure, there are mixed results in the literature about the relationship between profitability and risk disclosure. While Lajili and Zéghal (2005) concluded with a positive association, Iatridis (2008) pointed a negative relationship, Elzahar and Hussainey (2012) could not find a significant correlation between profitability and risk disclosure. Unlike this study, previous studies were undertaken using samples from developed countries.

Leverage Ratio:

Bank leverage ratio (LEVER) has a significant ($p < 0.05$; 0.045) negative ($B = -0.001$) correlation with ECL disclosure. The meaning of this result would be; *the rise in debt amount in asset financing which results in a decrease in the ECL disclosure level* if 'debt to equity' or 'debt to asset' ratios were used as a proxy. But this bank-oriented research has an intrinsic proxy, which is 'equity to total asset' showing the amount of equity used for asset financing instead of commonly used ratios which show the debt amount used to finance assets.

Therefore, the interpretation of research finding is that the increase in the amount of equity in asset financing lowers the ECL disclosure level. The result supports H3 and leads to the conclusion that banks which have a high leverage ratio (equity to asset), in other words, banks use their own sources (capital) rather than debt in asset financing, disclose less information about risk-related ECL model.

The research result is consistent with signalling theory. Using a substantial amount of debt in asset financing makes a company riskier (Elshandidy *et al.*,

2013) and agents are inclined to disclose more information about risk to signal to creditors about the competence of the company in paying debt (Elzahar and Hussainey, 2012). In conclusion, less debt and more equity in asset financing mean a company is less risky, and this does not put pressure on managers to share more information about risk.

However, the results of previous studies which tried to explain the association between leverage and risk disclosure differ. While United Kingdom (UK) based two studies did not find a relationship (Linsley and Shrives, 2006; Elzahar and Hussainey, 2012), Iatridis's (2008) result is positive association for UK companies, and another study for a developed economy, Germany, (Dobler *et al.*, 2011) concluded with a negative correlation. Lastly, an emerging market (UAE) study (Hassan, 2009) found a positive relationship between risk disclosure which means increasing in debt amount in asset financing increases the risk disclosure of the company. Even this study's result pointing a negative association, the interpretation of the result is in line with the finding of previous research for emerging market (Hassan, 2009). The explanation of this study's outcome is; raise of equity in asset financing results in a decline in the ECL disclosure level.

To sum up, bank size and profitability have significant positive, while the bank leverage ratio (capital adequacy) has a significant negative association with ECL disclosure. Large and more profitable banks disclose more about ECL related subject while the higher amount of equity in asset financing results with less ECL disclosure for the Turkish banking sector.

Chapter 5: Conclusion

5.1. Overview

This research investigated; ECL disclosure practices of the banking sector in Turkey for the year 2018, and the bank characteristics which influence the ECL disclosure level for the Turkish banking sector.

ECL is a new impairment model introduced by IFRS 9 and came into effect on 1st January 2018. This new impairment model is based on making risk assessment for financial instruments and impaired in line with this assessment. Therefore, revealing information about ECL application is similar to risk disclosure.

The study focused on banking sector ECL disclosure in a developing country since ECL impairment model affects banks more than any other sector companies due to the high amount of financial instruments in banks' financial statements and risk disclosure studies are rare in developing countries.

For the empirical analysis, first ECL disclosure level of Turkish banks was found using the counting method, and a multiple regression model (OLS method) was applied to explore the relationship between disclosure quality and bank characteristics, namely bank size, profitability and bank leverage.

According to the result of empirical analysis, all explanatory variables are significantly associated with ECL disclosure level for the Turkish banking industry. While bank size and profitability have a positive correlation with ECL disclosure, bank leverage ratio (capital adequacy ratio) has a negative relationship with ECL disclosure level. These results show that large and profitable banks disclose more in ECL related issues, but banks' ECL disclosure decline when they depend on their capital more than debt in asset financing in Turkey.

5.2. Contributions

The ECL impairment model is prescribed by FRS 9, which is a new standard and was first applied in 2018. Due to the impact of the ECL model on financial

statements, studies concentrated on the new impairment model efficacy. Disclosure of the ECL model received little attention than other issues related to ECL model.

This study contributes to risk disclosure literature, providing the first investigation pertaining to ECL disclosure. To the best of my knowledge, there is no risk disclosure research specifically focused on the ECL disclosure.

Moreover, ECL impairment model grants substantial discretion to management for risk estimation. According to Bushman and Williams (2012) allowing directors more discretion on provisioning may lead to more risk-taking and less transparency. This will mean increased supervision to enable the banks to remain vigilant in order to maintain discipline about risk-taking. Also, enhanced risk disclosure provides more forward-looking information to supervisors and helps them to be more proactive (Linsley and Shrives, 2005).

This research revealed some bank characteristics associated with a better ECL disclosure; in other words, a better level of transparency regarding ECL application. Comprehension of these bank-specific factors makes it easier for supervisors to monitor risk and give an insight into the Banking Regulation and Supervision Agency of Turkey to prioritise banks in auditing.

Moreover, understanding the dynamics of ECL disclosure in the Turkish banking sector enlightens other developing countries, which adopted IFRS 9, and their supervisory authorities in terms of the dynamics of the ECL disclosure.

5.3. Limitations

One of the limitations of this study is the lack of literature regarding ECL disclosure. As mentioned above, the ECL impairment model was introduced by IFRS 9, which is now the new standard. Previous studies which examined the ECL model focused its effects on the financial structure of companies due to the remarkable impact on the financial figures, in particular on profit through provisions. Whereas this study examines the disclosure of ECL practices and uses risk disclosure studies to explain ECL disclosure because of the

involvement of the risk assessment process in ECL model and the absence of the studies directly focused on ECL disclosure.

The second limitation is measuring disclosure level. For this research ECL disclosure level needed to be measured; in other words, disclosure quality should be quantified to run the regression analysis. There are many methods in the literature for measuring disclosure level. Counting related words is one method which this research applied. But this method has been criticised in the literature due to the fact that a word may have different meanings as a result of syntax (Linsley and Shrives, 2006). The time constraint of the research compelled me to choose the counting method. However, this study attempts to overcome the deficiency of the word counting by using a technical term which does not affect the syntax of the sentence.

5.4. Further Research

Limitations of the current study addressed some gaps for future studies. First, the literature regarding ECL disclosure is insufficient, so cross-country studies, which provide the differences among countries, can be conducted to close gap. Secondly, some corporate governance features, for instance; board size, ownership structure, ownership dispersion, can be added to the analysis to see the relationship with ECL disclosure and their contribution in explaining the variation of ECL. Lastly, an index can be constructed to measure the ECL disclosure level of the banking sector, and a new investigation can be undertaken for the Turkish Banking sector using this index. By comparing the results of current research and the new one, the validity of the criticism regarding the word counting method can be evaluated only if utilising the evaluation limited to ECL disclosure measurement.

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