Lord Ashcroft International Business School

Financial Instruments under the IFRSs: A comparative Study between the Early Adoption of IFRS 9 and its Precedent Standards set in Commercial Banks in the Middle East

A thesis in partial fulfilment of the requirements of Anglia Ruskin University for the degree of Doctor of Philosophy

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Abstract

International Financial Reporting Standard 9: *Financial Instruments* (IFRS 9) is considered a major development in the financial reporting field. This is because of its considerable financial reporting coverage of the majority of a banks' assets. International Accounting Standard Board claimed "IFRS 9 both helps users to understand and use the financial reporting of financial assets and eliminates much of its complexity in International Accounting Standard 39 (IAS 39)". Some of the commercial banks in the Middle East adopted the first stage: classification and measurement of the IFRS 9 early in 2011. Changes in labels comprehensively incorporates influence on financial instruments' reporting in relation to both presentation and disclosures, which affects investors' judgments and economic decisions. The cost of equity theory is based on the idea that the value of the firm equals the discounted anticipated benefits, such as dividends. Therefore, from an investor perspective, the firms' value is affected by forward-looking information, which is based on financial reporting outcomes.

Consequently, this thesis empirically compares the effect of the classification and measurement stage under IFRS 9's early adoption (POST period) with the precedent standards set, IAS 32: *Financial Instruments: Presentation*, IAS 39: *Financial Instruments: Recognition and Measurement* in addition to IFRS 7: *Financial Instruments: Disclosures* (PRE period). The empirical comparison primarily deals with two key streams; value relevance and economic consequences. Value relevance is divided into two objectives; firstly, fair value disclosures which are examined using the Balance-Sheet Model (BSM) and, secondly, derivatives fair-value recognition which is examined based on Ohlson's (1995) model. Economic consequences are reflected using the cost of equity (CE) measured by three methods (Claus and Thomas, 2001; Gebhardt, Lee and Swaminathan, 2001; Gode and Mohanram, 2003) in addition to the average. CE is examined by both univariate and multivariate analyses. The study period covered ten financial years: five years PRE and five years POST incorporating 22 commercial banks and 110 bank/year observations for each period in the Middle East.

Findings supported the IASB's claim relating to the classification and measurement stage under IFRS 9 for value relevance and the cost of equity. Fair value disclosures for financial instruments were found to be value relevant in both periods, except for loans. However, loans are value relevant only in banks which are financially healthy and resident in peaceful countries under PRE IFRS9. Derivatives fair-value recognition was found to be value relevant only for trading type and in the long term (10 year period). Additionally, only using the average, there was a significant inverse relationship between CE and the early adoption of IFRS 9. Furthermore, the central bank's intervention significantly decreased the cost of equity by 115 basis points; however, banks which adopted IFRS 9 voluntarily faced a lower CE, such as in Bahrain and Lebanon.

Key words:

IFRS 9, IAS 39, IAS 32, IFRS 7, Value Relevance, Economic Consequences, Financial Instruments, Financial Reporting.

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Dedication

To my father & hero, HATEM ALJAMAL…

You are always there as a good foundation through all the storms, sorrows and laughter's I went throughout my life. Proudly & sturdily, you guided and held my hands to the first step on my PhD journey. However, you gently passed away and disappeared from my life on 7th September 2015. You were so proud and now I evoke your attendance by dedicating this effort for your absent pride and honour. My lovely father never waited for praises, succeed but never boast and accomplished but quietly. I am thankful slave for this blessing and I hope the paradise to be our destination.

To my mother & idol, ALIA ALASHOURI…

For the one who my heart lays down on her beaches of graciousness, grace and favour. My seas never end from your beaches, so, where should I direct my sail if sinking is never enough to be thankful. My mother stays in a country with no expressing and meaningful language to demonstrate her power, beauty and heroism. I dedicate this effort for her majesty, the queen of my kingdom.

To my brother MOHAMMAD HATEM ALJAMAL

He is my brother where the best bond lays as a supportive shadow and an unselfishness. You place the light of my life as your existence maintained my power, smiles and passion to life. Nothing I can do to demonstrate your brotherhood but I dedicate this effort to the best brother I'm blessed with.

To my Sisters

I hope that the sky rains flowers that I can water them by my joy tears

I hope that I can mix the earth by the blossom nectar that I can present and gift you my best orchards garden

Acknowledgements

Declaration

I hereby declare that this thesis has been composed in its entirety by me and I confirm that it has not been submitted for the award of any other degree at Anglia Ruskin University or any other educational institution.

I also declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct.

DOAA HATEM D. ALJAMAL

Table of Contents

List of Tables

List of Figures

Abbreviations

A4S   *The Difference Between Fair Value and Book Value of Available-for-Sale Financial-Assets*

ACI   *The Difference Between Disclosed Fair Value and Book Value of Amortized Cost Items*

AIMR   *Association for Investment Management and Research*

AMEX   *American Stock Exchange*

ASC   *Accounting Standard Codification*

BMR   *Book to Market Ratio*

BIA   *Basic Indicator Approach*

BIS   *Bank of International Settlements*

BSM   *Balance Sheet Model*

CAC   *Cotation Assistée en Continu*

CAR   *Capital Adequacy Ratio*

CCR   *Changes to counterparty Credit Risk*

CE   *Cost of Equity*

CET1   *Common Equity Tier 1*

CML   *Capital Market Line*

CORE   *Domestic Deposits Minus Time Deposits*

CVE   *Credit Value Adjustments*

DAX   *Deutscher Aktienindex*

DDM   *Dividends Discount Model*

DEBT   *The Difference Between Fair Value and Book Value of Other Debt Financial Liabilities*

DEP	*The Difference Between Disclosed Fair Value and Book Value of Deposit Liabilities*
EGM	*Earnings Growth Model*
EPS	*Earnings Per Share*
FASB	*Financial Accounting Standard Board*
FDIC	*Federal Deposit Insurance Corporation*
FDPS	*Forecasted Dividends Per Share*
FEPS	*Forecasted Earnings Per Share*
FROE	*Forecasted Returns on Equity*
FVTPL	*Fair Value Through Profit and Loss*
GAAP	*Generally Accepted Accounting Principles*
GPI	*Global Peace Index*
HTM	*The Difference between Disclosed Fair Value and Book Value of Held to Maturity Financial-Assets*
IAS	*International Accounting Standard*
IASB	*International Accounting Standards Board*
ICAAP	*The Internal Capital Adequacy Assessment Process*
IEP	*Institute for Economic and Peace*
IFRS	*International Financial Reporting Standard*
IGAP	*The Maturity Gap between Nominal Net assets with Maturity of More than One Year*
IRB	*Internal Rating Based Approach*
IMF	*International Monetary Fund*
LCR	*Liquidity Coverage Ratio*
LD	*Loans to Deposits ratio*
LID	*Linear Information Dynamics*
LTG	*Long Term Growth*

LNS *The Difference between Disclosed Fair-Value and Book Value of Net Loans and Advances*

LOANS *The Difference between Disclosed Fair Value and*

Book Value of Net Loans

MB *The Difference between the Market Value and Book Value of Equity at the End of the Period*

NON39AS *The Remaining from Total Assets after Subtracting IAS 39 related Financial Assets*

NON39LI *The Remaining Firm Total Liabilities after Subtracting IAS 39 Related Financial Liabilities*

NON9AS *The Remaining from Total Assets after Subtracting IFRS 9 Related financial Assets*

NON9LI *The Remaining from Total Liabilities after Subtracting IFRS 9 Related Financial Liabilities*

NPL *Non-Performing Loans*

NPV *Net Present Value*

NYSE *New York Stock Exchange*

OAC *The Difference between Fair Value and Book Value of Other-Amortized-Cost Financial Assets*

OACI *The Difference between Disclosed Fair Value and Book Value of Other Amortized Items such as cash and Balances and Due from Banks*

OCI *Other Comprehensive Income*

OD *The Difference between Fair value and Book Value of Other Debt Financial Liabilities such as Cash and Balances and Due from Banks*

OFFFB *Off Financial Position Items*

PBE *Public Business Entities*

RFR *Risk Free Rate*

ROE *Return on Equity*

RIVM *Residual Income Valuation Model*

ROA *Return on Assets*

SEC   *Securities and Exchange Committee*

SFAS   *Statement of Financial Accounting Standard*

SSAP   *Statement of Standard Accounting Practice*

WGI   *Worldwide Governance Indicators*

Chapter 1: Introduction

1.1 Introduction

This thesis pertains to the International Financial Reporting Standards (IFRSs) and in particular to the standards which are related to financial instruments. It also covers a single industry, the Middle Eastern commercial banks. The research deals with two major areas: 1) value relevance of fair value reporting and 2) the economic consequences. This study compares the two major areas between the early-adoption of the IFRS 9: *Financial Instruments* and the adoption of the preceding International Accounting Standards (IAS). The preceding standards encompass IAS 32: *Financial Instruments: Presentation* IAS 39: *Financial Instruments: Recognition and Measurement*, in addition to IFRS 7: *Financial Instruments: Disclosures*. Some of the commercial banks in the Middle East adopted the first stage of the IFRS 9 as early as 2011, even though it is not effective until 2018. In fact, IFRS 9 was released on 24 July 2014 as a final version of the International Accounting Standards Board's (IASB) project to replace the preceding standards. The three stages are as follows: 1) classification and measurement, 2) impairment and finally, 3) hedging. Accordingly, this thesis investigates the value relevance of fair values and the economic consequences for only the first stage of the IFRS 9. Mainly, under the first stage, the IASB changed the criteria for classifying the financial instruments into three categories instead of four to shift from the rule to more principle-based requirements using the business model. Equally, the aim of this thesis is specified to investigate the relevance and economic consequences of the new classification criteria compared with the preceding one.

A change in labels comprehensively incorporates an influence on the financial instruments' reporting both presentation and disclosures. For instance, behavioural theory sheds light on the influence of labels on investors' behaviours, such as the perceived risk of the item's label. This would reflect on the results returned by the equity valuation theory. For example, investors' judgment is important because it changes the estimations of anticipated dividends coming from the investment, not forgetting that equity valuation theory primarily uses forward-looking information such as dividends. Additionally, IASB released the IFRS 9 project summary (IFRS 9, 2014, p. 6) where it stated: "requirements for classification and measurement are the foundation of the accounting for financial instruments", as well as "the requirements for impairment and hedge accounting are based on that classification".

The definition of value relevance relies primarily on the investor's term. The thesis defines this term consistently with Barth (2000) as "the accounting amount is associated with some measure of value e.g. share price". It is also compatible with the conceptual aim of Hussainey and Walker (2010, P. 155) which is "the degree to which these statements improve investors' ability to better anticipate future earnings". Primarily, the major trend aims to investigate the significance of association between the share prices and the fair value disclosures and recognitions (Barth, 2006). Fair value has been used intensively, especially for financial instruments, rather than other measurement approaches such as historical costs. Many financial instruments, particularly financial assets, are required to be reported under fair value initially and subsequently. However, firms are required to disclose fair value amounts if items are not initially or subsequently recognised by fair value. This thesis aims to investigate the claim of the IASB in BC4.2, 2014, B731 that "IFRS 9 both helps users to understand and use the financial reporting of financial assets and eliminates much of its complexity in IAS 39". Accordingly, this thesis covers in its comparison the usefulness of fair value recognition over historical costs for items such as derivatives (trading and hedging) as well as fair value disclosures over historical costs for items such as held-to-maturity assets or liabilities.

The second major area that is covered by this research is the economic consequences. The economic consequences are measured by the cost of equity or the required return by the investor. The cost of equity is affected by both the reporting quality (Lambert, Leuz and Verrecchia, 2007a) and the disclosures levels and quality (Hussainey and Walker, 2009; Slack, et al., 2010; Hussainey and Walker 2010). The considerable replacement of financial instrument reporting by the IFRS 9 derives the intention to investigate the economic consequences for this major event. This research satisfies this gap in the literature in a comparative view for previous standards set and IFRS 9.

1.2 Research Objectives

The majority of previous studies confirmed the significant ability of financial instruments' fair value amounts to affect the share prices. These studies covered international context for fair value recognition, for example, in Danish banks and thrifts (Bernard, Merton and Palepu, 1995) and fair value disclosures in CAC-40 French banks (Arouri, et al., 2012) or over their historical cost in cross G7 closed-end mutual funds (Carroll, Linsmeier and Petroni, 2003). Notably, the majority of studies were held in the US, where the continuum covered the financial instruments' related oldest standards up to more recent ones for both

disclosures (Eccher, Ramesh and Thiagarajan, 1996; Barth, Beaver and Landsman, 1996) and recognition (Simko, 1999; Wang, Alam and Makar, 2005).

Fair value relevance relies on an argumental area of its usefulness. This is owing to many reasons, for instance, to mention (but not to limit) the difference in jurisdictions or type of economy (efficient or inefficient) might raise a conflict (Agostino, Drago and Silipo, 2011). Accordingly, this represents the first impetus for this study to investigate empirically the relevance of fair value estimates for financial instruments over their historical amounts, as a comparative view between the early adoption of IFRS 9 and its precedents.

Under this objective, this study provides evidence for the relevance of fair value disclosures for amortised cost financial instruments comparatively between the early adoption of IFRS 9 and its precedents. This is owing to the IASB's claims that IFRS 9 holds less complexity and better understanding for financial statements' users than its precedents by applying the business model to classify the financial instruments. However, companies have to disclose the fair value for any item accounted for amortised cost.

Additional evidence pertains to fair value recognition for items such as derivatives. This is down to the IASB's requirements to disclose the notional amounts for derivatives.

Furthermore, this thesis examines whether the relevance of fair value disclosures is affected by the bank's financial health and the peace rule enforcement indicators. For instance, Barth, Beaver and Landsman (1996) confirmed that banks with worse financial health faced less relevance for their fair value disclosures. This implies the existence of fair value manipulation incentives to maintain the required Capital Adequacy Ratio (CAR). However, manipulation is restricted by law enforcement, especially in cross-country studies. It could also be said that investors consider the institutional differences between countries where they assign less reliability for fair value measures in countries with less law enforcement (Agostino, Drago and Silipo, 2011).

In literature, there is much evidence with regards to the economic consequences of the adoption of high quality standards in Europe (Li, 2010; Eliwa, Haslam and Abraham, 2016) or the USA (Dhaliwal, 1979; Bhattacharya, et al., 2012; Barth, Konchitchki and Landsman, 2013), as well as some likely global evidence (Daske, et al., 2008). However, all these studies investigated every firm in each industry (including financial institutions or excluding them). In addition, none of those studies covered the Middle East area as an emerging economy with similar cultural similarities but differences in peace indicators, as

well as the lack of comparative studies. This derives the importance to find out: 1) the economic consequences for the IFRS 9 early adoption and its precedents in the banking industry avoiding the industry effect factor and 2) the economic consequences of IFRS 9 early adoption and its precedents in the Middle East area. The banking industry has a vital role in every economy as it plays the intermediary between savers and investors. Therefore, any increase or decrease leads to affecting the cost, which is charged for money borrowers, or the structure for the interest rates. The following figure displays the research objectives.

To investigate the relation (relevance) between the new accounting numbers and the market Prices comparing both periods POST and PRE the standards (recognition and disclosures)

To investigate the economic consequences of this new amendment comparing with PRE standards (cost of equity)
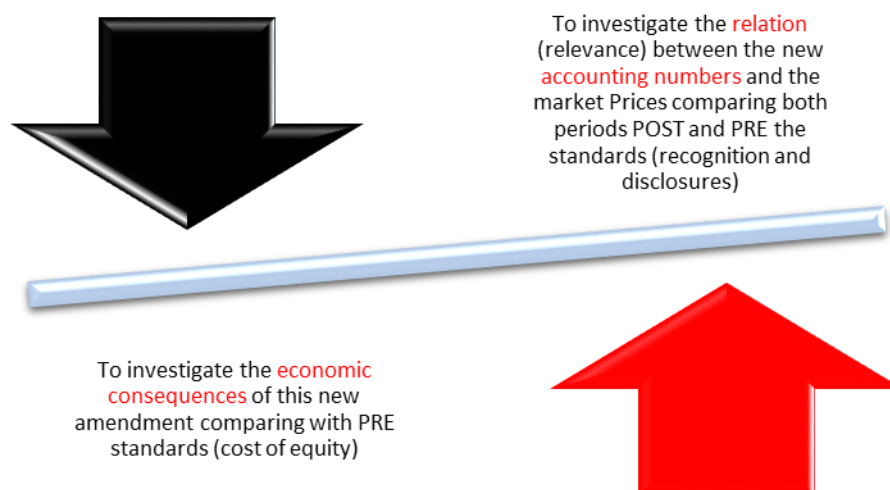
Figure 1-1: The Research Objectives

1.3 Research Motivations

Based on the literature review, this study has been urged by a number of motivations. Firstly, the review of the literature revealed that studies relied on many theories, such as behavioural theory (Bischof, 2009; Bischof, 2014), counterfactual reasoning theory (Koonce, Lipe and Mcanally, 2005; Koonce, Nelson and Shakespeare, 2011) and cognitive costs theory (Maines and McDaniel, 2000) to investigate the effect of classification and measurement stage or labels on the value relevance. However, for the first time, this study implies the cost of equity theory to investigate the effect of IFRS 9's first stage: classification and measurement of the investors' economic decision.

Secondly, there was the lack of investigating the value relevance in the Middle East sample. The Middle East stands as a unique study sample owing to many reasons. Firstly, this region features relatively homogenous cultural characteristics. This gives an opportunity to investigate the studies' objectives without considering regional differences and effects on the investor (Harrigan, Wang and El-Said, 2006; Elnahass, Izzeldin and

4

Abdelsalam, 2014). Secondly, it has the larger number of IFRS 9 early adopters. Thirdly, it stands as a fertile incubator with a special nature in terms of its peace indicators. Indeed, the law enforcement was a significant variable in many studies (Porta, et al., 1998; Kaufmann, Kraay and Mastruzzi, 2009) where this could impact the level of compliance by the IFRSs. Lastly, the Middle East remarked by the type of its economies where they are all developing. To date, there isn't any study that has examined the relevance and the economic consequences of the IFRSs in the Middle Eastern or cross-listed commercial banks under one economy type or in countries with various levels of conflict and war. This concern contributes to the gap in research.

It might also be witnessed that the majority of studies in the literature covered firms rather than the banking industry. This type of industry primarily holds financial instruments, which equal 90% of its total assets (Bischof, 2009). Furthermore, the commercial banks have a vital role in the economy, which determines a country's rate structure by their cost of equity (CE). That is to say, if the CE for banks was lower, the interest rate would be lower, benefiting the whole economy. This gives an opportunity to examine the fair value relevance and economic consequences in an obvious and most related industry. Consequently, this study contributes to the ongoing concern by primarily incorporating this industry only.

1.4   Overview of the Methodology

1.4.1   Theoretical Background

For value relevance, this research followed many studies which relied on the cost of equity theory as a theoretical foundation. These studies relied on the empirical models (specifications) to apply this theory, such as the Balance Sheet model (BSM) (Barth, Beaver and Landsman, 1996) and Ohlson (1995) (Wang, Alam and Makar, 2005).

Additionally, for returning the economic consequences, this theory represents the background to estimating the CE. CE is defined as the required rate of return which is required by the investors for equity investment (Damodaran, 2012). The research relied on this theory to return the CE as it relies on a future data, such as the analysts' forecasts, and assumptions for earnings, such as the Residual Income Valuation Model (RIVM) (Ohlson, 1995) and Earnings Growth Model (EGM) (Ohlson and Juettner-Nauroth, 2005).

1.4.2 Research Methodology and Methods

Under the first objective, the fair value relevance is examined under econometric techniques. For fair value disclosures over their book values, the BSM is applied (Barth, Beaver and Landsman, 1996; Agostino, Drago and Silipo, 2011). Additionally, the study has two different models related to each period post (under the early adoption of IFRS 9) and pre (under IAS 32, IAS 39 and IFRS 7). Under comparative regression models, the difference between the equity market and book values is the dependent variable and the disclosed fair value amounts for items accounted for historical cost are independent variables. Controlling the model incorporates related and non-related variables to financial instruments. Related variables are interest rate risk, default risk and core deposits. Non-related variables are notional amounts and off-financial position items. Filling the BSM idea, the model incorporates all the remaining assets and liabilities after deducting those related to IFRS 9 and its precedents.

For fair value recognition, this research used a model by Ohlson (1995), which was applied empirically by Wang, Alam and Makar (2005). The model regresses the equity market value on the equity book value, net interest income, net gains and losses from the financial instruments through income statement, net trading and hedging derivatives. In addition, it controls similar variables previously prescribed.

CE is measured according to three models with different assumptions and specifications, in addition to the average as no consensus on the optimal model to measure the cost of equity. Chiefly, this thesis returns the CE using the EGM (Ohlson and Juettner-Nauroth, 2005) implemented and specified under Gode and Mohanram (2003). In addition, it uses the RIVM, where this thesis employs the specifications by Gebhardt, Lee and Swaminathan (2001) in addition to Claus and Thomas (2001). The CE data will be tested by both univariate and multivariate tests. Univariate tests provide results with regards to timely changes of the CE through the period. Under multivariate analysis, this thesis developed a model based on those developed and applied by many studies (Dhaliwal, Krull and Li, 2007; Lee, Walker and Christensen, 2008; Li, 2010). This model allows for discovering the impact of IFRS 9's early adoption using a dummy variable. In addition, it controls other variables that could affect the CE, such as the industry effect by bank ratios, the capital adequacy (CAR) and loans-to-deposits (LD). It also controls for beta, earnings variability, leverage and risk-free rate as well as risk factors such as size and book-to-market ratio (Fama and French, 1993).

Additionally, the study covers two periods to support the comparative aim: pre from 2006 until 2010 (under the preceding IFRS 9 standards) and post from 2011 until 2015 (under the early adoption of IFRS 9). Owing to the comprehensive and integrated level of study data, the data are collected from Bloomberg, annual reports for detailed disclosures, such as fair values and derivative-related information, central banks' bureaus for rates structure, in addition to Institute for Economics and Peace statistical publications. The resulting number of observations is 90 and 88 during the pre and post periods respectively.

1.5   Rationale and Significance of the Study

The previous researches investigated the relevance of fair value reporting and the economic consequences for financial instruments under an individual standards' set. The results ranged between confirming and not confirming the relevance of fair value disclosures and recognitions in addition to its positive economic consequences with more weight to the confirmation. The variety of the previous literature covered different contexts, jurisdictions, time periods and Generally Accepted Accounting Principles (GAAPs), however, it did not comparatively investigate the two releases. IASB claimed that the release of IFRS 9 would enhance investors' understanding for holding less complexity in addition to its more principle- based oriented standard compared with the previous standards set. This standard is effective from 2018 where early adoption is permitted. IFRS 9 imposed the classification and measurement to be based on the business model. This implies that, according to the best of knowledge, there is no empirical evidence about the validity of the new trend under IFRS 9. This derives the significance of examining IASB's claim for 90% of banks' net assets (Bischof, 2009).

This implies the necessity to provide all the IFRS 9 stakeholders with empirical evidence of IASB's claim. In practice, this study will support different related parties, such as bank managers, investors, clients, analysts, policy makers and the standard setters. The latest included, in its conceptual framework, the accounting information characteristics, a core one being value relevance. As a consequence, if the study confirmed highest relevance for fair value financial reporting under IFRS 9, thus, the business model grants the investors more information related to their economic decision. This grants the standard setters a step towards enhancing their standards requirements. Similarly, investors and analysts would perceive more information related to their decisions regarding their future benefits if there was higher relevancy and positive economic consequences under IFRS 9 compared with the previous standards set. Above all, the business model will grant bank managers a

simpler classification rule, thus reflecting the real economic substance for the financial instrument if there was a higher value relevance and economic consequences.

1.6 Research Contribution

The first objective was to investigate the value relevance of financial instruments' fair values comparatively between pre and post the new release of IFRS 9. The majority of the US banking findings support the relevance of most financial instruments with some exceptions in limited settings. For instance, fair value disclosures of investment securities are value relevant in consensus (Barth, 1994; Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996). Also, there are many studies held to examine this objective in the European context, such as Danish banks (Bernard, Merton and Palepu, 1995), French banks (Arouri, et al., 2012) and a wider range in G7 countries' closed-end mutual funds (Carroll, Linsmeier and Petroni, 2003).

The second key objective in the chapter is providing the empirical comparative evidence for the economic consequences presented by the CE. The literature covers two contexts: firstly, firms under the IFRS single country (Leuz and Verrecchia, 2000b; Eliwa, Haslam and Abraham, 2016) or regional (Li, 2010) and global (Daske, et al., 2008). Secondly, firms under non-IFRS such as the USA (Barth, Konchitchki and Landsman, 2013) and Canada (Richardson and Welker, 2001). Indeed, studies were classified into two types: before IFRS' adoption (in voluntarily period) and after IFRS' adoption (mandatory period). Therefore, this study contributes to the literature with the following points:

1- Indeed, studies were classified into two types, before IFRS' adoption (in voluntarily period) and after IFRS' adoption (mandatory period). In addition, the majority stand beyond the most recent empirical evidence regarding the IFRS 9. This might be because the effective adoption date for this standard is 1-1-2018. However, this study exploits the existence of early adopter countries or banks for this standard, which ranks this study as the first empirical evidence for IFRS 9. This is also beneficial to the IFRS standard setters to consider any necessity to amend the new version of IFRS 9.

2- To the best of knowledge, no single study has comparatively examined the relevance and economic consequences for two versions of release. However, IASB claims that the issuance of IFRS 9 that completely replaces the preceding standards will reflect more relevance and reliability. This claim carries higher relevance and positive signs for both relevance and CE. This research levels and marks the first step towards comparative and better trade-off.

3-   According to previous literature and to the best of knowledge, there is no study covering the Middle East area as cross-country empirical evidence. This study fills this gap, while this area is featured by its cultural characteristics and the homogeneity for its capital markets type, in addition to the highest IFRS 9 early adopters.

4-   Most of the studies did not distinguish commercial banks as an outstanding sector in their analyses while the majority of their financial position items are under the scope of IFRS 9 and the previous standards related set. This study contributes to the literature, specialised by commercial banks only.

5-   Most of the research in the literature review did not investigate or compare two standards releases to investigate the cognitive effect of categories or labels. However, this study underpins the significance of the comparative test to investigate the cognitive effect of classification and measurement through CE theory, especially under the early adoption stage where the compulsory affective date is not yet due.

6-   To the best of knowledge, no study has tested the value relevance using the BSM with the robustness test by the Ohlson (1995) model, or vice versa, for both fair value disclosure and recognition relevance with univariate and multivariate comparative tests.

Furthermore, this study fills the literature with empirical evidence for the economic consequences of IFRS 9 and the previous standards set under three methods and the average in the Middle East. This implies testing the CE considering all the drawbacks of only using an individual method.

1.7   Structure of the Thesis

This thesis is structured in the following way: the second chapter discusses the institutional background for the banking industry while the third chapter separately displays the literature with regards to both the fair value relevance and the CE. The analysing lens focusses on the objectives, sample, methodology and main findings. In addition, this display expands the comparative review on IFRS and non-IFRS literature.

Chapter Four explains and clarifies the theoretical framework, consisting of the base for this thesis. The theoretical framework is based on the CE theory. Equally, this theory provides the foundations for each objective, fair value relevance and CE. Afterwards, this

chapter also supports the thesis with methodologies to return the CE which stand as a primary dependent variable for the economic consequences objective. Above all, it explains the rationale beyond the association between the IFRSs and CE in addition to a critical discussion for value relevance research and its validity.

Chapter Five is assigned to clarifying the research design and methodology. Equally, it clarifies the philosophical assumptions and positions: ontology, epistemological, axiological and rhetorical in addition to the research approach. Besides that, there is a discussion covering some valid and suitable sets of techniques or methods that allow for inquiring the value relevance and CE for commercial banks before and after the IASB amendments in financial instrument reporting.

Chapters Six and Seven report the findings of fair value relevance and CE respectively. Finally, Chapter Seven concludes the thesis and provides synopses.

Chapter 2: Institutional Background for Commercial Banks in the Middle East

2.1 Introduction

This chapter represents a brief on the regulatory framework within which the commercial banks operate. It presents the framework based on two sections: firstly, the financial instruments under the IFRSs and, secondly, the CAR requirements. In the Middle East, all entities listed in the stock exchanges during the study period have adopted IFRSs in its regime for commercial banks except Turkey and Iran (Kennedy, 2016). Indeed, under the study period, some banks have pursued reporting for financial instruments by adopting the new comprehensive standard (IFRS 9) either mandatorily or voluntarily. Accordingly, this chapter presents a discussion for the standards set in both period's pre and post, namely, IAS 32, IAS 39, IFRS 7 and IFRS 9 respectively. The second section pertains to a brief for the US-GAAP standards that are related to financial instruments, either released and effective or released but not effective yet. This is primarily owing to the fact that the majority of value relevance studies were held in this context in addition to the convergence trials between the IASB and Financial Accounting Standards Board (FASB) under the Norwalk agreement.

Banks are the most risk-oriented institutions. This has resulted in being regulated from a specialist international authority, which is called the Basel Committee (Barakat and Hussainey, 2013). Accordingly, the third section is related to an overview of the major CAR requirements released by the Basel Committee throughout four accords, namely the 1988 accord Basel I, and 1996 amendments, Basel Ц and Basel Ш.

2.2 Financial Instruments under the IFRSs: A Discussion

Financial reporting in commercial banks is considerably (90%) related to financial instruments (Bischof, 2009). IAS 32 defines the financial instrument as "...any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity" (IAS 32, para 11).

In accounting literature under IFRS, there are four standards pertaining to reporting for financial instruments. These standards could be grouped according to their issuance and effective period as clarified in Table 2-1.

Table 2-1: Financial Instruments under IFRS

Effective Before Jan. 2011 (PRE)	Early adoption permitted After Jan. 2011 (POST)
IAS 32: *Financial Instruments: Presentation*	
IAS 39: *Financial Instruments: Recognition and Measurement*	IFRS 9: *Financial Instruments*
IFRS 7: *Financial Instruments: Disclosures*	

As displayed in the table above, under the pre period, IAS 32 and IFRS 7 were issued separately and before IAS 39 in 2006, to be applicable after 1 Jan. 2007. IAS 32 stated the definition of financial assets and liabilities (FALs) as well as distinguishing the financial liability from the equity instrument in hybrid contracts. IFRS 7 stated some disclosures originally in IAS 32 but with more new disclosure requirements. It also superseded IAS 30: *Disclosures in the Financial Statements of Banks and Similar Financial Institutions.* The delay of IAS 39 was attached to derailing the IFRS adoption in Europe for the financial years following 1 Jan. 2005. This derailment was owing to the required amendments and changes that were being proposed by lobbying from interested European parties, especially banks in hedging requirements. Indeed, it was difficult to reach a consensus regarding recognition, de-recognition, measurement and hedging for the financial instruments. For this, standard setters relied on disclosures as they anticipated that disclosures would not only help investors but their amending procedure in the future. Interestingly, IAS 39 was largely based and originally taken from the FASB financial instruments standard which was the Standard of Financial Accounting Standard (SFAS) Number 133: *Accounting for Derivative Instruments and Hedging Activities*. This brings about the result of having a considerably more rule-based version (IAS 39 standard). Despite the fact that IAS 39 was amended frequently in 2003 and 2004 and they tried to shift it to more principle- based, the standard is considered more rule-based (Alfredson, et al., 2010).

Later, in November 2009, IASB released IFRS 9 as a response to many calls to bring a more principle-based standard for financial instruments with less complexity. Before this, IASB had gradual responses for different amendments to clarify the requirements and eliminate the internal inconsistencies but without significant success. For example, many researchers admitted this fact, literally, as follows:

"Since its emergence in 1998, IAS 39 has undergone constant change throughout the years. With a total of 12 amendments or revisions, IAS 39 has been the cause of much confusion and misunderstanding" (Fiechter, 2011, p. 51).

As a result, there was a collaborative long-term project between IASB and FASB in a discussion paper on Reducing Complexity in Reporting Financial Instruments. This paper was precisely related to identifying many possible approaches for eliminating the complexity in measurement and hedge. The result of this paper was basically towards a significant change and principle-based reporting requirements for financial instruments. In April 2009, IASB received feedback from the financial crisis, G20 leaders and recommendations from professional institutions such as the Financial Stability Board. Three months later in July, IASB accelerated to issue an exposure draft of *Financial Instruments: Classification and Measurement,* which was followed by the first chapter of IFRS 9 (IFRS, 2013). The following graph describes a brief history and the timeline of IFRS 9.
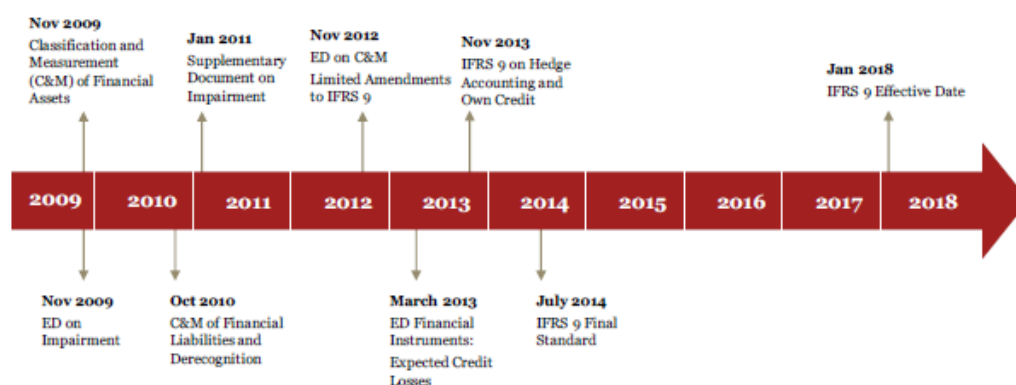
Figure 2-1: A brief history of IFRS 9 Release Milestones

Source: (PWC, IFRS 9 Classification and Measurement, 2014, p.2)

According to the graph above, IASB replaced the previous standards set in its entirety with IFRS 9 throughout the clarified milestones. However, according to the integrated role of IFRS 9 and mass responses from related parties, IASB set its approach for replacements in a three-phase project to be effective in 2018 with permission for early adoption. Firstly, the

domain was related to classification and measurement of financial assets and financial liabilities. Primarily, as published in 2010, this stage was related solely to classification and measurement. Secondly, there is the phase related to financial instruments' impairment methodology where it holds an exposure draft as a result of IASB's request of information for the feasibility of an expected loss model in June 2009. This request formed the base of both exposure drafts *Financial Instruments: Amortised Cost Items* and *Impairment and Financial Instruments: Impairment*. This phase produced an exposure draft of *Financial Instruments: Expected Credit Losses* in March 2013. The last phase is hedge accounting, where it finishes by adding requirements related to hedge accounting in November 2013 (IFRS, 2013). As a result, IASB stated IFRS 9's objective as providing the financial statements' users by principle-based requirements for financial assets and financial liabilities, which will be useful and relevant for their economic decisions such as evaluating amounts, timing and uncertainty of the entity's future cash flows (IFRS, 2013).

This thesis empirically examines the IASB's claim for only the released classification and measurement phase of IFRS 9. The examination holds a verifiable comparison between IFRS 9, as the early adoption is permitted and its preceding standards set. Consequently, this section briefly discusses the previous standards set in addition to, in more detail, the IFRS 9.

2.2.1. Classification and Measurement under the IAS 39.

Paragraph 9 of IAS 39 classifies the financial instruments into four categories according to some rule-based characteristics and other requirements as follows: 1) a financial asset or financial liability at Fair Value Through Profit or Loss (FVTPL), 2) held-to-maturity-investments, 3) loans and receivables, 4) Available-for-sale financial assets. The following table displays the characteristics of each category and other requirements with some examples (Alfredson, et al., 2010).

Table 2-2: Financial Instruments Categories under IAS 39

Category	Characteristics	Other Requirements	Examples	Initial Recognition
A financial asset or financial liability at fair value through profit or loss	It is classified as held-for-trading; or Upon the initial recognition, it is designated by the entity as at FVTPL	In order to be classified as held-for-trading, a financial asset or financial liability must be: A) acquired or incurred principally for the purpose of selling in the near term; B) part of a portfolio of identified financial instruments that are managed together and for which there is evidence of a recent actual pattern of short-term profit taking or; C) a derivative.	Share portfolio held-for short-term gains; forward exchange contract; call option, derivatives except if it has no quoted prices	Fair value
Held-to-maturity-investments	A) Are non-derivative financial assets with fixed or determinable payments and fixed maturity; and B) The entity has the positive intention and ability to hold these investments to maturity	Excludes investments A) Designated as at FVTPL B) Designated as available-for-sale C) That meet the definition of loans and receivables. This relies heavily on the manager's intent with strict rules in case of reclassification	Commercial bill investments; government bonds; Corporate bonds; converting notes; fixed-term/maturity debentures	Fair value plus transaction cost
Loans and receivables	Non-derivative financial assets with fixed or determinable payments that are not quoted on an active market	Excludes loans and receivables: A) Designated as at FVTPL B) intended to be sold in the near term, which must be classified as held-for trading C) Designated as held-for-sale D) Those for which the holder may not recover substantially all of its initial investment, other than because of credit deterioration, which must be classified as available-for-sale.	Accounts receivables; loans to other entities; mortgage loans (financial institution); credit card and receivables	Fair value plus transaction cost
Available-for-sale financial assets	Non-derivative financial assets that are classified as available-for-sale and do not fall into any of the above three categories		Ordinary share investments; convertible notes; preference share investments	Fair value plus transaction cost

Source: (Alfredson, et al., 2010)

From the table above, it is clear that liabilities could not be classified under the first category only in case which holds derivative with negative fair values. Additionally, the fair value stands as a primary measure at the initial recognition stage. IAS 39 para. 43 defines the fair value as "…. the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction". Above all, each derivative is classified under financial asset or financial liability at FVTPL, except if it has no quoted prices in which instance it should be reported by amortised cost.

The subsequent measurement is based on whether the financial instrument is a financial asset or financial liability (Alfredson, et al., 2010). As stated by the board, financial instruments are subsequently measured as follows (IAS 39 para. 45):

Table 2-3: Financial Instruments Subsequent Measurement and Impairment

Financial Instrument	Subsequent Measurement	Changes in Carrying Amounts	Impairment
Financial asset or financial liability at fair value through profit or loss	Fair value	Income statement	No
Held-to-maturity-investments	Amortised cost	Income statement	Yes
Loans and receivables	Amortised cost	Income statement	Yes
Available-for-sale financial assets	Fair value	Equity	Yes
Financial liability not at fair value through profit or loss	Amortised cost	Income statement	Yes

Source: www.pwc.com, 2013

The previous table stirs up many points: firstly, it is concluded that classification categories affect the entity's financial image through both comprehensive income and financial position statements. Therefore, this lightens the significance of the rules which form the criteria of classifications. Secondly, fair value stands as a major measurement method, however, it does not apply to all financial instruments. There was a lively debate about the suitability of using fair value, where some recommended it, but many accused it for several

reasons. Namely, FVTPL is by far the most controversial category (Hodder, Koonce and McAnally, 2001). Thirdly, although under IAS 39 some items are measured by amortised cost, IAS 32 and IFRS 7 require firms to disclose their fair values for comparison. Fourthly, amortised cost is defined by IAS 39 para. 9 as follows:

 "the amount at which the financial assets or financial liability is measured at initial recognition minus principal repayments, plus or minus the cumulative amortisation using the effective interest method of any difference between that initial amount and the maturity amount, and minus any reduction (directly or through the use of an allowance account) for impairment or un-collectability".

In addition, it identifies the effective interest method as:

"A method of calculating the amortised cost of a financial asset or a financial liability …..and of allocating the interest income or interest expense over the relevant period"

For further clarification, the effective interest rate is defined in the same paragraph as:

"The rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability".

2.2.2. Classification and Measurement under the IFRS 9.

IFRS 9 shifted the rules that form the criteria of classification in IAS 39 to one single approach. IASB released a project summary for IFRS 9 [IFRS, 2014, p. 6] where it stated: "IFRS 9 is built on a logical, single classification and measurement approach for financial instruments that is compatible with the business model where it is managed and their contractual cash flow's characteristics". Indeed, IASB received comments majorly related to classification and measurement. This implies that the most effective and related way to the financial statements' users or investors needs to be considered. Thus, the classification and measurement project was based on enhancing amounts, timing and the uncertainty related to the anticipated cash flows.

Accordingly, at the initial recognition, the financial assets would be classified for either fair value or amortised cost [IFRS 9: 5.2.1]. Therefore, under this standard, there are only three categories of measurement: 1) amortised cost items and 2) fair value through either a) profit or loss or b) other comprehensive income. The single and logical approach is that the

financial instrument would be listed under the amortised cost only if it meets the following conditions [IFRS 9: 4.1.2]:

"1) it is held within a business model whose objective is to hold assets in order to collect contractual cash flows (the business model test); and

2) The contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principle amount outstanding (the contractual cash flows characteristics test)"

Accepting this statement, the entity might have to keep the fair value option in this case. For example, if any item meets these conditions, then the entity has to classify it as an amortised cost unless it decides to hold it for FVTPL. The following flowchart clarifies this process:
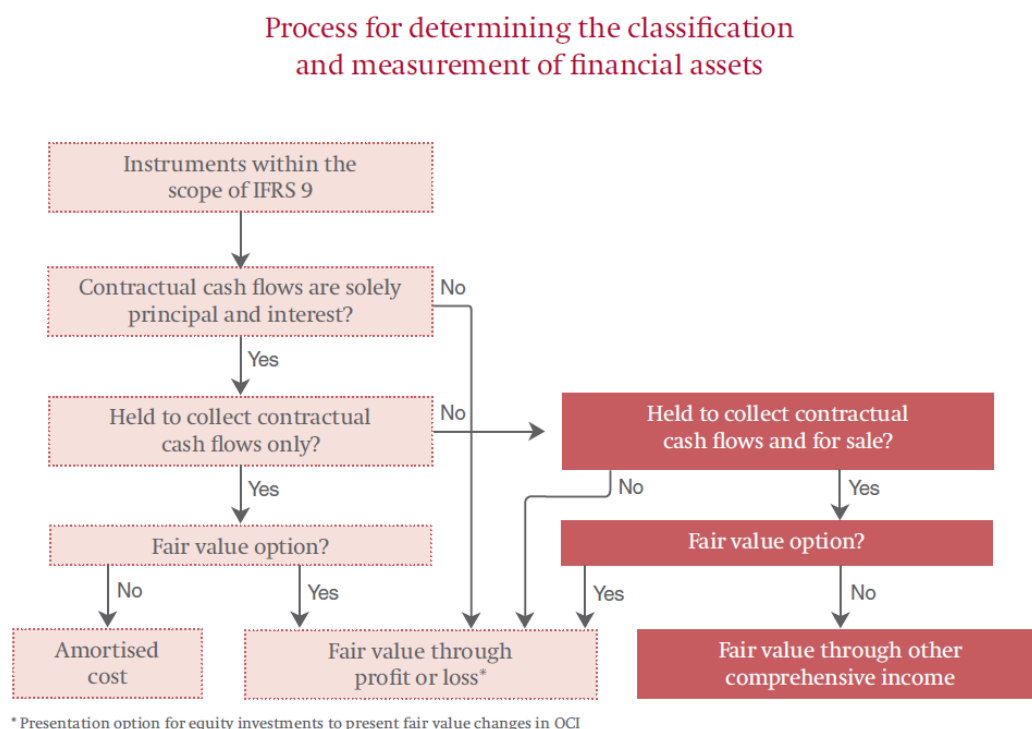
Figure 2-2: Financial Instruments Classification under IFRS 9

Source: [IASB, IFRS 9 *project summary*, 2014]

From the graph above, the entity has to posit the financial instrument in its business model. In other words, this happens if the financial instruments solely feed the entity by their contractual cash flows rather than realising fair value changes after disposing before the contractual maturity [IFRS 9: 4.1.2 (a)]. Indeed, the business model does not apply to an

individual instrument level but it does apply to a more comprehensive level such as the business unit or portfolio level. Alternatively, the model is not based on the management's intention such as under IAS 39 where financial instruments were shifted to more principle-based reporting [IFRS 9: B4.1.2]. The rest of the business model's interpretations, according to IASB, are that it is a matter of fact rather than a matter of choice [IFRS 9: BC4.20]. This criterion implies that the entity may have more than one business model to manage its financial instruments. That is to say that the classification has to not be on an entity level but be more comprehensive to reach, for example, a portfolio level. Equally, assuming a banking case, the bank may have a retail portfolio where its aim is to collect the contractual cash flows on the maturity date as well as an investment portfolio where its aim is to realise the fair value changes [IFRS 9:B4.1.2]. Despite what is mentioned above, IFRS 9 remains the fair value option to target the elimination of accounting for mismatches.

There are some typical key changes that could be derived from the figure above under IFRS 9. Firstly, the derivatives treatment. Under IAS 39, derivatives that have no quoted fair value should be reported at cost, which is in converse with IFRS 9 that stated reporting them by FVTPL. Briefly, all derivatives under IFRS 9 are in FVTPL. Secondly, equally, for items that were able to be measured under fair value, all were eligible to be classified under FVTPL under IAS 39, however, this is mandatory under IFRS 9. Thirdly, reclassification between categories is permitted according to changes in the business model, which is a rare case.

From IFRS 9's releases, many interested parties and researchers stated some anticipated benefits. For instance, firstly, some assumed that IFRS 9 should diminish the information asymmetric level and enhance the relevance of accounting figures for investors' decisions (Chen, Young and Zhuang, 2013). Accordingly, secondly, IFRS 9 should lower the cost of equity capital (Armstrong, et al., 2010). However, as the effective date has been shifted to the financial periods following January 2018, IFRS 9 releases still call to examine the market reaction towards this significant standard. Among the respondents to these "ex-post" perceptions, it is found that the market positively responded to the IFRS 9 announcements, or ongoing IFRS 9 reform, with a 10% increase in cumulative abnormal return (Dichev, et al., 2013). Despite these trials, the ongoing process is still not attached to any empirical evidence which forms the key impetus for this research, especially in the banking sector.

2.3 Financial Instruments under the US-GAAP: Discussion

This section is assigned owing to many facts: 1) most of the value relevance studies are within the US-GAAP, 2) the existence of the Norwalk agreement that is aimed at a convergence between the IFRS and US-GAAP, especially for financial instrument reporting, 3) as mentioned earlier, the IAS 39 is majorly based on SFAS 133: *Accounting for Derivative Instruments and Hedging Activities*. Therefore, the presentation of this section is separated into sections based on the standards with empirical evidence (issued and effective) such as SFAS 107 and 133 and new standards without empirical evidence (issued but not effective).

2.3.1 Financial Instruments under Issued and Effective US-Standards (Old)

Under this section, US-GAAP addressed reporting for financial instruments under a group of standards. The first standard for disclosure requirements was SFAS 105: *Disclosure of Information about Financial Instruments with Off-Balance-Sheet Risk and Financial Instruments with Concentrations of Credit Risk*. Basically, it required entities to disclose information related to financial instruments with off-balance-sheet risk of accounting for loss. Disclosures were primarily the derivatives' notional amounts, and nature and terms in addition to all financial instruments with the counterparty's significant credit-risk concentrations (FASB, 2017).

Another key US standard regarding this issue is SFAS 107: *Disclosures about Fair Value of Financial Instruments*. Primarily, this standard extended the disclosure requirements for all entities to disclose the fair value for all financial instruments, whether on or off-balance sheet, for which their fair value is determinable. However, for financial instruments with no practicable fair value, the statement required entities to disclose descriptive information about estimating its fair value. This standard was effective for all entities from 15-12-1995 (FASB, 1991).

Classification and measurement were governed by SFAS 115: *Accounting for Certain Investments in Debt and Equity Securities*. This standard was similar to IAS 39 since it classified debt and equity securities into: held-to-maturity, trading securities (for securities that are intended to be held to obtain and realise their price fluctuations) and available-for-sale securities. The scope of this statement only covered the securitised instruments, which domiciled un-securitised loans out of its scope. This standard superseded SFAS 12: *Accounting for Certain Marketable Securities*, and amended SFAS 65: *Accounting for Certain Mortgage Banking Activities*. The effective date for this standard was 15-12-1993 (FASB, 1993).

Furthermore, derivatives were subjected to both SFAS 119: *Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments* and SFAS 133: *Accounting for Derivative Instruments and Hedging Activities*. Indeed, SFAS 119 was a trial for amending SFAS 107 and SFAS 105. Primarily, it required the disclosure of information for derivatives not under the scope of SFAS 105 because it did not result in off-balance-sheet risk of accounting for loss. Additionally, it required a disaggregation of instruments held for trading through the income and those are not held for trading purposes (FASB, 1994).

SFAS 133 primarily established the accounting and reporting for derivatives and hedging activities including embedded derivatives. It stated that all derivatives should be recognised in the financial position as either assets or liabilities in their fair values. According to some conditions, derivatives might be assigned as a hedge derivative for: 1) exposure to changes in fair values, 2) exposure to variable cash flows of anticipated transaction and 3) exposure of the foreign currency. Which category they fall into determines where to recognise anticipated changes, either in the income statement or in other comprehensive income. SFAS 133 amended the FASB 52: *Foreign Currency Translation* and superseded three statements: SFAS 80: *Accounting for Future Contracts*, SFAS 105 and SFAS 119. The effective date for SFAS was 15-06-1999 (FASB, 1998).

2.3.2 Financial Instruments under Issued but not Effective US standards (New)

Recently, and after the FASB-IASB discussion paper regarding Reducing Complexity in Reporting Financial Instruments, FASB revisited the reporting for financial instruments. As a result, in 2006, FASB released two out of its three standards related to financial instruments: recognition and measurement, allowance for credit losses and the exposure draft on hedging. The current guidance on recognition and measurement is primarily covered in ASC 320: *Debt and Equity securities,* which is effective for PBE: *Public Business Entities* after 15-12-2017 with early adoption permitted only for some portions. This was followed by two amendments with new subtopics: ASC 321: *Equity Securities* in addition to ASC 825: *Financial Instruments.* Under the new release, generally, equity investments are measured under the fair value through the income statement. This implies many results: 1) the cancellation of available-for-sale items, 2) investments will no longer be in OCI and 3) more income volatility. This is subjected to one exception only for equity investment with no readily determinable fair value. Items under this exception would be

reported at cost minus the impairment plus or minus subsequent adjustments for observed prices. However, those amounts (impairment and any subsequent price adjustments) would be in the income and not in the other comprehensive income. Furthermore, under the new guidance, if the fair value option was elected for financial liabilities, then the fair value changes due to instrument credit risk would be recognised separately in other comprehensive income. These fair value changes would be reclassified into the income only if the financial liability was settled before the maturity date. However, other financial instruments are not subjected under the fair value option, such that loans and financial liabilities are largely unchanged (PWC, 2017).

In 2016, FASB finally released guidance on impairment. ASU 2016-13: *Credit Losses* provides a new impairment model for both financial assets at amortised cost and available-for-sale, which is called Current Expected Credit Loss. This model requires the entities to recognise the allowance for financial asset impairment at the inception or acquisition point for the full life amount. The effective date for this standard is 15-12-2019 with permitting early adoption after 15-12-2018. Companies may be required to collect data from internal and external sources before the adoption to support the expected credit losses according to the historical data (PWC, 2017).

Under the US-GAAP, the new guidance for derivatives and hedging is primarily covered by ASC 815: *Derivatives and Hedging*. The target was to better align between hedging reporting and entities' risk management objectives in addition to simplifying hedging requirements for entities.

2.4   Commercial Banks' Capital Regulations

Commercial banks play a dynamic role in the economy. This is owing to the fact that they act as the intermediaries between fund stakeholders both borrowers and lenders (Casu, 2006). For instance, among the Fortune 500 US firms in 2001, the banking industry levelled at the second most profitable one after pharmaceuticals (Public Citizen, 2002) as well as, in 2005, the third in terms of returns on revenues (CNNMoney.com). Many facts, as simple as the mentioned ones, rank this industry in a sensitive position across many countries. This implies imposing some restrictions regarding the capital and its requirements that domicile the public confidence.

Central banks are demonstrating themselves as the regulatory body for the commercial banks and, in both developed and developing countries, have membership in the Bank for

International Settlements (BIS). The objective for BIS states, "To serve central banks in their pursuit of monetary and financial stability, to foster international cooperation in those areas and to act as a bank for central banks" (BIS, 2017 [accessed: 16/04/17]). To achieve this mission, BIS operates within six committees and three associations. One of the committees is the Basel Committee, which "provides a forum for regular cooperation on banking supervisory matters. Its objective is to enhance understanding of key supervisory issues and improve the quality of banking supervision worldwide" (BIS, 2017 [accessed: 16/04/17]). The following figure demonstrates a brief of the Basel Committee's releases and accords.
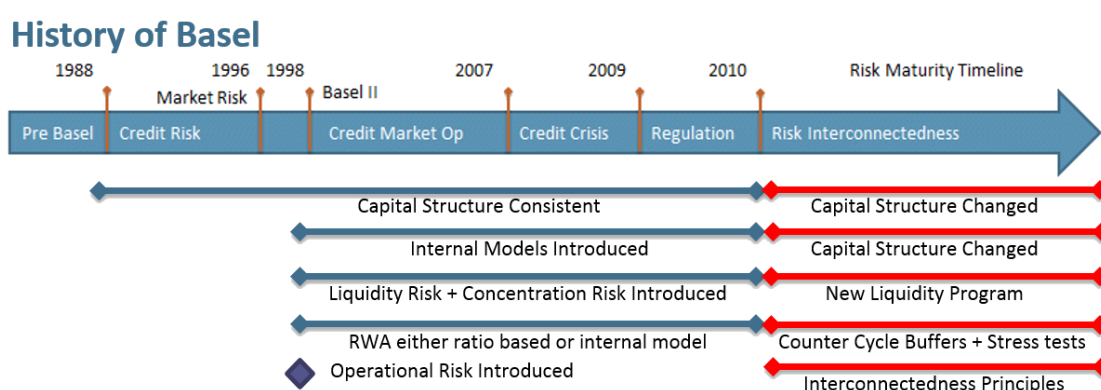
Figure 2-3: History of Basel Releases

Source: BIS, 2017

According to the previous graph, the following sections pertain to four key Basel accords: the 1988 Capital Accord (Basel I), 1996 amendments, the Three Pillars approach (Basel II) and finally Basel III.

2.4.1 The 1988 Capital Accord (Basel I)

This accord was the first attempt to regulate the capital by Basel. It is set down based on agreement among the G20 central banks where the credit risk was addressed as the main risk for the banking industry. It holds the idea of the mechanism of measuring the capital adequacy or the minimum capital requirements. The following formula represents the CAR under this accord:

$$CAR = \frac{Tier\ 1 + Tier\ 2}{On\ and\ off\ balance - sheet\ assets\ (weighted\ to\ credit\ risk)}$$

Basically, the nominator is the bank capital. The $Tier\ 1$ term indicates the core capital, however, $Tier\ 2$ is referred to as the supplemental capital. The core capital is identified as

the capital, which incorporates: 1) equity capital and 2) reserves categorised after the taxable earnings. Additionally, supplemental capital is prescribed as the following formula:

$$Tier\ 2 = \text{Undisclosed reserves} + \text{Revaluation reserves}$$
$$+ \text{General Provisions (loan loss provision)} - \text{loss reserves}$$
$$+ \text{Hybrid debt capital instruments} + \text{Subordinated term debt}$$

The nominator is subjected to some deductions for returning the risk-weighted capital ratio such as goodwill from Tier 1. Chiefly, the dominator involves the assets weighted to the exposed risk such as credit risk, investment risk, and interest rate risk. That is to say, that capital should be classified to each currency unit of assets, considering the risk weighted, and assigned to that asset. Therefore, the ratio indicates the minimum amount of capital, which covers any potential future risks. In particular, the committee assigned 0% risk for claims from the government and central banks, 20% for claims from assets with maturity less than one year, 50% as a moderate risk for assets with maturity of more than one year and, finally, 100% as a high-risk percentage for claims from the private sector such as commercial loans. Similarly, the weights were assigned for off-balance sheet assets.

According to Basel requirements, banks have to set a minimum ratio of 8%. Additionally, the $Tier\ 1$ capital should cover 4% from the weighted risk assets but at least 50% of the total bank capital $Tier\ 1 + Tier\ 2$.

2.4.2 Including the Market Risk under the1996 Amendments

Basel was aiming to encourage the ongoing improvements in risk measurements. Indeed, this accord reflects the market risk in its folds as it reflects the fluctuation in assets' values, which are generated from the market values. Additionally, Basel consulted many interested parties, such as banking representatives and central banks, to develop minimum capital requirements more sensitive to risks. Consequently, Basel added $Tier\ 3$ in the nominator as a capital specified solely to cover the market risk. Besides these requirements, $Tier\ 3$ is limited by 250% of the $Tier\ 1$ capital and, basically, it is consisted from short-term subordinated debt. Alternatively, the percentage of CAR was still to be 8%, but both market and credit risk should be incorporated consistently.

2.4.3 The Three Pillar Approach-(Basel Ⅱ)

Basel Ⅱ was initially released in 2004 as "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" (BIS, 2004b). It aimed to: 1) ensure that the capital is sufficiently allocated and more risk sensitive, 2) enhance the risk disclosures requirements, and 3) ensure that risk in its variety, operational, credit and market are weighted and quantified according to formal techniques. This accord is called the 'Three Pillars' as it incorporates three concepts: 1) requirements of minimum capital, 2) supervisory review, and 3) market discipline. The first pillar deals with maintaining the regulatory capital required to cover the major risks that face banks and how to evaluate them. The following table explains the techniques to address each major risk.

Table 2-4: Methods of Assessing the Banks' Major Risks

Risk Type	Calculation Method
Credit Risk	A) Standard approach B)Foundation IRB: *Internal Rating Based Approach* C) Advanced IRB
Operational Risk	A) Basic Indicator Approach (BIA) B) Standardised approach (TSA) C) Internal measurement approach with the advanced form AMA.
Market Risk	Value at risk is the most preferable

It is concluded from the table above, under the first pillar, that Basel Ⅱ moved from standardising the regulatory capital requirement to specifying and developing each risk category as well as extending the number of risk categories to three. This enables the banks to assess their counterparty's creditworthiness more in detail based on IRB. Additionally, Basel inserted a new type of risk, which is the operational one. The market risk-measuring method has not been changed since the previous accord. That is to say that the first pillar holds a convergence between economical concepts and regulatory capital on future perspective. Consequently, Basel did not change the minimum CAR and stayed on 8% for Tier 1 and 2 but 4% for Tier 1.

The second pillar, the supervisory review, more efficiently enables the Internal Capital Adequacy Assessment Process. Primarily, this process combines the framework for both supervisors and banks to deal with residual risks related to varied terms, such as systematic, pension, concentration, strategic, reputational, liquidity and legal. Indeed, supervisors are enabled to impose a higher CAR (more than 8%) after considering the residual risk tools.

Above all, the third pillar, market discipline, aims to enable the market participants to gauge the adequacy of institutions' capital. This aim can be achieved through setting a disclosure set that is related to information that facilitates the banks' risk assessment by others, such as analysts and rating agencies. Some of those disclosures have be revised on a semi-annual basis; however, some are required on an annual basis (qualitative one).

2.4.4 Basel III

Passing through the financial crisis, in 2011, Basel moved to establish stricter rules for CAR, called Basel III, to be effective for the financial periods after 2018. Basically, this accord maintains the Three Pillars approach launched by Basel II, however, it enhanced precisely the first pillar by new capital and liquidity requirements. These enhancements incorporate an increase in liquidity but a decrease in leverage. Indeed, banks are imposed to hold a non-risk based leverage to supplement the CAR. Particularly, Basel enhanced the capital and liquidity requirements by introducing new measures such as: capital conservation buffer, countercyclical capital buffer, higher common equity Tier 1 (CET1) and minimum total capital ratio. The following graph demonstrates the gradual implementation for this target.
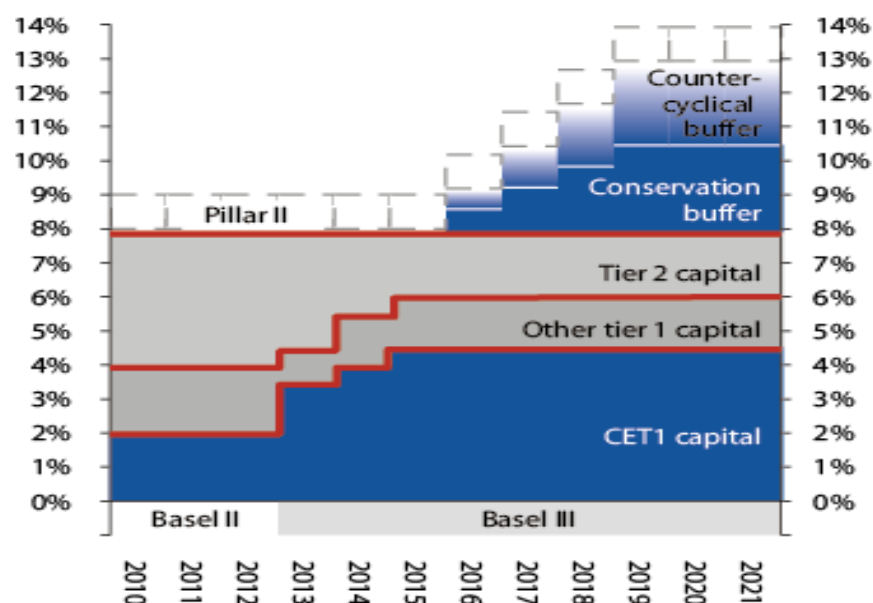
Figure 2-4: The Gradual Implementation for Capital Requirements under Basel III

Source: (BIS, 2014)

Additionally, Basel inserted new types of ratios to be held by the banks, namely: leverage, liquidity and changes to Counterparty Credit Risk (CCR). The leverage ratio is returned by dividing the Tier 1 core capital on banks' average total consolidated assets. The minimum leverage ratio is set to be 3%. For liquidity, Basel introduced two ratios related to liquidity: Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR). LCR displays the bank's ability to survive in a stress scenario by holding a sufficient scale of high quality liquid assets for one-month period. NSFR enhances the long-term bank's resilience by innovative structured incentives granted to financial institutions to fund its activities. Under CCR, Basel also required a capital to cover the Credit Value Adjustments. The following graph demonstrates a comparison between the capital requirements under both Basel Ц and Basel Ш.

COMPARISON OF CAPITAL REQUIREMENTS UNDER BASEL II AND BASEL III :

Requirements	Under Basel II	Under Basel III
Minimum Ratio of Total Capital To RWAs	8%	11.50%
Minimum Ratio of Common Equity to RWAs	2%	4.50% to 7.00%
Tier I capital to RWAs	4%	6.00%
Core Tier I capital to RWAs	2%	5.00%
Capital Conservation Buffers to RWAs	None	2.50%
Leverage Ratio	None	3.00%
Countercyclical Buffer	None	0% to 2.50%
Minimum Liquidity Coverage Ratio	None	TBD (2015)
Minimum Net Stable Funding Ratio	None	TBD (2018)

Figure 2-5: The Capital Requirements under Both Basel Ⅱ and Basel Ⅲ

Source: IBM, 2017 available at [www.ibm.org]

2.5 Financial Development and Financial Markets in the Middle East

The previous sections provide an image of the regulations and supervision themes to ensure depositors' interests protection and boost their confidence. These sections primarily discuss Basel requirements as well as the IFRSs which are compulsory to adopt in the Middle Eastern commercial banks. However, financial sector development results in a cost decrease of information, transaction and monitoring. This section depicts an image of the banking sector's development in the Middle East.

Financial sector development should be measured not only using simple standard quantitative indicators but with more broad, integral and comprehensive ones. Indeed, this might not only include the monetary aggregates but also the regulation and supervision, competition, financial openness, market types' variety, and institutional capacity in addition to financial products (Creane, et al., 2007). Six themes to measure the financial development in the Middle East were the latest to be constructed: development of the monetary sector and the monetary policy, development of the banking sector, development of the non-bank financial sector, regulation and supervision, institutional quality and financial openness. Figure 2-6 displays these themes under this study.

Figure 1. MENA Countries: Comprehensive Index of Financial Development---Comparing Very High, High, Medium, Low, and Very Low Development Countries, 2002/03 (Scale 0-10)
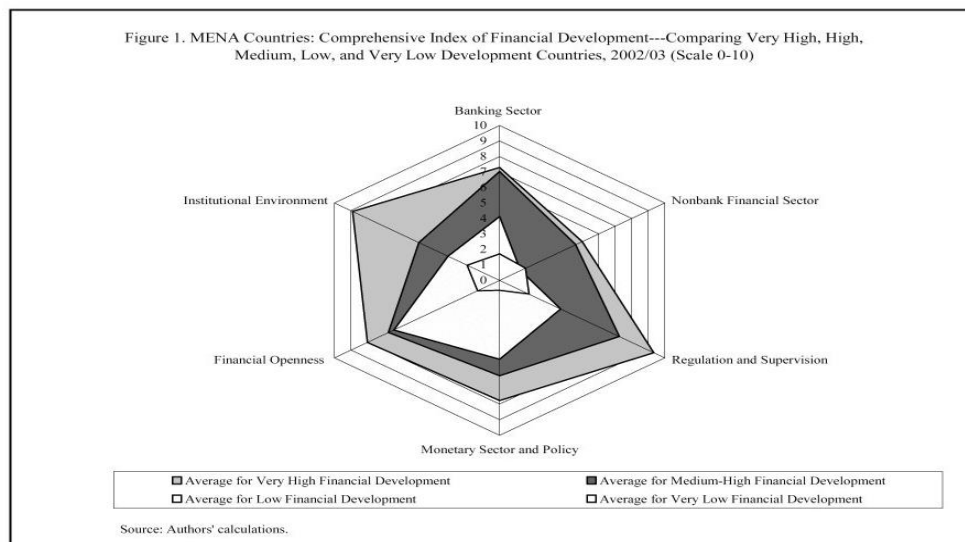
Figure 2-6: Financial Development Themes

Source: (Creane, et al., 2007, p. 501)

Consequently, on the integral level there was a variation in the financial development. Additionally, as a group, under the regulation and supervision as well as financial openness, the Middle Eastern countries performed well. Conversely, there was a significant necessity to improve the themes of the non-bank financial sector and institutional quality. Overall, financial development in the Middle East is located in a better situation compared with other developing countries but it ranks behind the developed and industrialised countries as clarified by Figure 2-7.

Figure 3. MENA Countries and Global Comparators: Alternative Financial Development Index, 1960s-1990s 1/
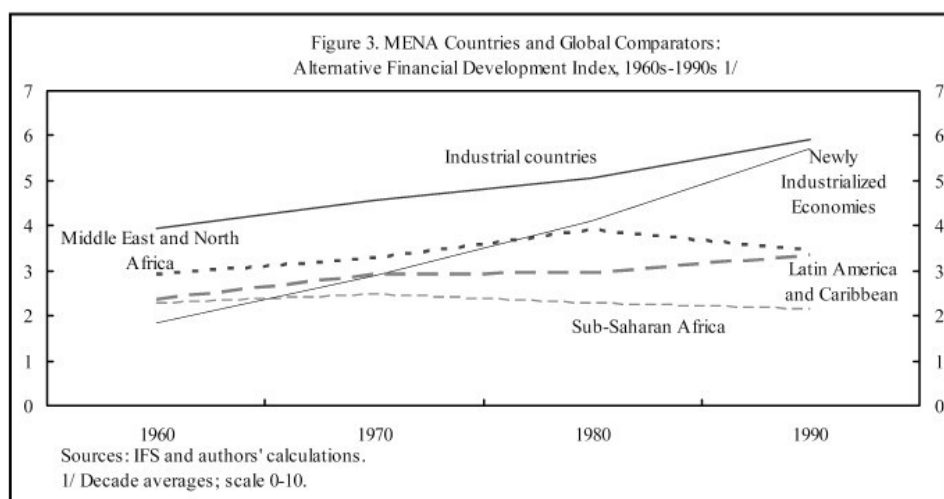
Figure 2-7: Financial Development in the Middle East

Source: (Creane, et al., 2004, p. 17)

In research done by the International Monetary Fund (IMF), the Middle Eastern Department (1996) broadly concluded that 13 Middle East and North Africa (MENA) countries accomplished a significant financial deepening. However, in most of these countries, the financial markets are regulated tightly, the market forces play a limited role and the government ownership is prevalent. Five years later, an investigation found that the financial reform in Arab countries has made significant progress but is still in the early stages. This is owing to the fact that: 1) the financial development depended on banks or public banks, 2) the development of their financial markets was hindered by the many factors such as the institutional, legal, financial and economic (Nashashibi, Elhage and Fedelino, 2001).

2.6 Banking Sector in the Middle East

The Middle Eastern banking sector followed the Western style with some distinguished features since all the MENA countries except Turkey were colonised by France or Britain. Financial markets, as described in Section 2.5, are still in their early stages as they are dominated by the banking sector. This implies that banks in this area are the main suppliers of funds for both private and public investments in addition to governmental deficits. This provides banks in this region with a unique feature (Turk-Ariss, 2009). Figure 2-8 displays the bank concentration based on the total assets.

Three-bank total asset concentration average in MENA banking, 2000–2006

Country	Concentration
Algeria	85.92
Bahrain	80.47
Jordan	87.15
Kuwait	68.51
Lebanon	37.86
Morocco	49.50
Oman	79.14
Qatar	90.99
Saudi Arabia	56.11
Tunisia	45.09
Turkey	44.60
United Arab Emirates	49.62

Figure 2-8: Bank concentration based on Total Assets in the Middle East

Source: (Turk-Ariss, 2009, P. 694)

Interestingly, merger activity is taking place intensively in this region. Some banks in some countries, where a large number are operating, seek to domestically consolidate their

position before any expansion process such as the UAE, Lebanon and Turkey. However, countries with leading banks are expanding strategically abroad to enhance the potential growth such as Jordan and Kuwait (Turk-Ariss, 2009, P. 694).

As a result of the accession to the World Trade Organisation, in addition to financial liberalisation, banks in the region are required and committed to adopt the IFRSs, Basel Committee, anti-money laundering recommendations and governance structure. In the past, banks were family- oriented or government-owned which diminished the competitiveness by new firms. This has been resolved by the government through the privatisation process and reducing the foreign entry barriers. It has imposed a higher competitiveness platform with higher technology, risk and qualified human capital in addition to enhancement in regulatory environment (Creane, et al., 2007).

Foreign banks increased their competitiveness, however, all banks encountered the emergence of the Islamic banks as well. This fact is proven by a shrink in the conventional banks' market share compared with the Islamic banks. The following figure compares the total assets across both Islamic and conventional banks in the MENA countries.

Distribution of total assets across commercial and Islamic banks in the MENA region

Specialization	2000		2006	
	Million US$	% of total	Million US$	% of total
Commercial banks	879,554	94.12	2,201,603	88.82
Islamic banks	54,923	5.88	277,238	11.18
All	934,477	100.00	2,478,841	100.00

Figure 2-9: The distribution of Islamic and Commercial Banks in the Middle East

Source: (Turk-Ariss, 2009, P. 695)

Based on the argument above, it is clear that the Middle East features a high banking sector concentration. This implies a significant role in the financial market. For instance, high bank concentration facilitates the growth of industrial firms which are more in need of external funds but negatively affect the growth for the remaining sector types (Cetorelli and Gambera, 2001). This derives a linking discussion about the banking industry's nature and financial development. On a country level, the Middle East depicts an uneven financial

reforms progress. Notably, the banking sector in Gulf Cooperation Council (GCC) countries, Jordan and Lebanon, is well developed, profitable and efficient where most of this thesis' sample is located. However, in around a third of the countries (seven out of 20) public banks dominate the banking sector while the second third (eight out of 20) is dominated by the government through holding a significant stake. These countries are distinguished by the considerable government intervention in addition to wide interest rate margins. Remarkably, many countries do not have a (or have limited) noncash transaction such as credit card or ATM access (Creane, et al., 2007). This statement is clarified by Figure 6-6.

Table 4. MENA Countries: Financial Development Index, 2002–03[1]
(Based on qualitative and quantitative data, scale: 0–10)[2]

	Financial Development Index	Banking Sector	Nonbank Financial Sector	Regulation and Supervision	Monetary Sector and Policy	Financial Openness	Institutional Environment
Bahrain	7.7	7.3	5.0	9.3	7.8	8.0	8.9
Lebanon	7.0	8.7	3.3	7.7	8.3	7.0	5.2
Jordan	6.9	7.1	6.3	8.7	6.5	8.0	5.4
Kuwait	6.8	7.4	5.0	8.0	6.6	8.0	5.9
United Arab Emirates	6.6	7.9	5.0	6.7	5.8	8.0	5.9
Saudi Arabia	6.4	7.8	3.3	8.0	6.4	8.0	4.2
Pakistan	6.0	5.8	6.3	7.7	7.4	4.0	3.9
Oman	5.9	6.1	5.0	8.3	4.2	8.0	4.8
Qatar	5.7	6.8	0.7	6.7	5.7	8.0	6.3
Tunisia	5.6	7.7	4.7	5.3	4.5	5.0	5.0
Morocco	5.5	5.6	4.7	7.3	6.8	4.0	3.8
Egypt	5.4	6.0	6.3	5.3	5.6	6.0	3.2
Sudan	4.7	5.7	0.7	3.7	6.2	7.0	4.5
Djibouti	4.1	3.8	1.3	5.0	6.0	7.0	2.0
Yemen, Republic of	3.9	4.1	0.7	3.3	5.0	9.0	2.2
Mauritania	3.5	3.8	0.7	3.0	3.9	5.0	4.5
Algeria	3.2	2.5	3.0	3.5	4.4	4.0	2.3
Iran, Islamic Rep.	2.5	1.9	3.3	4.7	0.5	4.0	2.4
Syrian Arab Republic	1.1	1.9	0.7	0.0	0.9	0.0	2.4
Libya	1.0	1.3	0.7	2.0	0.5	0.0	1.0
Average	5.0	5.5	3.3	5.7	5.1	5.9	4.2

Source: Authors' calculations.
[1]Original "subjective" weighted index.
[2]Scale: Very low = 2.5 and below, Low = 2.6–4.9, Medium = 5.0–5.9, High = 6.0–7.5, Very high = above 7.5.

Figure 2-10: Banking Sector Development in the MENA Countries

Source: (Creane, et al., 2007, p. 504)

2.7 Summary

This chapter reviewed the regulations within which commercial banks operate. The review has settled for the most related regulations and sub-regulations. It incorporated a condensed section regarding the financial instruments under the IFRSs and capital requirements by the Basel Committee in addition to financial market development and the banking industry in the Middle East. All commercial banks listed in the study sample were obliged to follow the IFRSs, and thus the discussion holds in its fold the IFRS. Additionally, in the Middle East, commercial banks were classified into two groups: banks obliged to adopt the IFRS 9 by their central banks and banks voluntarily adopting IFRS 9. Therefore, the chapter discussed the standards set which applied for financial instruments in both pre and post periods. Under the pre period, commercial banks are imposed to follow three standard sets: IAS 32, IAS 39 and IFRS 7. However, under the post period, IFRS 9 supersedes the previous standards set in its entirety. On the other hand, the chapter briefly explored the US statements which are related to the financial instruments. The US-GAAPs were classified under two groups: released and effective, and released but not effective yet. Secondly, the review discussed the major CAR requirements released by the Basel Committee for four accords, namely the 1988 accord Basel I, 1996 amendments, Basel Ц and Basel Ш. Finally, the development of both the financial markets and banking sector in the Middle East was discussed in addition to a comparative view between this region   and   the   globe.

Chapter 3: Literature Review

3.1 Introduction

The main objective of this chapter is to support the thesis with empirical findings related to the value relevance and economic consequences or CE separately. The thesis' definition for the terminology and the concept of value relevance is linked with the investor as a core setter of the share price. This is owing to the fact that the share price is returned according to many factors, such as supply and demand (liquidity) as well as the anticipated risks and returns (required return) which are affected directly by understanding the financial statements. With regard to the value relevance, the first part of this chapter presents the relevance of some financial instruments under different contexts such as the USA and IFRS, provided by tables and a conclusion to summarise the basic points.

The second part of this chapter pertains to the economic consequences represented basically by CE. CE stands as a fundamental variable to find out the relationship between the share prices and the anticipated cash flows for various economic reasons mainly relating to measurement in economic and accounting sense. Equally, CE is used to discount the expected cash flows for various economic reasons mainly relating to measurement in economic and accounting sense. This chapter's literature regards models that are used mostly to return CE to investigate the economic consequences under different standards and context. The tables and conclusion for this part summarise the basic points.

3.2 Value Relevance Literature

The definition of value relevance relies primarily on the investor's term. The thesis defines this term consistently with Barth (2000) as "the accounting amount is associated with some measure of value e.g. share price".

Studies have investigated different accounting items; however, the research primarily focuses on fair value measures. This is due to the incremental impact of the measurement method, either fair value or historical cost, on investors' decisions.

The thesis includes reporting of financial instruments under the IFRSs in the commercial banks as a sample. This consideration turns the structure of the value-relevance literature review to be classified between banking and non-banking groups. The plethora of the literature is dominated by the USA (Schultz and de Souza, 2012). This also sub-categorises the banking group into US-GAAP and IFRSs literature. Afterwards, the non-banking group includes studies related to different types of organisations in addition to fixed and intangible assets.

3.2.1 Value Relevance under International Context

According to the best of our knowledge, Bernard, Merton and Palepu (1995) could be assigned as among the first to evidence value relevance studies from local GAAPs other than those from the US. Their study was initially carried out to help the US standards' setters to adopt the mark-to-market accounting as it was applied under the Danish standards for commercial banks. The study incorporated the Danish 71 banks and 131 thrifts as its sample. The investigation contained two basic items that are accounted for under mark-to-market accounting such as the adjustments of prices for both investments and off-balance sheet items in addition to the loan loss provisions. Relying on this objective, the results indicated the transparency of reporting for investments and off-balance sheet items. Conversely, results proved the existence of manipulation in loan loss provisions.

On the other hand, they compared the market-to-book value between Danish and US banks descriptively. Observations for both Danish and US banks are higher than their mean; however, standard deviation was higher in the US than in the Danish banks and thrifts. Either higher variability in the US case could be attributed to fluctuations in unrecorded goodwill or less discrepancy in equity reporting between markets to book ratio. Researchers justified only the second possibility according to the existence of difficulties in obtaining unrecorded goodwill information. They found that the mark-to-market reporting for the mentioned items that was followed in the Danish-GAAP was more highly associated with market-to-book ratio than the US-GAAP, which followed the historical cost.

More recent studies' aims vary from previous ones. Whereas the past studies were aimed at investigating the relevance of mark-to-market reporting, the new empirical studies are aimed at investigating more attributes for the valuation discounts. Indeed, valuation discounts on specific financial items were attributed to measurement errors or bias (Fiechter and Novotny-Farkas, 2016). The latter argued that institutional differences, such

as the information environment or market sophistication, may restrict investors' ability to consider the fair value figures. This case would be especially pronounced for items of fair value through the income statement, as it is where investors' experience is the lowest but with the highest complexity. The study's sample included IFRS commercial banks listed around the globe. Findings indicated that fair value assets are less relevant than held-for-trading and available-for-sale items. Conditioning the relation by the type of the country, either into market or bank-based economies, resulted in more valuation discount for items of fair value through the income statement items in bank-based economies. However, this is attenuated in environments with a high level of information and institutional investors experienced in fair value.

Furthermore, recent examination of the relevance of fair value disclosures under the IFRS 7 has been conducted considering the Middle Eastern economies' nature (Tahat, et al., 2016). Interestingly, the later study included a sample of 70 Jordanian companies listed in the Amman Stock Exchange. However, the study aimed to investigate the effect of fair value disclosures using an index on the market value of the companies. The valuation model was based on Ohlson (1995) where the fair value disclosures index was included as an independent variable. On top of this, the study distinguished comparatively between two periods, pre and post IFRS 7. Results displayed a significant relevance in both periods but a higher relevance after applying IFRS 7 and balance sheet fair value and risk- related information significantly associated with the investors' economic decisions.

A contemporaneous aim to look into the effect of major events, such as the financial crisis on the value relevance of financial instruments, was of interest to Fang, Chen and Fu (2013). The methodology is based on Ohlson (1995) where the authors distinguish between the abnormal earnings during and after the crisis in addition to the control for some variables. The sample was extracted from high and low technology companies listed in the Taiwan Stock Exchange and OTC from 2007 to 2009 on a quarterly basis. Primary findings confirmed the effect of the financial meltdown by decreasing the value relevance of fair value information for some items where it is ceased for other items. Relying on the results, authors suggested an environmental effect on the relevance of fair value information where they also deputed the effect of the firms' characteristics.

Another trend was the association between fair value and financial instability was the aim of Arouri, et al. (2012). They enriched the literature with an evidence under the IFRSs both IAS 39: *Financial Instruments: Recognition and Measurement* in addition to IFRS 7: *Financial Instruments: Disclosures*. Interestingly, the study sample covered the CAC-40

French listed firms as it was imposed to apply the requirements of the IFRSs issued by the IASB. The choice of the sample looks at the market as a whole, not only for banks. This is due to the authors' interest in investigating whether the non-financial companies match the majority of bank-only studies showing a confirmed significant relationship between volatility of the comprehensive income or full fair value income and the stock price.

Unlike other studies, in 2010, an examination of financial instruments fair value disclosure took place that included the requirements of Malaysian-GAAP number 24 (Hassan and Mohd-Saleh, 2010). The feature of this study holds a contribution for a developing economy and non-IFRSs context. Under MASB24: *Financial Instruments: Disclosure and Presentation,* there are no rules for financial instruments measurement, which implies the significance to investigate the usefulness of its disclosures. Similarly, with the previous study, this research constructed an index to measure the quality of financial instrument related disclosures under the MASB24 requirements. Results, under Ohlson (1995)'s model, indicated the relevance of disclosure quality, but less positivity after mandating the standard. Researchers commented that less positivity is derived from the quality of risk disclosures. Typical to the majority of researches, under Malaysian GAAPs, fair value disclosures are value relevant to the investor.

The main questions were surrounding whether the mark-to-market reporting was associated with stock prices in addition to stock volatility. The sample period includes 75 observations and returned to 2005 as it witnessed the market reaction to the first adoption of both IAS 39 and IFRS 7, as well as before the occurrence of the financial crisis. Moreover, this idea relied on the framework provided by Plantin, Sapra and Shin (2008), where they suggested that if fair value incomes derive extra volatility, they would contribute to exacerbating the severity of the crisis. The study returned the full fair value income complying the IASB's recommendations with regards to the valuation of all financial instruments. This was achieved by taking the net income and adding the unrealised gains and losses that resulted from available-for-sale items, translations of foreign currency and cash flow hedging derivatives.

According to an extension for the Plantin, Sapra and Shin (1995) model, results confirmed the relevance of the fair value of financial instruments. Additionally, it investigated the insignificant relationship between fair value income volatility and stock prices. This entailed the idea that fair value income volatility did not contain any incremental information about the risk relevance. The researchers suggested the need for fair value

accounting adjustments that avoid the amplifications which derive from the procyclicality nature.

Danbolt and Rees (2008) raised evidence from the UK real estate and investment fund sector. This opportune sample allows for investigating both models in a profound manner as most of the assets are accounted for by statement of standard accounting practice SSAP 19: *Accounting for Investment Properties under Fair Value*. They experimentally compared fair value with historical cost measurement models based on Ohlson (1995). Findings were consistent with previous studies regarding the relevance of fair value. They also suggested the high relevance when the fair value related information was obvious and unambiguous.

Adding to the non-banks' international evidence, Carroll, Linsmeier and Petroni (2003) aimed to provide relevant literature for financial instruments' fair value estimates relative to their historical cost as evidence from the closed-end mutual funds. This sample is given the attention for its special financial reporting policy where it used the full fair value accounting for both their balance sheet and income statement. Moreover, it holds a wide range of securities by funds. This study covered 143 closed-end mutual funds from G7 countries over the period from 1982 to 1997. The main findings of this study indicated the significant relationship between stock prices and investment securities' fair values. Furthermore, a significant association between returns and fair value gains and losses were found, even after controlling for historical cost amounts.

On the second objective, researchers tested whether the perceived differences of value relevance across different types of investments affect the investors' decisions using the model of Barth (1994). Under this objective, they regressed the stock price metrics and fair value funds for many contexts such as G7 countries' public equities, non-G7 countries' public equities, US governmental and municipal securities, corporate funds and securities traded in thin markets. Contrary to many studies (Barth, 1994; Petroni, 1995), they found a strong association between stock price metrics and fair values, which stood for a high reliability of fair value estimates. According to this result, they suggested that fair value estimation for securities traded in thin markets such as those that are privately traded, and non-G7 would not eliminate the value relevant significantly. Their inferences for such results come back to the nature of closed-end mutual funds, which used full fair value accounting. Subsequently, other industry types may consider the omitted variables in their methodology.

Despite the strong, more contemporaneous and comprehensive evidence which was given by Carroll, Linsmeier and Petroni (2003), other opposing evidence (Petroni, 1995) had

previously risen in literature from 56 insurers of property-liability. This study proved that fair value of securities, which traded in the active market or high liquidity such as US treasury investments, are associated with stock prices and reliability. Whereas, fair value of securities traded out of the market, such as corporate and municipal bonds, have an insignificant relationship and are unreliable.

Table 3-1: Abstract of Key International Studies

	(Tahat, et al., 2016)	(Bernard, Merton and Palepu, 1995; Tahat, et al., 2016)	(Arouri, et al., 2012)	(Carroll, Linsmeier and Petroni, 2003)	(Petroni, 1995)
Aim	Investigating the relevance of fair value disclosures comparatively between IFRS7 and IAS30/32	Discovering the transparency of mark-to-market reporting for investments, off-balance sheet and loan loss provisions	Investigating the association between mark-to-market and stock prices in addition to stock volatility	Investigating the value relevance of financial instruments fair value relative to their historical cost	Investigating the value relevance of equities and debt securities with fixed maturity with controlling their historical cost
Base Model	Ohlson (1995)	Regression based on firms in addition to year characteristics Ohlson, 1995	(Barth, 1994; Ohlson, 1995)	(Ohlson, 1995)	BSM
Sample	70 companies listed in Amman Stock Exchange except insurance and banking industry	Danish banks and thrifts	CAC-40 French banks	Closed end mutual funds from G7 countries disclosed under Standard and Poor Stock Report (S&P)	Comprises 56 publicly-held property-liabilities
Period	2006-2007	1976-1989	2005	1982-1997	1985-1991

Findings	Significant relevance in both periods but a higher relevance after applying the IFRS7	Transparency of mark-to-market reporting for instruments and off balance sheet but not for the loan loss provision	There is no significant relationship between fair value income volatility and stock prices and it does not contain any incremental information about the risk relevance	Significant relationship between investments fair value and stock prices as well as for the stock returns and fair value gains and losses	Property-liability Share prices can be explained by fair values of equity investments and US Treasury investments, even after controlling for historical costs. Additionally, municipal and corporate bonds do not explain share prices beyond historical costs
Suggestions		Supporting the mark-to-market proponents	The need to adjust for the fair value as it is accused of procyclicality	Fair value estimations for securities listed in thin markets would not eliminate the value relevance incrementally	Fair value of securities with less active trading, which tend to be longer maturity do not explain the share prices. (Fiechter and Novotny-Farkas, 2016)

3.2.2   Value Relevance under the USA Context

Value Relevance under SFAS 107

Before this standard became effective, US firms disclosed the fair value of the investment securities voluntarily. Many studies searched the relevance of this type of disclosure (Riffe, 1993; Barth, 1994; Ahmed and Takeda, 1995). However, according to the time and words account limitations, the literature is inclusive to cover SFAS 107 in the effective period.

Eccher, Ramesh and Thiagarajan (1996) evidenced the relevance and reliability of fair values disclosed by bank holding companies under the requirements of SFAS 107. Additionally, they aimed to investigate whether fair value disclosures are incrementally associated with firms' values over and above related historical cost based valuations for both items on and off-balance sheet items. Findings indicated that changes between fair and book values are significantly related with market-to-book ratios for all financial instruments in the US banks except for deposits. Specifically, fair values of loans formed less association with firms' value than fair value of securities. Similarly, the literature is supported by its interpretation that investment securities have a strong association with expected future cash flows because they do not resemble return as a "rent" nature. Moreover, deposits are devoid of relevance due to the exclusion of core deposits in the process of valuation. However, off-balance sheet items are value relevant only under limited settings. Besides that, results augmented the increase in R-square percentage after adding the fair value disclosures to the model that contained historical cost based determinants of market-to-book ratio. This suggests that fair value disclosures imposed by the US-GAAP signify the financial statements to be more comprehensive.

Noteworthy, this study adopted the methodology derived from the BSM, which is based on the idea that investment's value equals the expected cash flows from that investment where inflows and outflows are generated from assets and liabilities respectively. This model is considered as similar to the application in many studies (Barth, 1994; Barth, Landsman and Wahlen, 1995).

Taken all together, although Eccher, Ramesh and Thiagarajan (1996) stated the relevance of fair value disclosures for individual items, they recognised the modesty of this power. Dealing with this fact, they suggested that standard setters should look for the most relevant part of the market-to-book ratio, goodwill, if they want to switch to the market-based valuations.

For the same standard, three studies (Bernard, 1994; Nelson, 1996; Barth, Beaver and Landsman, 1996) paid attention to the relevance of disclosures due to the significant calls to eliminate disclosures when it was not meaningful. The empirical analysis focused on the cross-sectional relationship between the US banks' equity values and fair value disclosures under SFAS 107. The focus incorporated four variables, three of which are balance sheet items but the latter is the net off-balance sheet instruments. In comparison with previous studies, Bernard (1994) influenced this empirical research by the accounting-based determinants of the market-to-book ratio. Indeed, this modified the model to include variables of future profitability, return on equity (ROE) and growth of book value. Findings derived from this study, before and after controlling, mainly indicated that fair value disclosures for investment securities, loans, deposits, long-term debt and net off-balance sheet items are not value relevant. In spite of similar results after controlling, the model gained explanatory power. Furthermore, this was explained by the high collinearity between ROE and the fair value of investment securities. Interestingly, the author claimed that this modification of control variables significantly avoids any errors occurred in previous research that fair value disclosures of investment securities are value relevant to the firm's value.

Barth, Beaver and Landsman (1996) provided evidence under SFAS 107, which incorporates the fair value disclosures for financial instruments, both investments and loans. This statement derives its importance and relevance from fair value disclosures of traded items on a daily basis in the market. It found that fair value disclosures required by the SFAS 107 are value relevant or have an explanatory power for share prices. This evidence distinguishes this study from its peers (Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996) according to the fact that it added some related variables that enhanced the explanatory power and positively converted findings. This study takes primarily the fair value disclosures of items under SFAS 107. However, it modified the model by forming three groups of variables. At foremost, they included variables under the SFAS 107, namely FALs. Afterwards, variables were not reported under SFAS 107, such as plant, property and equipment in addition to intangibles such as core deposits. Finally, they completed their model with variables that simulate FALs under the scope of this standard, such as non-performing loans (NPL) and interest sensitive loans.

Results proved that the power of interpreting the differences of share prices increased after complementing fair value disclosures by information such as the financial stability, loans interest sensitivity and NPL. That is to say, fair value disclosures of loans do not entirely

reflect loans impairment because of risk of default, interest fluctuations and financial health of the US banks. Furthermore, one findings worked in parallel with Eccher, Ramesh and Thiagarajan (1996) that fair value of investment instruments is related significantly to the firm's value (Beisland and Frestad, 2013).

Noteworthy from the table, there is a consensus about the insignificance of fair value disclosures of off-balance sheet items. All studies above found that fair value disclosures of this type of item have no ability to explain the differences in stock price or market-to-book value of the US banks. Accepting this fact, the reason could be derived from the deficiency of SFAS 107 requirements. For instance, SFAS 107 permits, but does not impose, banks to disclose the position of derivatives as one among off-balance sheet items. This would lead to a misunderstanding on the investor's part that he/she could not distinguish between positive or net receivable position (assets) and negative or net payable position (liabilities). It also does not allow the investor to realise the purpose of holding those types of derivatives as derivatives could be overtaken for trading purposes as well as hedging (Venkatachalam, 1996) .

On the aspect of non-financial firms, Simko (1999) selected 300 firms from NYSE and AMEX in order to examine the value relevance of financial instruments under SFAS 107 requirements. This study covers the period of four years from 1992 to 1995 when the SFAS 107 overshadowed a large number of non-financial firms. The researcher based his study on the provided model by Feltham and Ohlson (1995). Accordingly, he regressed the share prices on the difference (fair value and book value) of three basic financial instruments under SFAS 107 requirements. Primarily, components incorporated financial assets, financial liabilities and finally derivatives. As the base model imposes the existence of omitted variables, many control variables were stated such as financial assets' net book value, non-financial assets' net book value, current period abnormal earnings and the estimated abnormal earnings for the next period.

Findings only supported the idea of the strong association between differences of financial liabilities and share prices in years 1993 and 1995 when the differences were attributed to be substantial and in a loss position. This solitary result contradicted previous bank studies where the fair value differences of financial assets had a significant relationship with equities (Venkatachalam, 1996; Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996). Furthermore, the analysis exhibited the decrease of explanatory power for firms with low co-variation between returns and interest rate changes. This result could lead to

confirmation that the value relevance of financial instrument fair value under SFAS 107 is only significant in limited settings without the fair value of non-financial items. The table below summarises the results and findings from studies which are concerned with SFAS 107:

Table 3-2: Summary of SFAS 107 Literature

Item/Study	Eccher, Ramesh and Thiagarajan (1996)	Nelson (1996)	Barth, Beaver and Landsman (1996)	Simko 1999
Investment securities	Value relevant	Value relevant	Value relevant	Value relevant
Loans	Not Value relevant	Not Value relevant	Value relevant	Value relevant
Deposits	Not Value relevant	Not Value relevant	Not Value relevant	Value relevant
Off-balance sheet items (derivatives)	Not Value relevant	Not Value relevant	Not Value relevant	Value relevant
Long-term debt	*Limited setting	Not Value relevant	Value relevant	Value relevant

*Limited settings refer to the specifications of studies' models as well as part of the study period as has been evidenced by many studies (Barth, Beaver and Landsman, 1996; Nelson, 1996; Eccher, Ramesh and Thiagarajan, 1996).

Value Relevance under SFAS 115

Park, Park and Ro (1999) enriched the literature with evidence under SFAS 115: *Accounting for Certain Investments in Debt and Equity Securities.* This paper aimed to investigate whether fair value disclosures for debt and equity securities explain the bank equities' fluctuations based on the intention of holding. Primarily, it focused on two types of instrument, held-to-maturity and available-for-sale. Firstly, it questioned the ability of differences between fair value and historical cost of each previous type to have incremental information about the equity market value. Secondly, it differentiated the best instrument that holds better incremental information of equity market value. Thirdly, it investigated the ability to interpret both raw stock and abnormal returns or market value and book value of equity (BVE). Finally, it had the power to explain banks' returns one year ahead.

Accordingly, it applied two models, both levels and differences, to satisfy the robustness of study results. Findings indicated that both types could explain the equity bank values with

a higher ability assigned to available-for-sale securities. In addition, they could explain available-for-sale value differences significantly associated with raw and abnormal returns simultaneously although held-to-maturity value differences are significantly associated only with raw returns. Separated value differences assigned to each type of security have higher association with bank equity value than aggregated differences in value. Conversely with available-for-sale instruments, held-to-maturity could not explain the bank earnings for one year ahead using return on assets as a dependant variable.

Value Relevance of Derivatives and Off-Balance Sheet Items SFAS 119: Disclosure about Derivative Financial Instruments and Fair Value of Financial Instruments and 133: Accounting for Derivative Instruments and Hedging Activities

As has been evidenced by studies that carried out the value relevance of SFAS 107 requirements, it was clear that off-balance sheet items did not have the ability to interpret differences in equities of firms. This evidence of irrelevance incorporates both contractual (notional) amounts (Riffe, 1993) and fair value amounts (Eccher, Ramesh and Thiagarajan, 1996; Barth, Beaver and Landsman, 1996; Nelson, 1996). In part, SFAS 119 was issued to resolve the derivatives' related amounts, which in turn, would help the investor in evaluating shares and equities in addition to improving the transparency of the accounting information. SFAS 119 primarily covers three ambiguous issues, which could be directly related to the previous irrelevance results.

Venkatachalam (1996) empirically investigated the value relevance of both fair values and notional amounts for derivatives as part of his paper. In his paper, he followed the accounting identity in parallel with the BSM in equity valuation theory as presented by Beaver, Kettler and Scholes (1970). Under a cross-sectional valuation approach, he examined the association between derivatives' disclosures, both fair values and notional amounts, and differences in stock prices. He controlled his model using the fair value disclosures of on-balance sheet items under SFAS 107 in addition to a variable that stood for the remaining book value. Furthermore, the model integrated the omitted variables by adding that obligations are related to net pension and retirement benefits as well as the book value of NPL. Findings support the significant association between derivatives' disclosures of fair values and share prices. Additionally, it documented a negative

significant association between notional amounts' disclosures and share prices or equity values after controlling for fair value disclosures of derivatives.

Recently, more recommendations have evolved to carry out further investigations on the relevance of notional amounts of derivatives (Riffe, 1993; Venkatachalam, 1996; Barth, Beaver and Landsman, 1996) . Two common respondents in literature were Wang, Alam and Makar (2005) and Seow and Tam (2002). Indeed, statements of 119 and 133 issued by FASB imposed firms to recognise the fair value changes on trading derivatives in addition to disclosing more information related to derivatives such as notional amounts, exposures of credit and fair value of trading and non-trading derivatives. Seow and Tam (2002) regressed those requirements on stock returns to examine their association. This research was based on the theory of value and earnings as introduced by Ohlson (1991). Also, it is differentiated by controlling for the systematic risk of individual stock by the market beta according to the CAPM. The study focused on annual observations from 35 NYSE commercial banks. It applied three types of testing: pooled, cross-sectional and time series regression covering two periods (1990-1996) for notional amounts of derivatives and two later years (1994-1996) for fair value gains and losses. Key findings of this research were as follows: firstly, the mentioned derivatives' related disclosures provided useful information other than those related to earnings and market beta. Secondly, limited evidence existed to support the significance of notional amounts. Finally, results do not support the initiative of separate disclosures with regards to fair value gains and losses for both trading and hedging derivatives.

Wang, Alam and Makar (2005) further investigated the value relevance of the expanded disclosures of SFAS 133 in addition to SFAS 119. Seow and Tam (2002) responded to the calls by aiming to empirically explore the relevance of derivatives' related disclosure, however, they did not find any significant association between them and banks' equities. Above all, this paper incorporated a larger data set for the entire application period of SFAS 119 (1994-2000) and the expanded disclosures of SFAS 133's adoption period (2001-2002). Primarily, it examined the notional amount disclosures of derivatives, which are held by banks for trading and non-trading purposes as well as their risk categories, especially, interest and foreign exchange rates. This examination enabled the building of more momentum tests for incremental contents of derivatives' related disclosures as it was possible at the pre-period of SFAS 119. Although this research followed the rigorous model of Ohlson (1995), it was strengthened by a robustness test through the inclusion of fair value disclosures under SFAS 133. Fair value disclosures under SFAS 133 include

disclosures for both trading derivatives (fair value gains / losses) and non-trading derivatives (fair value of derivatives position –asset / liability). The main findings of this paper indicated a strong association between notional amounts of derivatives under both SFAS 119 and 133 and evaluating banks' equities, earnings and book value. Alternatively, it could be indicated that notional amounts economically affect investors' decisions towards evaluating firms' equities.

Notably, all preceding studies were interested in fair value disclosures, where the unique opportunity to highlight fair value recognition under SFAS 133 was exploited (Ahmed and Lobo, 2006). This study contained a comparative view between different firms' cases before and after the release of SFAS 133. The first case included banks which were in practice simultaneously with both recognition and disclosure. The second case included banks which only disclosed the fair value of derivatives prior to the release of SFAS 133 but recognised the fair value of derivatives after the release. Each case among the mentioned cases has different specification models and has been tested using both level and differences tests in order to mitigate omitted variables problems. Findings suggest that the valuation coefficients for recognised fair values are value relevant but are not value relevant under disclosed fair value. The researchers interpret their findings as an assertion for those who claimed that recognitions and disclosures are not substitutable and each one of them plays a significant and economic role for the investor's decision.

3.2.3 Value Relevance of Fair Value of Investments under Equity Method

In a unique study in its content and related methodology, Graham, Lefanowicz and Petroni (2003) considered an objective which holds the reliability of fair value disclosures of investments under an equity method where they have a quoted price in the 10-K forms. The US Securities and Exchange Commission (SEC) required companies to fill their annual reports in 10-K form, which gives a comprehensive summary of the financial performance of the company. This objective was based on the idea of the necessity to have a general understanding and evidence of fair value disclosure implications for this type of investment. Alternatively, FASB recognised that listed prices of large block on active markets did not present the actual prices due to the influence of high transaction costs of large block holders. Subsequently, FASB decided to exclude investments accounted under the equity method from fair value reporting in addition to the same consideration by IASB. The methodology coped with financial statements for over five years, from 1993 to 1997, which stood at 172 investor firms. Using the Ohlson (1995) model, they regressed the share prices on fair value disclosures for investments under the equity valuation method.

Results indicated a significant association of fair value disclosures of this type. According to researchers, the result implied the need for a re-examination of the standard setters' decision. Exclusively, results only related to equity investment with a quoted price, which limits the generalisation upon investments with no active or quoted price.

Value Relevance Literature, Gaps and Contribution

After reviewing the international context, it is clear that researchers covered developed countries' more than developing countries (Hassan and Mohd-Saleh, 2010; Tahat, et al., 2016), however, studies in developed economies excluded the financial sector from their samples. Additionally, studies covered empirical findings related to standards under IFRSs but not IFRS 9 and its new classification model (Petroni, 1995; Carroll, Linsmeier and Petroni, 2003; Plantin, Sapra and Shin, 2008; Arouri, et al., 2012; Chen, Young and Zhuang, 2013; Fiechter and Novotny-Farkas, 2016). Similarly, some studies investigated the value relevance under non-IFRS contexts (Bernard, Merton and Palepu, 1995; Danbolt and Rees, 2008). Last but not least, the most recent empirical evidence related to the period 2006-2007 (Tahat, et al., 2016). Under the US-GAAP, the literature was rich regarding the relevance of fair value disclosures and recognitions. Despite this richness, there was a gap regarding any evidence for fair value reporting under the principle-based standards as this is not effective until 2018.

According to the best of knowledge, this research contributes the following points; firstly, it provides the first empirical evidence regarding the developing economies for a cross-country study, such as in the Middle East area. Secondly, it investigates empirical evidence regarding the fair value reporting of both disclosures and recognition under the IFRS context. Thirdly, this study examines the relevance of fair value reporting in the banking industry as it holds the highest portion of financial instruments out of its net assets (Bischof, 2009). Furthermore, the study displays the first empirical and comparative evidence regarding the rule-based standards (pre-IFRS 9 standards set) and principle-based standard (IFRS 9). Above all, it shows the most recent empirical evidence in terms of its study period which covered 2006 until 2015.

3.2.4 Value Relevance Literature Summary

The objective of this section is to review and analyse the empirical studies of the valuation relative. The focus of this thesis is to investigate the value relevance of financial instruments' fair values, comparing pre and post the new release of IFRS 9. The majority of studies were inclusive of the US, especially in the banking industry. In accordance with this, this section was divided into US banking studies and international cross-sector studies.

Returning to present studies, the majority of findings support the relevance of most financial instruments with some exceptions in limited settings. For instance, fair value disclosures of investments securities are value relevant by consensus (Barth, 1994; Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996).

Findings on derivatives' fair value imply their relevance to equity share prices (Venkatachalam, 1996; Seow and Tam, 2002). Similarly, fair value recognition of derivatives found to be as such can explain for differences in share prices (Ahmed and Lobo, 2006), whereas, derivatives' disclosures could not significantly explain the shares' fluctuations. Accepting this result, disclosures are not perceived as a substitute of recognition from the investors' point of view. Three studies support evidence of the insignificance of off-balance sheet items, where they referred this result to deficiencies in disclosure requirements under SFAS 107 (Barth, 1994; Nelson, 1996; Eccher, Ramesh and Thiagarajan, 1996).

Further studies were interested in the relevance of notional amounts relevance under the released amendments of SFAS 119 and 133. They supported disclosing the notional amounts as they are relevant to the investors' decision (Venkatachalam, 1996; Wang, Alam and Makar, 2005).

Loans' fair values were swinging between confirming (Barth, Beaver and Landsman, 1996) and rejecting their relevance (Nelson, 1996; Eccher, Ramesh and Thiagarajan, 1996). Variations in results might be due to variations in methodology and research design (Barth, Beaver and Landsman, 1996). Indeed, there are explanatory variables in the equation as well as SFAS 107 related variables.

Fair value of deposits and long-term debt are unable to explain variances of shares prices. These might refer to the SFAS 107 articles that fair value of deposits without standing maturity equates their payable amounts on demand.

Evidence on non-banks concerned mutual funds, property-liability insurers and non-financial entities (Petroni, 1995; Simko, 1999; Carroll, Linsmeier and Petroni, 2003) respectively). The first strongly indicated the fair value relevance of all types of investments. Conversely, the second suggested the fair value relevance of only highly traded investments such as US treasury bonds, whereas, municipal and corporate bonds are not relevant. Simko (1999) converged only with relevance of financial liabilities in his sample.

It is worth noting that the majority of literature was concerned with the US-GAAP with insignificant studies on the IFRSs. On the other hand, relevance of financial instruments on the banking sample is considerably lacking, especially with the inclusive early adoption of the new release of IFRS 9. Evidence from emerging and developing economies could not exist, such as that of the Middle East banking industry. This implies this study's advantage of coping with this gap, where it investigates comparatively the relevance pre and post the IFRS 9 in the Middle East banking industry.

3.3 Cost of Equity (CE)

Disclosures have many significant roles, and typical of these are the economic decisions of investors. For instance, a decision not to limit, according to the economic theory, information asymmetry induces the adverse selection, which could be avoidable by the commitment of increasing disclosures as well as their higher content in rules of measurement (Amihud and Mendelson, 1986; Dayanandan, Donker and Karahan, 2017). Assuming the existence of adverse selection, companies' shares would be manifested by illiquidity (Copeland and Galai, 1983; Kyle, 1985). Another aspect concerns this idea: disclosure and recognition are asserted by occupying the same importance and are not substitutable in terms of their relevance to the investors' decisions (Seow and Tam, 2002). The objective of this research is to compare the economic consequences of the recent change in disclosures under IFRS 9 requirements with its precedents' set (IAS 32, IAS 39 and IFRS 7). IFRS 9 required new classification rules which affected the disclosures. Lambert, Leuz and Verrecchia (2007a) confirmed the economic consequences of the information quality, which highlights the need to investigate the impact of the quality of new disclosure labels and CE.

As mentioned in the theoretical chapter, CE is a primary variable as it is used to discount the anticipated cash flows. According to the reading in the literature, two pioneers' models are the most used models by researchers (Ohlson, 1995; Ohlson and Juettner-Nauroth, 2005). Consequently, this research provides evidence based on these models. The structure covers the empirical evidence under the IFRS and non-IFRS contexts since one of the main objectives is to investigate the relationship between disclosures and reporting quality with economic consequences.

3.3.1 Cost of Equity under Non-IFRS Contexts

This section displays the literature which relates to financial reporting quality as well as transparency or increasing the disclosures and CE under the non-IFRS contexts. In addition, it covers evidence from diverse contexts (basically, the USA) and different derivations for the CE.

According to the best knowledge, recent studies returned the CE using equity valuation models such as the RIVM (Ohlson and Juettner-Nauroth, 2005) and BSM (see also other models in theoretical framework). The following starts from the most recent evidence under the non-IFRS context.

Barth, Konchitchki and Landsman (2013) tested the transparency of the income statements' earnings under the US-GAAP. Their aim proceeded according to the notion that earnings that are more transparent lead to less uncertainty, thus, less CE. Transparency is scaled by the relationship between stock returns and earnings, or alternatively, the extent to which changes in earnings contemporaneously covary with returns. Authors stated that earnings are more transparent when they better explain the economic value of firms. The methodology contains a large sample of US firms across 27 years. Additionally, the cross-sectional model was based on factors by Fama and French (1995) in addition to momentum factors and the transparency factor. Findings supported the literature with the notion of incremental explanatory power for the transparency to CE more than the remaining factors.

Under both analyses, Bhattacharya, et al. (2012) tested the direct and indirect relationship between earnings quality and CE under the US-GAAP during 1993-2005. The analytical model was mediated by information asymmetry which was proxied by the adverse selection and probability of the informed trading. The CE has been extracted from the value line following the previous literature (Botosan and Plumlee, 2002; Francis, et al., 2004; Francis, Nanda and Olsson, 2008). The results support reliable evidence for the direct relationship between the two variables in addition to the indirect effect mediated by the information asymmetry favouring direct effect.

Additional and relatively new evidence came from Armstrong, et al. (2011) regarding the relationship between information asymmetry and the CE. This study contributed the conditioning of the relationship by the excess of standard risk factors provided by Fama and French (1993). The study used Easton (2004) as a proxy to return the CE. The sample incorporated the US-listed firms under the period 1976-2005 in June. Findings stated that, under a perfect competitive market, there was no individual effect for information asymmetry on CE. Conversely, an excess in risk factors or information asymmetry being in a non-perfect competitive market environment significantly affects the CE. Overall, the market competition degree acts as a significant condition for information asymmetry and CE.

Using similar model, Francis, Nanda and Olsson (2008) investigated the relationship between voluntary disclosures, earnings quality and cost of capital. They constructed an index for the disclosures, which measured the level of disclosures for 677 US firms' annual reports and 10-K filings in 2001. The main findings stated that firms with high voluntary disclosures have better earnings quality than those in lower level voluntary disclosures. Additionally, higher disclosed firms evidence a lower CE a part from of any conditions. However, conditioning the relationship between CE and disclosure level by the quality reduced the impact or caused it to disappear.

Further strong international banking evidence was provided by Poshakwale and Courtis (2005). This study featured a banking sample which governed 135 banks, where 73 among them were European and 62 non-European (USA, Canada and Australia). The authors constructed their disclosure index with 29 adopted key financial and non-financial measures. Furthermore, they regressed their data on a cross- sectional analysis. Their model regressed the beta, firm size, price to BVE ratio and price to earnings ratio on the CE. Typically, their findings supported the significant negative relationship between the disclosures level and CE. This result was strongly highlighted by risk disclosures. Additionally, European banks faced a stronger significant negative association compared with their banking counterparts from the USA, Canada and Australia.

Francis, et al. (2004) tested the linkage between the CE and the attributes of the US-GAAP earnings quality. They divided the attributes into accounting-based (accrual quality, persistence, predictability and smoothness) and market-based (value relevance, timeliness and conservatism) characteristics. The sample enclosed a 27 years' time period with a ten-year window. The CE is measured taking the value line forecasts. They found a positive association between all characteristics with the CE on an individual basis. Furthermore,

they strengthened their results by controlling the relationship using the innate determinants with another measure for the CE (Gode and Mohanram, 2003; Easton, 2004; Ohlson and Juettner-Nauroth, 2005).

Interestingly, using the classic Dividend Discount Model (DDM) (see theoretical framework chapter), Botosan and Plumlee (2002) investigated the impact of disclosures' level and time as well as investor relations on the CE under the US-GAAP. The study built a self-index for voluntary type of disclosures. The sample covers 3,618 firms' annual observations in the AIMR reports 1958-1996 in the USA. The main results consisted of the majority showing lower CE for higher disclosure level. Notably, the timely disclosures lead to higher CE where this result contradicts the theory. However, the later result supports the managers' claims, which stated that more timely information leads to higher price volatility. Finally, the authors suggested that failing to incorporate different types of disclosures would expose the regression model to bias as a result of the existence of some omitted variables.

Richardson and Welker (2001) reinforced the association between disclosures and CE under the Canadian Standards. They tested the impact of financial and social disclosures on the CE. Observations enclose annual readings at the end of the three years 1990-1992. The popular result showed a negative association between the financial disclosure quantity and quality and the CE for firms that have low analysts. Conversely, social disclosures have a positive significant relationship with CE. This result was mitigated for firms with higher performance. The justification for this was that social disclosures hold a probability of some biases, as well as the idea that social disclosures are more related to stakeholders than to investors or equity holders. These results are similar to the one (Botosan, 1997) where the researcher constructed an index for voluntary disclosures and regressed the CE on the index score, market beta and firm size. The study consisted of 122 US manufacturing firms during 1990. CE was regressed on two key models (Ohlson, 1995; Feltham and Ohlson, 1995). Primarily, for low analyst firms, there was a significant negative impact for disclosures by 28 basis points on the CE, whereas, there was no evidence for this type of association in high analyst firms. The author justified the result by the index self-construction where it does not reflect the overall image for the firm as it only measures the annual report.

Earlier studies investigated this bond using measures for the CE based on asset pricing methods such as CAPM. Namely, Dhaliwal (1979) derived the value of CE from CAPM as the dispersion of returns. He tested the impact of the SEC requirements for multi-product US firms to disclose their further analysis. As a result, 25 firms were affected by the release while 26 firms were not. The experimental analysis contained two groups which resulted in a dichotomous variable in his model as well as other control variables. His findings confirmed the positive impact of the SEC's release on the required ROE. Dhaliwal, Spicer and Vickrey (1979) complimented the previous study with a similar methodology to investigate the disclosures' quality under SEC's requirement regarding the segmental disclosures report. The segmental report was condensed by a further analysis for revenues and profits for each production line or products. Equally, the findings reported similar results for the negative association between the disclosure quality and CE.

In conclusion, the literature generally supports the notion claimed by the standard setters. The plethora is dominated in the USA rather than other contexts such as Canada, Australia or non-IFRS Europe before 2005. The following table concludes the literature with regards to the association between disclosures and earnings quality with CE.

Table 3-3: Summary of the Non-IFRS Literature (The impact of Non-IFRSs on the CE)

Study	Sample	CE estimate	The impact nature
(Barth, Konchitchki and Landsman, 2013)	US firms (27 years)	Fama and French (1993)	Sig. negative
(Bhattacharya, et al., 2012)	US firms 1993-2005	Value Line	Sig. negative
(Armstrong, et al., 2011)	US firms 1976-2005	Easton (2004)	Sig. negative (only under non-perfect competitive market environment)
(Francis, Nanda and Olsson, 2008)	677 US firms	Value Line	Sig. negative (only without conditioning the relation by the earnings quality)

(Poshakwale and Courtis, 2005)	135 international banks from Europe and non-Europe	P/BV ratio by Fama and French, (1992)	Sig. negative
(Francis, et al., 2004)	US firms (27 years)	Gode and Mohanram, (2003); Easton, (2004); Ohlson and Juettner-Nauroth, (2005)	Sig. positive
(Botosan and Plumlee, 2002)	USA- 3618	DDM	Sig. negative
(Richardson and Welker, 2001)	Canada	Ohlson, (1995); Feltham and Ohlson, (1995)	Sig. negative (low analyst only)
(Botosan, 1997)	US firms (manufacturing 122)	Ohlson, (1995); Feltham and Ohlson, (1995)	Sig. negative (low analyst only)
(Dhaliwal, 1979)	US firms	CAPM	Sig. negative
(Dhaliwal, Spicer and Vickrey, 1979)	US firms	CAPM	Sig. negative

3.3.2 Cost of Equity under IFRS Context

This section pertains the association between the IFRSs' financial reporting and the CE. This association has been under condensed investigation owing to the substantial number of countries which adopted or early adopted the IFRSs before 2005 in Europe. IFRS is featured among its precedents by a higher number of disclosures than the national standards. This part displays the financial reporting in both terms: disclosures and recognition after the compulsory adoption by the most recent studies.

Eliwa, Haslam and Abraham (2016) provided recent country-specific evidence with regards to the earnings quality (under seven proxies) and the CE. The sample includes all non-financial listed companies in the UK during the period 2005-2011. This study considered the global financial turbulence in 2008 and how it affected the earnings quality under more principle-based standards (IFRSs). Measures of CE relied on many studies (Gode and Mohanram, 2003; Easton, 2004; Ohlson and Juettner-Nauroth, 2005). They found a significant negative association between the IFRS-based earnings quality and the CE. However, this relationship became less effective than during the pre-crisis period.

Interestingly, they empirically proved the interest of the investors regarding the innate reporting behaviour rather than the discretionary one. Alternatively, investors are interested in information which simulates the firm's environment rather than the generated risk from discretionary managerial choices. This evidence was stronger during the crisis than before it, with no significant relationship for discretionary reporting during the crisis. This is consistent under the Australian settings (Gray, Koh and Tong, 2009) where non-financial firms are more reliant on private debt than public debt. Accepting those results, accrual quality was considered a priced risk factor.

Relying on the past gap in literature, many studies counted on on the idea that firms were fully adopting the IFRSs as they released. However, Daske, et al. (2013) were cautious in determining the impact of the IFRSs on the market consequences such as the CE under label or serious adopters. As they assumed, some firms would change some of their reporting policy and admit that they had adopted the IFRSs in name only where they were classified as label adopters. Serious adopters are those firms which would change their reporting policy to reflect the IFRSs literally to improve their transparency. They included variables of illiquidity and CE in addition to control variables to their cross-sectional models on a firm-level heterogeneity. CE was measured by four models (Gebhardt, Lee and Swaminathan, 2001; Claus and Thomas, 2001; Easton, 2004; Ohlson and Juettner-Nauroth, 2005). The sample contained all listed firms with compatible data from 30 countries during 1990-2005. The findings indicated that, for voluntary adopters, there was no evidence of market effects change through label and serious adopters. Indeed, the serious voluntary adopters featured positive effects such as increase in liquidity and lower CE, but that was not the case for labelled under (non-serious adopters) firms. Similar results arose for mandatory adopters.

Many studies provide early evidence of the impact of adopting the IFRSs in Europe on either a nature mandatory or voluntary basis. Namely, Li (2010) incorporated 1,084 listed firms in European countries during 1995-2006. The study was basically enriched by returning the CE according to three methods (Claus and Thomas, 2001; Gode and Mohanram, 2003; Easton, 2004). The regression model is opportune for a comparative check for findings constrained by the adoption nature (mandatory or voluntary) in addition to effective application time (pre and post). The main findings round to the positive economic consequences of the mandatory adoption by a decrease of .0047 in the CE. Furthermore, it suggested that the reduction in CE exists only with strong legal

enforcement. This result matched the findings provided by Lambert, Leuz and Verrecchia (2007a). They investigated the relationship between information quality and the CE. They found that the quality of information has two statistical types of effects: direct and indirect. Under the indirect effect, the information quality reduces the CE by decreasing the ratio of the firm's expected cash flows to their covariance to the market cash flows.

As CE was one way to measure the economic consequences, Daske, et al. (2008) presented global evidence of the economic consequences (market liquidity, CE and Tobin's Q) of the mandatory adoption of IFRSs over the period 2005-2011. They stated that implied cost of capital could suffer from changing the financial reporting rules as it is connected to the analysts' forecasts related to earnings. It is noteworthy that this thesis follows a similar approach to this study as well as Hail and Leuz (2006) to return the CE. For instance, they underpinned estimating the cost of capital according to the average derived from four estimates as in the Claus & Thomas (2001) model, Gebhardt et al. (2001) model, Ohlson & Juettner (2005) model, and Easton (2004) model. At the beginning, the findings indicated the increase of cost of equity capital for firms that are mandated to adopt the IFRSs, as they addressed this issue using the effect of anticipations. Actually, if the IFRSs lower the cost of capital, then the investors would lower the cost of capital at pre IFRSs to have a constant rate. Consequently, in this study, the sample excluded the observations of firm-year immediately before the adoption and moved the mandatory adoption variables by one year before the adoption. This setting allows skipping of many accelerated issues likely related to the market such as press releases, interim reporting and disclosures. Accepting the existence of anticipation effects, the findings round to the expected direction of lower cost of capital after the IFRSs' adoption. Furthermore, mandatorily adopting firms passed a decrease of 2.5% which is about 26 basis points.

Previous studies investigated the impact of the IFRSs' adoption without considering the variations across firms and the benefit condition. Accordingly, Christensen, Lee and Walker (2007) estimated the counterfactual proxy to return the UK firms' willingness to adopt the IFRSs rather than UK-GAAP. This proxy is derived from a regression model which was applied on German firms. Germany was chosen as it was the country which allowed firms either to early adopt the IFRSs or Germany-GAAP. The proxy gave two cross-sectional predictions on short-run market reactions and long-run variations in CE. Like in many studies, CE is derived according to more than one model (Easton, 2004; Ohlson and Juettner-Nauroth, 2005) during 1996-2004. Primary results confirmed

variations in the IFRSs' adoption's benefits across firms, plus there was no uniformed impact for the adoption. For instance, UK firms, which shared characteristics with their German early adopter counterparts, experienced a significant increase in CE. Equally, UK firms with higher similarity faced stronger significant economic consequences. In contrast, there was no evidence of significant economic benefits in the long-term. Under the economic theory, the results of higher disclosures leading to less CE were mixed.

Another study (Daske, 2006) overtook problematic issues related to retuning the implied cost of capital using realised returns and ignoring the role of accounting information such as CAPM. Alternatively, this study adopted models of forward-looking data (Gebhardt, Lee and Swaminathan, 2001; Gode and Mohanram, 2003) in addition to Easton (2004), to simultaneously return both the CE and growth of earnings. In converse with previous studies, this research relied on monthly observations of German firms during 2005- 2007. Conclusions asserted the invalidity of lower cost of equity capital when adopting international set of standards (IASs/IFRSs or US-GAAP). Particularly, explanations for such results relied on an inaccuracy in returning the CE which could dominate the case of investigating many firms adopting different accounting standards. Nevertheless, it contradicts the results of others carried in multi-jurisdictions and standards.

Dargenidou, Mcleay and Raonic (2006) focus on the relationship between the CE and earnings anticipations. They put into consideration the variations in accounting properties according to the existence of different regimes in 16 European jurisdictions from 1994 to 2003. This study relies on Ohlson and Juettner-Nauroth (2005) to calculate the CE. The article confirmed the integrated market's ability to mitigate the diversity of reporting regimes to the extent that the harmonisation effect would be short lived. Additionally, according to the Standard & Poor index of transparency and disclosures for different regimes, the quality of financial reporting has an impact on the implied CE.

For non-local-GAAP adopting firms domiciled in the EU, Cuijpers and Buijink (2005) investigated the determinants and consequences of adopting either the IFRSs or US-GAAP available on the Worldscope database. This restriction resulted in 133 voluntarily non-local-GAAP adopting firms. The significant reasons were evidenced in more geographically dispersed firms, US-listed firms and firms domiciled in countries with low quality standards. The consequences of less information asymmetry were measured namely by analysts following CE and uncertainty. Among their hypotheses, one followed the claims related to lower CE as a result of stricter, higher quality and increases in disclosures. Cost of capital was based on Easton (2004) as the implied approaches highly depend on the terminal value assumptions, which allow the researcher to simultaneously

return and compare both cost of capital and growth opportunities for early and non-early adopters. One of the findings went towards the expected trend concerned with a significant positive relationship between non-local-GAAP adopting and analyst following. It remarked on unexpected findings related to an insignificant negative association for CE. On top of that, voluntarily adopters face higher investor-analyst uncertainty. The justification is provided by comparing the early and late adopters where positive consequences of the adoption need time to materialise or be significant. A reason beyond this is that firms, investors and analysts need time to be knowledgeable of the requirements of IASs. Accepting this would imply the gradual effect of the higher quality standards to positively affect the cost of capital.

Previous studies investigated the economic consequences of disclosure increase as a result of switching the DAX100 firms from the German-GAAP to international standards, either IASs or US-GAAP, under experimental methodology (Leuz and Verrecchia, 2000a). Therefore, the sample for the latter composed 102 firms under DAX100 in 1998. To begin with, their survey resulted in evidence that the German-GAAP has a lower disclosures level compared with international counterparts. Accepting this evidence suggests a fertile incubator for experimental settings undertaken by this study. The primary aim was to test the relationship between the information asymmetry and CE under a substantial commitment of disclosure increase. The economic consequences were measured by three proxies: bid-ask spreads, liquidity (trading volume) and price volatility. An analysis of panel data proved low levels of bid-ask spreads with high liquidity for shares after controlling some firms' characteristics and selection bias. Furthermore, those results are corroborated by sensitivity analysis. Besides, this study incorporated a design of event study where it allocated firms according to their switching shapes. In addition, the derived results from event analysis reinforced the similar notion. On the other hand, price volatility refuted the hypothesised idea of negative association between higher disclosures and the information asymmetry component in CE. Furthermore, findings listed suggestions of insignificant differences between firms which follow US-GAAP and those with IASs. However, the results were based on a small sample, so this could be suggested without generalised inferences. It also referred to the idea of higher disclosures, not to standards per se.

Confirming similar results, a further study by Leuz (2003) used evidence from Germany's new market. Germany imposed firms listed in its new market to report their financial statements using either IAS or the US-GAAP but under a similar regulatory environment. This stands as a unique setting where these two competing standard sets are on a "level

playing field". The contribution features constant institutional factors such as requirements of listing, the microstructure of the market and the standards' enforcement. As in the previous results, there were no significant differences between the IFRSs and US-GAAP. This result suggests a similar quality level for both US-GAAP and IFRSs.

Table 3-4: Summary of the IFRS Literature (The Impact of IFRSs on the CE)

Study	Sample	CE estimate	The impact nature
Mandatory adoption studies			
(Eliwa, Haslam and Abraham, 2016)	Non-financial UK firms (2005-2011)	Gode and Mohanram (2003); Easton (2004) Ohlson and Juettner-Nauroth (2005)	Sig. negative
(Daske, et al., 2013)	All listed firms with compatible data during the 1990-2005 from 30 countries	Gebhardt, Lee and Swaminathan (2001); Claus and Thomas (2001); Easton (2004); Ohlson and Juettner-Nauroth (2005)	Sig. negative (only for serious voluntarily and mandatory adopters)
(Li, 2010)	European firms	Claus and Thomas (2001); Gode and Mohanram (2003); Easton (2004)	Sig. negative
(Gray, Koh and Tong, 2009)	Australian firms	Following Flos (2005), using industry adjusted earnings-to-price ratio.	Sig. negative
(Daske, et al., 2008)	Global evidence	Claus & Thomas (2001), Gebhardt et al. (2001), Ohlson & Juettner (2005), and Easton (2004)	Sig. negative
Voluntarily adoption studies and disclosures			
(Daske, 2006)	German firms	Claus & Thomas (2001), Gebhardt et al. (2001), Ohlson & Juettner (2005), and Easton (2004)	Sig. positive
(Cuijpers and Buijink, 2005)	EU firms	Easton (2004)	Sig. positive
(Dargenidou, Mcleay and Raonic, 2006)	16 European jurisdictions (1994-2003)	(Ohlson and Juettner-Nauroth, 2005))	Sig. negative

(Christensen, Lee and Walker, 2007)	UK and German firms	Easton (2004); Ohlson and Juettner-Nauroth (2005)	Sig. negative (only on the short-run and sig. similarities)
(Leuz and Verrecchia, 2000a)	German firms	Price volatility, bid-ask spreads and liquidity	Sig. positive
(Leuz, 2003)	Germany's new market	Bid-ask spreads	Sig. Positive (with dispersion between US GAAP and IFRSs)

CE literature, Gaps and Contribution

After reviewing the CE literature, the thesis contributes by filling the following gaps. Firstly, it could be concluded that most of the studies relate to developed economies from which evidence is lacking. Secondly, evidence did not incorporate the new release of IFRS 9 which is claimed to have higher simplicity, comparability and understandability. Alternatively, there is intensive evidence regarding the rule-based standards but not the more principle-based ones. Thirdly, most of the studies were highly related to the CE in firms rather than commercial banks considering the high proportion of financial instruments in their net assets. Fourthly, studies did not cover a cross-country sample with homogenous cultural characteristics but a different level of peace and law enforcement.

3.3.3 CE Literature Summary

The aim of the second part of the literature review chapter is to provide the empirical studies for the economic consequences presented by the CE. The second key objective of this thesis is to compare the economic consequences under the new change of IFRS 9 and its precedents, IAS 32, IAS 39 and IFRS 7. The comparison holds both recognition and disclosures as well as CE under pre and post periods. Owing to this objective, the emphasis is on studies which aimed to investigate the association between the adoption (voluntarily, mandatory and early adoption) and CE.

Under the non-IFRSs (local-GAAP), researchers examined the economic consequences of the financial reporting and CE. Financial reporting holds the increase in disclosures, recognition and quality. The earliest studies in the USA, (Dhaliwal, 1979; Dhaliwal, Spicer and Vickrey, 1979) used the CAPM's beta as a proxy for CE. They found a negative correlation between beta and increased the disclosures and reporting quality respectively.

Later on, studies returned the CE by CE theory models (Botosan, 1997; Richardson and Welker, 2001; Botosan and Plumlee, 2002). Botosan (1997) and Richardson and Welker (2001) returned the CE using RIVM in the USA and Canada respectively. They found a significant relationship between increasing disclosures and the CE only in firms with low analysts. Botosan and Plumlee (2002) returned the CE using the DDM for 3,618 US observations. Based on their findings, a significant negative relationship exists only in annual report disclosures' increases, whereas increasing other disclosures (measured by indexes) leads to greater share prices.

The second category (IFRSs literature) is directly related to the second empirical part of this thesis. Starting with Leuz and Verrecchia (2000a), their studies investigated the economic consequences for German firms of adopting either US-GAAP or IFRSs. They ratiocinated that these firms have positive economic consequences by increasing their trading volume with low bid-ask spreads. On the other hand, more recent studies which were concerned with voluntarily adoption did not confirm similar results (Leuz and Verrecchia, 2000a; Cuijpers and Buijink, 2005; Daske, 2006; Dargenidou, Mcleay and Raonic, 2006). They derived the CE according to an equity valuation model or models (Claus and Thomas, 2001; Gebhardt, Lee and Swaminathan, 2001; Easton, 2004). Primarily, they found that there is a significant positive association between the CE and disclosure increase. Furthermore, this case is more obvious in small firms with a lower level of disclosures than in big firms. Another unique contribution was by Daske, et al. (2013) where he found that lower CE is only associated with serious early adopters. Daske, et al. (2008) confirmed, under global evidence, positive economic consequences for mandatorily adopting firms, such as lower CE. Furthermore, he confirmed higher positive impacts for firms domiciled in countries with a higher legal enforcement. Taking a European sample, Li (2010) confirmed a decrease of .0047 in CE for mandatorily adopting firms. The most recent study confirmed similar results for non-financial UK firms under the IFRSs (Eliwa, Haslam and Abraham, 2016).

After viewing the previous literature, according to the best of knowledge, there is no study or evidence about the economic consequences from the emerging economies such as the Middle East. In addition, no evidence yet has derived under the early adoption for the first stage of IFRS 9. On the other hand, the relevance of financial instruments on a banking sample is considerably lacking. This thesis contributes by filling these gaps between IFRS 9 and its precedents.

Chapter 4: Theoretical Framework

4.1 Introduction

This chapter aims at offering a possible rational pertinent to the theoretical framework employed in this study. Reviewing the financial reporting literature highlights many theoretical aspects from organisation-society theories such as stakeholder theory (Barakat and Hussainey, 2013), positive accounting theories (Holthausen and Watts, 2001), signalling theory (Haniffa and Cooke, 2002), in addition to behavioural theory (Koonce, Lipe and Mcanally, 2005; Bischof, 2014). These theories were mainly employed in the literature to find out some determinants of reporting quality or disclosures level. For instance, according to the latter, legitimacy theory was applied to investigate and analyse the social and environmental reporting by firms. Additionally, literature provided evidence that institutional theory plays a complimentary role in the economic theory to explain accounting reporting (choice) such as fair value or historical cost reporting. Similarly, signalling theory justifies the reason why managers of good companies disclose extra information to reduce information asymmetry (Lopes and Rodrigues, 2007). This thesis is in conformity with Lopes and Rodrigues (2007) that these theories are implied in literature only to empirically investigate the determinants of reporting quality or disclosure levels such as the firm characteristics but it does not to provide aground to primarily investigate the effect of reporting quality on the investors' decision. Accordingly, some of these theories help partially in developing the study's hypotheses, however, the research is underpinned by the CE theory.

Primarily, the theoretical framework of this study draws impetus from the equity valuation theory, as this theory incorporates important aspects of this research study related to value relevance and CE. Basically, the value relevance definition revolves around the idea of the relationship between financial statement numbers and market-based ratios. For example, Barth, et al. (2006) define the value relevance as "the relationship between share prices, or returns and accounting information". This is owing to many reasons such as, firstly, that prior research has extensively employed equity valuation theory as its theoretical lens, because it offers relevant models that are compatible with the definition of value relevance (Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996; Wang, Alam and Makar, 2005; Barth, et al., 2006). Secondly, this study investigates the effect of IFRSs on the required

rate of return as denoted by the CE. Accordingly, the CE theory will offer various research models that are specified under different assumptions and applications to measure the CE. Thirdly, the objective of this thesis is to investigate the effect of classification and measurement base on the investors' perceived anticipations and judgments rather than the determinants of reporting quality. Finally, the CE or the required rate of return forms a primary input in all CE valuation models. The following figure displays the idea of the CE theory.
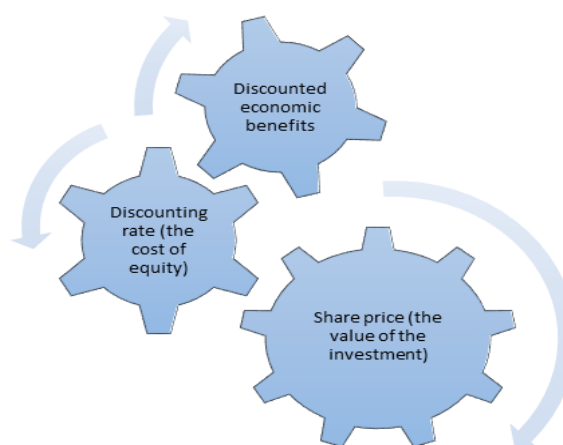
Figure 4-1: Mechanism of the CE Theory

Besides the aforementioned theory, the CAPM could also be used to calculate the CE. However, the choice of the CE theory is underpinned by the rationale that it uses available inputs in published annual reports such as earnings estimations or share prices that in turn will enable to estimate CE under different assumptions. Equally, this theory supports the equity valuation using estimated cash inflows rather than changes in share prices or realising a capital gain. On the other hand, although the CAPM is widely applied in the literature, it has been criticised for using historical inputs to calculate CE (Gebhardt, Lee and Swaminathan, 2001) .

This chapter is divided into six sections. After offering initial insights in this section, the second section is aimed at reviewing equity valuation theory along its six valuation models. The third section will shed light on the relationship between IFRSs and CE. Additionally, it covers the CAPM and its critiques. Afterwards, section four explains the value relevance and conceptual foundation behind it, as well as its validity. Next, the fifth section builds and supports the research hypothesis.

4.2 Equity Valuation Theory

Firms do investments to generate returns. Desired investments are those with reasonable prices that fit with the generated returns or the shareholders' required rate of return. This theory has many models with different specifications. CE constitutes the primary input to those models.

Consequently, this section firstly discusses equity valuation models then the CE. It discusses and explains six valuation models. Firstly, the DDM, then the RIVM followed by the Ohlson (1995) model and Feltham-Ohlson (1995) model. Finally, there is a discussion about the Ohlson & Juettner (2005) model and the BSM which are adopted in this thesis, as the last one is a standard model in the value relevance context.

Equity Valuation Models

4.2.1 The Dividend Discount Model (DDM)

This model is considered as fundamental and underpinning to any research in valuation of equity, as Williams (1938) credited this model as central to finance theory. It is also eligible for evaluating the feasibility of projects, assets, equities or any type of securities. DDM is based on the statement that the firm, projects or assets' price equals the present value of expected dividends, which enables researchers to modify this model. For instance, researchers could substitute the term "dividends" with a more general term such as "expected cash flows or estimated cash flows with constant growth rate if the security has income in perpetual basis". Barker (2001, P. 18) stated:

"Any theoretical valuation model must be reconcilable with the DDM, or else it is conceptually flawed"

DDM could be generally described as below:

$$P_t = \frac{DIV.1}{1+r} + \frac{DIV.2}{(1+r)^2} + \frac{DIV.3}{(1+r)^3} + \cdots$$

Equation 4-1

$$P_t = \sum_{t=1}^{\infty} \frac{DIV._t}{(1+r)^t}$$

Equation 4-2

Where:

P_t = share market value at time t, (i.e. share price)

r = discounting rate, the cost of equity

$DIV._t$ = the expected dividend per share in year t

The aforementioned equations imply that DDM is a forward-looking model. Owing to the fact that, in order to return the market value of equity (MVE), expected dividends should be estimated over the equity life (t) for each year. The estimation of expected dividends shrinks the empirical usage of the model because of uncertainty. Conversely, this model is the underpinning base to the equity valuation theory which opened ways for academics to understand how asset pricing works, therefore to build on their models as follows.

4.2.2 The Residual Income Valuation Model (RIVM)

As indicated by the DDM, expected dividends are those that are primarily constructed to evaluate the CE. However, RIVM is based on different constructs which give space to determine values by accounting inputs. This model could be traced by the early work of financial economists (Anon.1938; Angell, 1939; Edwards Jr and Eller, 1996) as mentioned by Lee (1999). He added that this model is widely used by researchers, theoretically and empirically, which allows him to describe it as "ubiquitous".

RIVM relies on a linear relationship between the market value of the firm and the sum of two accounting constructs: 1) The invested capital or the BVE, and 2) discounted future wealth creating activities or abnormal earnings. To express this relation mathematically:

$$P_t = Capital + PV\ (all\ future\ residual\ income)$$

Equation 4-3

$$P_t = BVE + \sum_{t=1}^{\infty} (1+r)^{-1} * [x_{t+1}^a]$$

Equation 4-4

Where,

P_t = share market value at time t, (i.e. share price)

BVE = book value of equity

$\sum_{t=1}^{\infty} (1+r)^{-1} * [x_{t+1}^a]$ = discounted abnormal earnings

66

A definition of abnormal earnings or residual income is provided by Ohlson (1995) and Lee (1999) as the remaining amounts from actual earnings after subtracting the normal earnings. Normal earnings are the anticipated returns by investors from the BVE at the beginning of the period (t) or in other words the cost of equity capital (r).

Residual income or abnormal earnings could be expressed as the equation below:

$$RI = Actual\ Earnings$$
$$- (r * book\ value\ of\ equity\ at\ the\ beginning\ of\ the\ period)$$

Equation 4-5

Theoretically, if all assets and liabilities were measured under the fair value method, there would be equality between share market value (P_t) and the BVE. In other descriptions, $P_t =$ BVE. Indeed, the practice has a converse fact resulting from two reasons: 1) the fair value model would not be applied to all assets and liabilities whereas some types of assets and liabilities should be accounted under the historical cost model, 2) the accounting conservatism.   This   fact   implies   that P_t $\neq$ BVE

or $the\ term\ \sum_{t=1}^{\infty}(1+r)^{-1} * [x_{t+1}^a] \neq 0$ (or, discounted abnormal earnings $\neq$ 0). Then, under these assumptions the abnormal earnings should always be a positive term. Consequently, clean surplus relation (CSR) will have an impact on the value of equity under this model. CSR requires the inclusion of all gains and losses that might affect the BVE.

Afterwards, substituting the CSR will change the general form of RIVM as follows:

$$P_t = BVE_t + \sum_{t=1}^{\infty} \frac{EPS_{t-r}BVE_{t-1}}{(1+r)^t}$$

Equation 4-6

Where:

P_t = share market value at time t, (i.e. share price)

BVE = book value of equity

$\sum_{t=1}^{\infty} \frac{EPS_{t-r}BVE_{t-1}}{(1+r)^t}$ = the sum of the discounted abnormal earnings for every year

By reference to the statement of Barker (2001), this model should be reconciled with the DDM not to be flawed. CSR will offer the relation that all gains and losses affect the income in a way that the differences in BVE happen through the financial period, equal the remaining from the actual income after subtracting dividends. Equations below provide the mathematical expression for CSR:

$$BVE_{t-} BVE_{t-1} = X_{t-} D_t$$

Equation 4-7

$$X_{t=} BVE_{t-} BVE_{t-1} + D_t$$

Equation 4-8

Where:

BVE = book value of equity

$X_{t=}$ Actual earnings at time t

Substituting the equation (4.8) in DDM formula (4.2) with some adjustments will give the same formula of RIVM that gives the link between the two models and is consistent with the statement by Barker (2001). In addition, this means that RIVM also assumes that the accounting system follows the CSR. Moreover, this model suffers the similar requirement of DDM or its drawbacks, which is estimating dividends. Therefore, input data are variable and exposed to valuation errors depending on future variables. This makes this model eligible for the description of '…neither implementable nor testable' and 'naive conclusion' (Lo and Lys, 2000). The latest added that transformation of inputs to ease the empirical evaluation would contribute to the literature, which has been provided by Ohlson (1995) in his model using linear information dynamics (LID).

4.2.3 The Ohlson (1995) Model

This model builds on RIVM assumptions, equally with its shortcomings, which deal with abnormal earnings forecasting rather than realised or actual earnings. This means that it does not provide a link between the accounting numbers in the financial statements and returning the firm's value. Accordingly, Ohlson (1995) contributes to the literature with his assumption that abnormal earnings follow autoregressive relation, which is defined as the Linear Information Dynamic (LID). LID is explained below:

$$X_{t+1}^a = wX_t^a + V_t + \varepsilon_{1,\ t+1}$$

$$V_{t+1} = \gamma V_t + \varepsilon_{2,\ t+1}$$

Where:

X_t^a: Abnormal earnings or residual income for year t.

V_t : Information other than abnormal earnings

As described by the equations above, abnormal earnings (X_{t+1}^a) regressed with a single lag in a linear relationship with two numbers: 1) current abnormal earnings, 2) other or non-accounting information. Other information is seen as any relevant event that affects future abnormal earnings and is non-detectable by analysts. In addition, they were not incorporated in both current and past abnormal earnings (Rees, 1995). According to the latest, other information may incorporate: '…macroeconomics activities and their relationship to the company's activities, breakdowns of the company's activities by industrial and geographical segment, knowledge of the company's relative strength in the markets in which it operates, knowledge of patent protections and so on'. This statement implies that financial statements' notes may not include all other information (V_{t+1}).

Ohlson (1995) derives the market value of a company based upon: 1) DDM, 2) CSR, and 3) LID. This linear equity valuation model is mathematically expressed below:

$$P_t = BV_t + \alpha_1 X_t^a + \alpha_2 V_t$$

$$\alpha_1 = {}^\omega\!/_{(R-\omega)} \geq 0$$

$$\alpha_2 = {}^R\!/_{(R-\omega)(R-y)} \geq 0$$

The conclusion from the previous equations contains two points:

1) This model is able to return the firm value through contemporaneous or realised accounting numbers from the current financial period, 2) Both coefficients ω and y are restricted to be positive less than 1. The second conclusion means that those parameters of both abnormal earnings X_t^a and other information V_t are in convergence to zero in infinite t growth. This fact is justified by the conformity with the competitiveness of the business environment. In other words, if the abnormal earnings X_t^a in a positive sign, it is due to being at a competitive environment advantage. The entrance into the market will gain positive company returns, which, in turn, will attract the remaining firms to emerge in this market. The entrance of firms into the same market will reduce and weaken the competitive advantage thus abnormal earnings will round down to zero. To sum up this point, in the long run there would not be any effect on X_t^a and V_t.

Nevertheless, for trials to transform the forecasting constructs in DDM and RIVM by Ohlson (1995), this model still has some limitations. Two points locate this model in a controversial area (Lee, 1999): Firstly, the necessity of other information that is not available in the annual reports and difficult to be followed by analysts (Rees, 1995). Secondly, assuming the perfect accounting (unbiased accounting) restricts this model. Equations (4.10) and (4.11) resemble this limitation by having zero abnormal earnings growing at infinite t period. Conversely, in practice, accounting under the conservatism accounting principle will raise the abnormal earnings to be always positive (nonzero). According to the limitations above, this model is described as unrealistic and it needs to modify the assumptions to cope with the conservatism. Feltham and Ohlson (1995) resolved this model with crucial amendments on the assumption of LID as discussed in the following point.

4.2.4 The Feltham and Ohlson (1995) Model

Building on the DDM and CSR, Feltham and Ohlson (1995) continued to complete determining equity value using current contemporaneous accounting variables. Because of the unrealistic assumption of unbiased accounting which is inherent in Ohlson (1995), this model is conversely based on conservative accounting in LID. In consequence of this, it distinguishes between financial and operating activities. Under this model, it has been argued that the distinct measurement basis for those types influences the equity valuation process. For instance, financial activities incorporated many types of FALs. FALs have

relatively perfect markets that coincide their market and book value without any significant differences. In another description, cash flows from the financial activities are consistent with their recognised amounts, which implies that perfect accounting represents this type of activity. In this regard, this model is compatible with the debt principle provided by Modigliani and Millar (1958) that stated that the present value of financial activities (borrowing and lending) yields zero.

Conversely, operating activities such as inventory or receivables could not be quoted on an individual basis in financial markets. Thus, this will result in variations between contractual cash flows of this type of activity and their market value. Equally, in this case which refers to 'unrecognised goodwill' or 'internally generated goodwill', cash flows would be adjusted to the accrual basis. Thus, this leads to investigate explanatory variables related to unrecognised goodwill that affects the firms' equity valuation process. In conclusion, this model assumes that anticipated abnormal earnings in LID are based solely on operating activities, which are accounted under the accrual basis.

This model's mathematical description is as below:

$$OX_{t+1}^a = \omega_{11} X_t^a + \omega_{12} oa_t + V_{1t} + \varepsilon_{1t+1}$$

Equation 4-14

$$Oa_{t+1}^a = \omega_{22} oa_t + V_{2t} + \varepsilon_{2t+1}$$

Equation 4-15

$$V_{1t+1} = \gamma_1 V_{1t} + \varepsilon_{3t+1}$$

Equation 4-16

$$V_{2t+1} = \gamma_2 V_{2t} + \varepsilon_{4t+1}$$

Equation 4-17

Where:

$\varepsilon_{jt+iJ} = 1, \ldots, 4$, are zero mean disturbance

OX_{t+1}^a = Abnormal operating earnings at t+1

oa_t = Net operating assets

V_t = Other information at t time

From equation (4.12) it is clear that abnormal operating earnings auto regressed in a linear relationship with three constructs: current abnormal operating earnings, current operating net assets and other information. Even though other information is considered as one of the constructs, the parameters of other information, both γ_1 and γ_2, are not propositions; rather they are assumptions. This model restricted the value of parameters to be less than one, which dictates that there would not be any influence in the future as this model is based on financial statement figures that are prepared on the going concern assumption. Alternatively, t in this model is growing to infinity.

Parameters of ω_{11}, ω_{22} and ω_{12} are described as follows:

ω_{11}: It denotes that the abnormal operating earnings constantly take values such that $0 \leq \omega_{11} <$ one. This restriction implies that, in the long term, abnormal operating earnings equal zero.

ω_{22}: It determines the value of net operating assets. It also restricts this value to be (one $\leq \omega_{22} <$ RF). ω_{22} =1, if growth =zero but ω_{22} =RF while RF= one + cost of equity. The upper bound RF will diminish any growth out of the ordinary levels.

ω_{12}: This model is based on conservatism to solve the shortcomings of Ohlson (1995) as discussed above. Conservative accounting contradicts zero or negative abnormal earnings. This parameter relates to perfect and conservative accounting, whereas ω_{12} =0 in the case of unbiased accounting and $\omega_{12} >$ 0 if it was conservative. It is noteworthy that ω_{12} acts as the solving key between Ohlson (1995) and Feltham and Ohlson (1995), that if ω_{12} =0 then there would be similarity between (4.12) and (4.7).

On the consequence above, the Feltham and Ohlson (1995) linear equation to determine the value of share price is derived as below:

$$P_t = bV_t + \alpha_1 OX_t^a + a_2 oa_t + \beta_1 V_{1t} + \beta_2 V_{2t}$$

Equation 4-18

Where:

$bV_t = fa_t + oa_t$ = financial net assets + operating net assets

$$\alpha_1 = {\omega_{11}}/{Rf - \omega_{11}} \geq 0$$

$$a_2 = {\omega_{12}Rf}/{(Rf - \omega_{22})(Rf - \omega_{11})} \geq 0$$

$$\beta = (\beta_1, \beta_2) = \left[\frac{Rf}{(Rf - \omega_{11})(Rf - \gamma_1)} > 0, \quad \frac{a_2}{(Rf - \gamma_2)} \geq 0 \right]$$

4.2.5 The Ohlson & Juettner (2005) Model- Earnings Growth Model (EGM)

Ohlson & Juettner (2005) developed "a parsimonious" model to determine firm value. This model started from the idea that the market valuation of equity equals the discounted value of anticipated dividends per share. It also uses basic ingredients of expected earnings per share (EPS), the growth of EPS on short and long term, in addition to the CE. This fact is a reminder, from the contrast with the aforementioned models, that EGM excludes BVE capital.

Ohlson & Juettner (2005) started their idea by assuming that the firm value is determined by the present value of the expected dividends in the coming financial period (FY1) adjusted to the expected EPS growth beyond the coming financial period. This could be shown in the equation below:

$P_0 = expected\ EPS_{t+1} capitalized\ (or\ discounted) +$
$growth\ of\ adjusted\ EPS_{t+i}$

....Or

$$P_0 = \frac{EPS_1}{r} + \sum_{t=1}^{\infty} R^{-t} Z_t$$

Equation 4-19

Where:

$\frac{EPS_1}{r}$: is related to the discounted expected dividends in FY1

$$Z_t = \frac{1}{r}[EPS_{t+1} + rdps_t + Reps_t] \qquad t = 1, 2\ldots$$

$$R = 1 - r$$

From this equation above, the script $\frac{EPS_1}{r}$ is a substitute of expected book value in RIVM (see equation 4.6). Also, Ohlson and Juettner-Nauroth (2005) considered this term as an intuitive appealing specification while it implies that the equity valuation begins from the coming period's (FY1) EPS. Consequently, the premium or the difference $P_0 - \frac{EPS_1}{r} = \sum_{t=1}^{\infty} R^{-t}Z_t$, which related to the EPS growth beyond FY1, adjusts the valuation of the performance. Alternatively, the market value of the firm equals earnings growth after FY1 plus discounted dividends in FY1. Based on this, when $Z_t > 0$, the premium indicates more EPS performance by the existence of a retention ratio. This is consistent with the accounting/economic concepts of saving accounts, that an increasing retention ratio at time t gives higher earnings performance in the future. However, the premium Z_t equals zero only if there is not any growth in EPS regardless of the dividends policy or if the retention ratio is in the extreme scenario of zero or in full. More explanation can be given by combining the two equations together if Z_t=zero. If $r_t Z_1 = \frac{\Delta EPS}{EPS_t}$, its axiomatic that, without growth or variation in EPS, this implies that $P_0 = \frac{EPS_1}{r}$ regardless of DPS consequences on the retention ratio. Alternatively, when there is no earnings growth, the firm's value would only be equal to the discounted earnings for the first year, neglecting the dividend policy as there would be a retention ratio.

Afterwards, the core of this model is based on the sequence of anticipated EPS growth after adjusting dividend payment effects. Adjusting these effects should be hypothesised which mainly leads to individualistic insights and avoids versatility. Nevertheless, this model also assumes that:

The sequence Z_t satisfies the relation of $Z_{t+1} = \gamma * Z_t$

Where,

$$1 \leq \gamma < R \quad and \quad Z_1 > 0 \qquad\qquad t=1, 2\ldots$$

It is observable that this allows two degrees of freedom (γ, Z_1) to anticipate evolutions on Z_t. It is also noteworthy to state that this assumption is consistent with conservative accounting and positive growth in the long term (Zhang, 2000) in addition to operating assets (Feltham and Ohlson, 1995). To list a point in this regard, distinguishing between both the short and long-term growth of EPS shows how the irrelevance of (or a part from) the dividends policy is an advantage. This contradicts the standard (Gordon/Williams) where it equates and fixes the rates of growth and dividends' pay out.

According to the assumptions above, the first proposition of this model is as follows:

$$P_0 = \frac{EPS_1}{r} + \frac{Z_1}{R - \gamma}$$

<div align="right">Equation 4-20</div>

Where, $Z_1 = \frac{1}{r}[eps_2 + rdps_1 - Reps_1]$

(Ohlson and Juettner-Nauroth, 2005) appreciated the proposed formula above by introducing the earnings growth in the short-term FY2-FY1 formula. The usual measure of growth is $\hat{g}_2 = g_2 - r$ while $g_2 = \Delta EPS \; adjusted \; to \; the \; dividend \; paid \; effects$ which is mathematically expressed as follows:

$$g_2 = (EPS_2 + rDPS_1)/EPS_1 - 1$$

$$g_2 = \Delta EPS_2 + r\left(\frac{DPS_1}{EPS_1}\right) \quad \text{Thus,}$$

$$\hat{g}_2 = \left[\Delta EPS_2 + r\left(\frac{DPS_1}{EPS_1}\right)\right] - r$$

<div align="center">As a corollary,</div>

$$\frac{P_0}{EPS_1} = \frac{1}{r}\left[1 + \frac{\hat{g}_2}{R - \gamma}\right] = \frac{1}{r} * \frac{g_2 - (\gamma - 1)}{r - (\gamma - 1)}$$

Practical applications of this model are to return the cost of equity capital (r). This application is solved by the following square root:

$$r = A + \sqrt{A^2 + \frac{EPS_1}{P_0} * \left(\frac{\Delta EPS_2}{EPS_1} - (\gamma - 1)\right)}$$

Where:

$$A = \frac{1}{2}\left(\gamma - 1 + \frac{DPS_1}{P_0}\right)$$

The equation (4.20) above is very significant since this thesis uses this model to return the cost of equity capital.

4.2.6 The Balance Sheet Model (BSM)

This model relies on the accounting pillar of equity definition. The equity is equal to the remainder from total assets BVA after subtracting the liabilities BVL, as follows:

$$BVE = BVA - BVL$$

In complete markets, all the items in assets and liabilities have an observable amount (market value), enabling the previous equation to be articulated as below:

$$MVE = MVA - MVL$$

Equation (4.22) above could not be applied empirically, the reason being that firms usually in less perfect and complete markets do not observe or support the values of their items publicly. Consequently, in compliance with mimic valuation models, firms could

determine the fair values of their assets and liabilities instead of the market values. Mimic valuation models, such as those comparing financial instrument with the fair value of the financial instrument that is similar in terms and conditions, discount estimated future cash flows and use the option-pricing model. Afterwards, the valuation process is subject to errors in measurement, managerial biases and omitted items (unrecognised goodwill). Under the full fair value model, this requires considering the error term in the following equation:

$$MVE = FVA - FVL + \varepsilon$$

Equation (4.23) is widely used in different specifications in the literature, especially in the value relevance thread. Value relevance literature is divided into two sections: 1) the value relevance of fair value disclosed in notes, 2) the relevance of recognised fair value of the assets and liabilities over their historical cost. In the first section, covering the value relevance of fair value disclosures, the equation could be used directly without any variations. A key study of this is Venkatachalam (1996) where he investigated the explanatory power of derivatives' fair values using disclosures in banks to explain variations in share prices. He directly regressed the fair values of assets and liabilities using the disclosures on the market value (Nelson, 1996) of equity or share prices. Alternatively, the model specified another version according to the demands or studies' aims in the second section. If the aim was to investigate the relevance of fair values over the historical amounts, BSM would be looking at the differences on both sides of the equation. The equation below explains it more clearly:

$$(MVE - FVE) = (FVA - BVA) - (FVL - BVL) + \varepsilon$$

The significance of equation (4.26) appears as a theoretical model in a large number of studies where there are examinations of the ability of the differences on the right-hand side of the equation$((FVA - BVA) - (FVL - BVL))$ to explain the discrepancy in the share prices on the other side of the equation$(MVE - FVE)$. For instance, this version has been used to empirically examine the explanatory power of fair value disclosures over the historical cost of some financial instruments such as long-term debt under SFAS 107:

Disclosures about Fair Value of Financial Instruments in the USA (Nelson, 1996; Barth, Beaver and Landsman, 1996). Equally, for securities available-for-sale and held-to-maturity under SFAS 115: *Accounting for Certain Investments in Debt and Equity Securities* (Petroni, 1995; Eccher, Ramesh and Thiagarajan, 1996; Park, Park and Ro, 1999).

It is consistent with Barker's (2001) statement that each equity valuation model should be theoretically reconciled with the fundamental DDM. Barth (2000, P. 12) stated:

'Asset and liability values are the present value of the expected dividends, or cash flows, associated with the underlying rights and obligations'

This evidence provides the direct link between DDM and BSM. If cash flows stood as a substitute of dividends in the DDM equation (4.1), then the discounted estimated inflows and outflows resulting from the assets and liabilities would also stand as a proxy to evaluate the MVE. The following table summarises the valuation models of equity valuation theory.

Table 4-1: CE Valuation Models

Dividend Discount Model (DDM)	**Share Price = Present value of all future dividends**
Residual Income Valuation Model (RIVM)	**Share Price = Invested Capital (BVE) + Present Value of wealth creating activities RI**
Ohlson (1995)	**Share Price = Invested capital + actual abnormal earning + other information**
Feltham and Ohlson, (1995) model	**Share Price = Net financial and operating assets + actual operating abnormal earnings + other information**
Ohlson & Juettner (2005) Model	**Firm value = Present value of the expected dividends in the coming financial period (FY1) + the expected earnings per share growth beyond of the coming financial period**
The Balance Sheet Model (BSM)	**Market Value of Equity = Market value of assets + Market Value of Liabilities + error** **MVE- BVE= (F. assets – BV. Assets) + (F. Liabilities – BV. Liabilities) + error**

4.3 Cost of Equity Capital

Determining the cost of equity capital is among the traditional and more accessible ways to value a firm or investment. CE denotes to the rate required by investors in exchange of their investment. According to the importance of CE, it constitutes a primary construct in all models of the equity valuation theory as discussed in the first section. On the other hand, CE needs estimations, so this section describes the basic streams of estimations. Literature on CE has covered using either asset pricing models, such as CAPM and NPV, or equity valuation models, such as BSM or EGM.

Theories in asset or investment pricing aim to determine the fundamental value of assets or investment, taking into consideration the prominent theories that are based on the idea of the close relationship between fundamental value and sufficient return. As a result, the majority of models determine the sufficient return rather than fundamental value. Adam Smith identified the fundamental value by the natural price (Smith, 1937). Natural price is the one that gives a sufficient profit to the investor or the owner. Consequently, the observed price in the market indicates the market price. Indeed, the market price is affected by demand and supply, which allows the deviation from the natural price to take place. However, in the long run, convergence between the natural price and the market price will dominate instead of the deviation.

Notwithstanding the definitions of Smith (1937) and the fundamental value, asset pricing models and CE theories deemed the market prices to be used instead of fundamental value. This fact went towards developing a tool to modify and simplify the models to match with empirical implications (Krause, 2001). Following this were claims that the hypotheses of the efficient markets support and suggest equality between the observed prices in the market and the fundamental prices. Briefly, the following section discusses the CAPM model and the reasons to avoid using it.

4.3.1 Capital Asset Pricing Model (CAPM)

Tobin (1958) and Markowitz (1959) lightened the starting point of the literature with a prominent mean-variance criterion in the portfolio theory. The description of this criterion is easy in terms of applicability because of the distribution of moments. In other words, under this criterion, investors need the distribution of outcomes only in two moments or statistical measures, mean and variance. The mean of outcomes denotes the expected

return, whereas the variance of outcomes denotes the risk. Accordingly, CAPM, based on this criterion, was evidenced by many studies (Fama and French, 1993; Fama and French, 1995; Fama and French, 1996; Chen, Novy-Marx and Zhang, 2011). Furthermore, there is another assumption behind the CAPM, which is the expectation of homogeneity of the investors. In the same way, all marketable assets are under the agreement on expected returns, deviations and covariances by different beliefs of investors. That is to say, if all investors perceived the same characteristics of an investment, the riskless (optimal) portfolio would be similar despite the existence of different investing behaviours or levels of risk aversion. The following figure summarises the assumptions of CAPM (Krause, 2001, P. 43).

- No transaction costs and taxes
- Assets are indefinitely dividable
- Each investor can invest into every asset without restrictions
- Investors maximize expected utility by using the mean-variance criterion
- Prices are given and cannot be influenced by the investors (competitive prices)
- The model is static, i.e. only a single time period is considered
- Unlimited short sales
- Homogeneity of beliefs
- All assets are marketable

Figure 4-2: Assumptions of CAPM

Source: (Krause, 2001)

Calling on all the assumptions above, CAPM equals the expected return with the risk-free rate in addition to the risk premium (Sharpe, 1964; Lintner, 1965). The risk premium is the excess of the market return over the free risk return. The linear relationship expression is described as follows:

$$\mu_i = r + \beta_i(\mu_p - r)$$

Equation 4-27

Where:

μ_i: expected return of an asset

R: risk-free rate, usually interest rate on 10 years US bonds

β_i: relative risk of assets to market risk

μ_p: expected return of market portfolio

In term $\left(\mu_p - r\right)$ the investor compensates his/her each unit of risk by the expected return from the asset after subtracting the risk free-rate. The term $\beta_i\left(\mu_p - r\right)$ forms the market price of risk or, in another meaning, the covariance of asset return with the return of market portfolio (risk premium).

The figure below further explains the linear relationship in addition to the equilibrium line, which is called the Capital Market Line (CML).
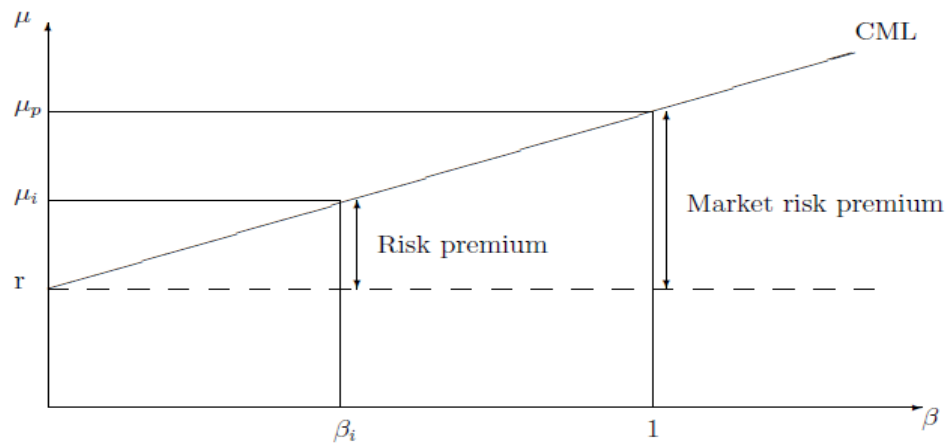
Figure 4-3: Capital Market Line (CML)

Several of the portfolio theory's assumptions can be restricted or lifted without any significant effect on CAPM. Namely, Sharpe (1970) applied different rates on the activity of borrowing and lending the least risky assets.

4.3.2 Critiques of CAPM

The popularity of CAPM in finance literature does not mean the vacancy of restrictions or limitations. In this context, mixed results presented the different levels of CAPM's capability to explain the required return. Theoretically, Krause (2001) stated that contributions in literature lifted most of the assumptions related to the CAPM except one of having linearity between the assets or investments. This restriction has an impact on the recent and contemporaneous investment behaviour as the derivatives stood as the most widely used tool. For instance, as the derivative has nonlinear payoffs, the results show that more studies should carry this point in their considerations to include derivatives in the portfolio.

Opposing empirical voices were raised after the need for econometric specifications for the Sharpe-Litner-Black CAPM. Firstly, for example, many had examined the significance of

beta $\boldsymbol{\beta}$ or relative risk of assets to market risk after the addition of explanatory variables (Fama and French, 1992; Fama and French, 1993). They indicated that the explanatory power of beta has not so far become significant on the required returns after their three factors model. In their three factors model, they included the share price (market value), book/market ratios and price-earnings ratios. Secondly, Jagannathan and Wang (1996) pasted the consensus in their paper about the conditional CAPM that the static model is insufficient to explain the mean of returns on the cross-section pattern. They specified their model using the conditional sense that both beta and risk premium vary overtime therefore it is not static. Additionally, they considered that investors' beliefs are similar to beta in terms of their dynamic nature. In consequence of this, they presented a dynamic model (conditional CAPM) as a better tool to explain the cross-section average of return. Later on, Carhart (1997) added "momentum effect" as a fourth factor to the model. Last but not least, essential assumption of CAPM requires all assets to be marketable while this could not be valid for all assets. Namely, human capital is a non-marketable asset due to legislation such as GAAP or IFRSs. This fact will prevent successful determining for the riskless portfolio or the market portfolio, which will affect the correct analysis (Roll, 1977). Furthermore, legislation in countries restricts the recognition of future benefits as an asset. Equally, IFRSs prohibit the recognition of internally generated goodwill as an asset. Despite the fact that not all assets are marketable, studies have provided evidence that simple deviation will not influence the results significantly. Stronger opposing voices invalidated the use of CAPM. One such opponent, Fama and French (2004, P. 25) explicitly stated:

"Unfortunately, the empirical record of the model is poor—poor enough to invalidate the way it is used in applications".

Besides all the critiques evidenced by studies, this thesis is discreet in the use of this model because of the nature of inputs. Data used in this model are historical while the dynamic outcomes that will better reflect the reality need forward-looking data. Forward-looking data are those such as forecasted earnings (forecasted EPS). Many studies supported the perspective of forward-looking data (Gebhardt, Lee and Swaminathan, 2001; Ohlson and Juettner-Nauroth, 2005). The theoretical base of those studies is the equity valuation theory, especially the EGM and RIVM, explained in the previous sections.

This thesis depends on equity valuation theory, especially the EGM and RIVM. Under EGM, this thesis uses the model adopted by Gode and Mohanram (2003). In addition, under the base of RIVM, the thesis employs Gebhardt, Lee and Swaminathan (2001) and

Claus and Thomas (2001). More details about the applications of these models will be in the methodology chapter.

4.4 Value Relevance

Value relevant is a term that denotes the accounting number, which has an explanatory power to describe the association with market-based numbers such as the share price (Beaver and McNichols, 1998; Barth, Beaver and Landsman, 2001). Beaver (2002) literally identifies the research of value relevance as: 'Value-relevance research examines the association between a security price-based dependent variable and a set of accounting variables'. Although literature over the last 50 years has tried to investigate more about such an association (Miller and Modigliani, 1966), the term was firstly used by Amir (1993). Research on value relevance aims to enhance the knowledge with regards to relevance and faithful representation of the reported amounts as reflected in equity values. 'Equity values reflect an accounting amount if the two are correlated' (Barth, Beaver and Landsman, 2001, p. 79). The IASB and FASB set relevance and reliability (faithful representation in IFRSs) as some of their primary criteria in their conceptual framework, especially when two accounting choices exist. Research has extended to operationalise the intended criteria when setters compose financial reporting articles or paragraphs rather than determining them. Similarly, research attempts to enlighten the dimensions of the dominant boards' theory to examine the relevance or reliability (Barth, Beaver and Landsman, 2001).

4.4.1 The Conceptual Foundation of Value Relevance

Research in the value relevance field encompasses two overriding elements: valuation theory in addition to contextual elements. Valuation theories are under two streams: Asset pricing models, such as the CAPM, and NPV or equity valuation models, such as the BSM or EGM Moreover, the second element is the contextual argument, which relies on a basic characteristic that requires a deep knowledge. The researchers should be knowledgeable in the stated objectives of the accounting board, criteria used by the setters, basis of the standards under the research subject, in addition to the requirements that regulate reporting the accounting constructs. If the researcher matches the second element with the valuation theory, then the association between accounting and market amounts would be richness in its prediction power (Beaver, 2002). Namely, fair value of financial instruments in the price equation draws the relevance and reliability historical cost relied upon the conceptual arguments or which called contextual accounting arguments. This suggests, with regard to

the objective of this thesis, that the criteria of classification of the financial instruments and the required disclosures of fair value for their items plays a significant role in the price equation. More details about the justification of this contextual argument are presented in the methodology chapter.

4.4.2 Validity of Value Relevance Research

The validity of value relevance has been an argumental area between researchers. Similar to other topics, many oppose value relevance research (Holthausen and Watts, 2001) while to the best of our knowledge, the majority support it in their studies (Miller and Modigliani, 1966; Beaver and McNichols, 1998; Ohlson, 1999; Beaver, 2002) or in their commentaries (Barth, Beaver and Landsman, 2001). This section describes key points about the validity of this type of research. Firstly, although the vacancy of the theory relates to standard setters, FASB and IASB articulate their theory in their principles and concepts. Value relevance research attempts to provide an operationalising tool to enlighten dimensions that assesses the qualitative attributes of relevance and reliability. Secondly, these studies are assigned to assess the relationship between accounting numbers and information used by investors to value the equity of firms. In the same way, studies do not assess its usefulness as this is not well defined by the standard setters. Thirdly, this type of research focuses on equity investment despite the fact that the standard setters aim to provide multi-purpose financial statements. On the other hand, other purposes such as contracting usage do not diminish the importance of the research of value relevance (Barth, Beaver and Landsman, 2001). The latter stated on page 89, 'More importantly, the possible contracting uses of financial statements in no way diminish the importance of value relevance research'. Accordingly, this implies that value relevance covers the investor side but not the other possible parties so, depending on the previous statements, this thesis will take the investor point of view.

Fifthly, value relevance studies are designed to assess whether particular accounting amounts reflect information that is used by investors in valuing firms' equity. Because ''usefulness'' is not a well-defined concept in accounting research, value relevance studies typically do not assess the usefulness of accounting amounts. Sixthly, econometric techniques can be and are applied to mitigate the effects of common econometric issues arising in value relevance studies that otherwise could limit the validity of the inferences drawn from such studies.

4.5 Building Hypotheses

This section accumulates on the previous sections in this chapter: CE theory and the conceptual foundation of value relevance. Primarily, this part discusses the impetus of the objectives and hypotheses that underpin this research. Specifically, it discusses the impact of financial accounting standards on the investors' (analysts') anticipations and economic decisions. Standards could have impacts on investors derived from their required disclosures and harmonised reporting process. Accordingly, this section starts to cover the broader impetus which is the effect of IFRSs on the investors' perceived decisions. Afterwards, it specifically explains the relationship between the financial instrument under IFRSs and both the fair value relevance and CE.

4.5.1 Disclosures and Reporting Quality under IFRSs, Economic Anticipations and Decisions

In the new global economy, the association between accounting information and the cost of equity capital stood as an essential part in accounting and finance literature, especially for the standards setters. Namely, in FASB, a statement in the Norwalk agreement of Foster (2003) declares that the sign of less uncertainty exists with more information. It has also been the interest of who controls, regulates and manages the financial markets. For instance, Levitt (1998), the chairman of SEC, stated in his commentary paper that firms in the capital markets should provide their investors with high quality standards in addition to the disclosure system to reduce their capital cost. The main aim for succeeding in the progression of the capital markets is to gain the confidence of the investor. Investors would be more confident with the existence of disclosure systems derived from high quality standards. Levitt (1998, P. 82) also manifests:

'So let's work together to build investor confidence-to keep standards high

and the cost of capital low'

Furthermore, there is a growing body of empirical literature about this relationship. Among these studies, it was found that access to the capital markets requires managers to declare frequent earnings forecasts (Frankel, Mcnichols and Wilson, 1995). It is asserted that disclosures and narratives bridge the gap between the accounting numbers and the economic reality of the firms' performance (Hassanein and Hussainey, 2015). Further research documented the inverse relationship between the cost of equity capital and disclosure level in annual reports (Botosan and Plumlee, 2002) as the disclosure level

affects the investors' economic decisions (Hussainey, Schleicher and Walker, 2003). Namely, the latter was stated in page 154: "In principle, disclosure turns private information into public information. Hence, a higher disclosure level is expected to reduce the cost of equity capital".

The association between the cost of equity capital and disclosure levels stands behind two streams of literature (Botosan, 2006). Firstly, liquidity becomes easier and higher in the case of an increase in the level of disclosures. For instance, the higher the disclosure, the lower the level of information asymmetries among both investors and shareholders, which cause a higher demand on a firm's securities or an attraction to invest (Hassanein and Hussainey, 2015). This suggests that decreasing cost of capital is a consequence of a higher demand on a firm's stock or reducing the transaction cost. Normally, investors require higher returns (higher cost of capital) to compensate for higher transaction costs in case of larger spreads of bid ask. In this specific case, increasing disclosure remains a tool to control the cost of capital to become lower (Amihud and Mendelson, 1986). Equally, Healy, Hutton and Palepu (1999) empirically shed light on a parallel relationship between CE and both performance and liquidity of firms' stocks. Finally, Easley and O' Hara (2004) confirmed that firms with public access to the information have the advantage of a lower CE compared to firms with private access. In more detail, they stated:

'We show that differences in the composition of information between public and private information affect the cost of capital, with investors demanding a higher return to hold stocks with greater private information'. In addition, they stated, 'In equilibrium, the quantity and quality of information affect asset prices. We show firms can influence their cost of capital by choosing features like accounting treatments, analyst coverage, and market microstructure'.

The second stream pointed out that disclosures help knowledgeable investors to avoid the risk concerned with their assessments by the available information. Investors need the estimations to determine the firm's value, which relies on the theoretical notion of anticipated cash flows and their dispersion. Choi (1973) expressed a mathematical utility function that describes the assigned value by individuals as the following:

$$V_t = f\left(\delta\,\overline{D}\delta\,\overline{V}\omega\right)$$

Equation 4-28

Where:

V_t: The perceived firm's value by the individual

$\delta \bar{D}$: The standard deviation (dispersion) of the anticipated dividends

$\delta \bar{V}$: The standard deviation for all relative shares or securities in the market

ω: Wealth constraints for the individual

As seen above, disclosures affect the standard deviation of the dividends $\delta \bar{D}$. In the same way, dividends are estimated using financial measures such as income, cash flows and ratios of debt to equity. This study was also built on the assumption of the signalling theory that well and good performance promotes higher disclosures thus less dispersion in the distribution of anticipated dividends. Accordingly, if the process of estimating considered the disclosed information based on the assumption of good financial performance, then the investor would faithfully predict the parameters of the returns' distribution. In other words, good predictions arise due to being informed which in turn diminishes the uncertainty risk that requires a higher cost of capital (Botosan and Plumlee, 2002; Hussainey and Walker 2010). Many financial studies in the estimation risk consider the beta coefficient as a sign for the risk concerned with estimation. One of those studies drew on extensive evidence that beta for higher information firms or securities is lower (Coles, Loewenstein and Suay, 1995). They split their sample into two information environments: equal and unequal. An equal environment is identified by the same amount of provided information or the same number of observations over the study period. Meanwhile, the second environment has variance or differences in the information level as higher and/or lower. However, they did not compare betas for both environments. This turns the debate towards how the disclosures affect the cost of capital in the case of an unequal information level in the same environment. Under an unequal information level, this case has gained importance by the fact that the beta coefficient in CAPM does not reflect it and is non-diversifiable (Coles and Loewenstein, 1988; Handa and Linn, 1993; Hussainey and Walker 2010). Similarly, the beta coefficient in CAPM is related to the risk of assets to market risk and is also built on assumptions of being a static model and homogeneity of beliefs. Consequently, beta does not reflect the differences in the information level.

However, Lambert, Leuz and Verrecchia (2007b) provided the literature with evidence that information quality unambiguously affects the cost of capital, which also influences the non-diversifiable risks. Their results suggested that a firm's beta coefficient is a function of accounting quality and a disclosure system. Furthermore, this study provides a new

theoretical model derived from CAPM to be implied by the empirical studies (Botosan and Plumlee, 2002). This model is able to explain the international differences in the average of CE, stemming from the regulation of disclosures among the countries (Hail and Leuz, 2006). The mathematical description of the basic formula of this model is derived from the CAPM formula, as the researchers are consistent in their assumption about the homogenous beliefs of individuals. The formula is described as below:

$$\mu_i = r + \beta_i(\mu_p - r)$$

<div align="right">Equation 4-29</div>

CAPM and then, $E(\overline{R_j}|\Phi) = R_f + \left[E(\overline{R_m}|\Phi) - R_f\right]\beta_j$ Or

$$= R_f + \frac{E(\overline{R_m}|\Phi) - R_f}{VAR(\overline{R_m}|\Phi)} \left[COV\left(\overline{R_j}, (\overline{R_m}|\Phi)\right)\right]$$

<div align="right">Equation 4-30</div>

$E(\overline{R_j}|\Phi)$: Cost of capital for the firm j

R_f: Risk-free rate

$E(\overline{R_m}|\Phi)$: expected return on the market

β_j: Firms' beta coefficient

It is noteworthy that the covariance of firms' cash flow with the sum of all firms' cash flow $COV\left(\overline{R_j}, (\overline{R_m}|\Phi)\right)$ is a forward-looking term, which obtains the data available in the market.

From the previous equation, CE depends on four factors: risk free rate, market aggregate risk tolerance, anticipated cash flows and covariance of firms' cash flow with the sum of all firms' cash flow. In addition, the model assumes that dividends are fully consumed by the shareholders and not reinvested in the firm, so it is considered as a one-period model. The covariance of the expected cash flows distinguishes between two types of covariance: firms' own variance and covariance with other firms. Firms own variance reflects the accounting quality whereas the second type is affected by the mandatory disclosures. Providing more detail about firms' own variance, Lambert, Leuz and Verrecchia (2007b, P. 403) stated:

'Based on our framework and prior results, increasing the quality of mandated disclosures should in general reduce the cost of capital for all firms in the economy'.

To sum up the findings, this model manifests two types of accounting information quality that affect the cost of equity (both direct and indirect). The direct effect comes when higher information quality affects the expected covariance with cash flows of other non-diversifiable firms. High quality disclosures could indirectly affect the managers' decisions to influence the ratios of firms' cash flows to the covariance with the sum of all firms' cash flows available in the market place. Types of effect are described mathematically in the equation below:

$$cov\left(\bar{V}_j, \sum_{k=1}^{j} \overline{V_{k,}}\right) = cov(\bar{V}_j, \bar{V}_j) + cov\left(\bar{V}_j, \sum_{k \neq j} \overline{V_{k,}}\right)$$

Equation 4-31

The first term denotes the firm's own variance and the second its covariance with other firms. Furthermore, Hodgdon et al. (2008) described IFRS disclosures as high quality requirements. They found that compliance with IFRS disclosures correlates conversely with forecast errors. This is a consequence of low information asymmetry, which in turn enhances the ability to anticipate cash flows accurately.

4.5.2 Financial Instruments under IFRSs

In the past, financial instruments were accounted for and disclosed under three related standards: IAS 32, IAS 39 and IFRS 7. Recently, the standards revealed a new amendment of their requirements covered by a long-term project called IFRS 9. Under the previous group of standards, classification and measurement was based on four categories (labels) whereas under IFRS 9 it is based on three. Usually, the idea behind the categorisation process in IFRS holds many impacts. Firstly, identifying when the financial instrument should be shown in the financial position (recognition) and the amount should be assigned initially to the financial instrument (measurement) (McKeith, 2013). Secondly, there is subsequent accounting for unrealised gains and losses because of the subsequent fair value measurement for some labels (see Chapter Two for further details).

Besides what is discussed in the preceding sections, this thesis has relied on the disclosures and recognition of fair value regarding financial instruments under IFRS. Consequently, it promises to investigate this effect on value relevance and CE comparatively between pre and post periods in the Middle Eastern commercial banks. This section will highlight two ideas: firstly, the effect of labels (categorisation process) on both value relevance and the CE. Secondly, the effect of financial instruments' disclosures on CE.

4.5.3 Financial Instruments under IFRSs: Categorisation (Labels)

Categorisation or changes in the labels process affects the perceived economic benefits out of the financial instruments then the investor's required rate of return as well as the market value (see Figure 4-4). Indeed, all the anticipated benefits will be discounted by the investor's required rate of return, which in turn affects the share prices (the value of the investment) based on the CE theory (as well as the DDM model). For example, investors take more risks for derivatives compared with fixed-term instruments. Figure 4-4 displays this effect according to many theories and empirical evidences.
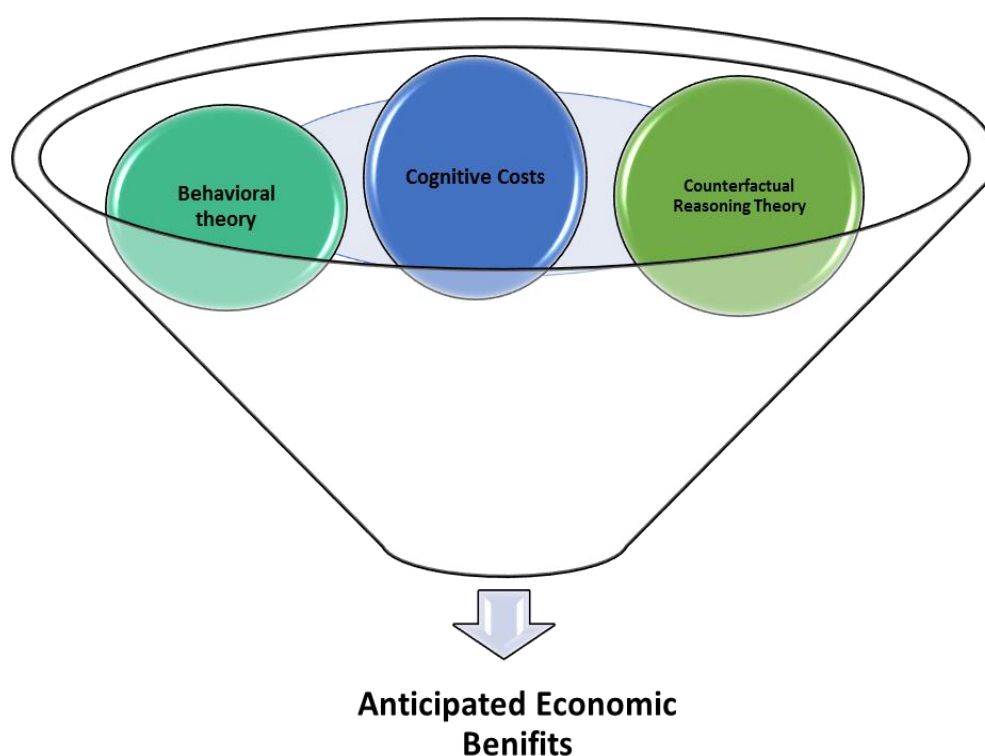
Figure 4-4: The Effect of Categorisation on the Anticipated Economic Benefits of Financial Instruments

To start with the behavioural theory, this sheds light on the influence of labels on investors' behaviour such as the perceived risk of the item's label. Consistent with the behavioural theory, a consensus has been reached by researchers that labelling has an impact on judgment for risk or performance from the user's perspective. This will have a reflection on results returned by the equity valuation theory. For instance, the investor's judgment is important because it changes the estimations of anticipated dividends coming from the investment (Hussainey and Walker, (2010). Not to forget that the equity valuation theory primarily uses forward-looking information such as dividends. Firstly, with regard to risk judgment, investors' risk perception is concerned with managers' choice of assigned labels

(Bischof, 2014). Indeed, nonprofessional investors evaluate the speculative instruments or derivatives as the highest risk. Additionally, in practice, two financial instruments at the same economic level will not have the same risk level by investors owing to the labelling process (Koonce, Lipe and Mcanally, 2005). Researchers also confirmed the ability of labels to vary users' judgments systematically if it was not analysed based on economic exposures (Simon and Hayes, 1976; Levin, et al., 1985; Hopkins, 1996).

Secondly, labels will have an impact on performance judgment that changes investors' perception with regard to share evaluation. For example, classifying the mezzanine capital as debt or equity will strongly affect the judgment of financial analysts (Hopkins, 1996). Above this, researchers have confirmed that labels are able to affect users' judgments systematically. Misevaluating in this regard will occur when the labels are not chosen or regulated based on their economic exposure (Simon and Hayes, 1976; Levin, et al., 1985; Hopkins, 1996). In 2009, IASB released the first phase of the IFRS 9, holding the classification and measurement in its content, and the early adoption was permitted. This result owes to the fact that IAS 39 is considered a controversial standard to many studies (Laux and Leuz, 2009; Barth and Landsman, 2010) due to its complexities (Fiechter, 2011). Advocates of the new release of the IFRS 9 confirm the resulting simplifications, which in turn increase the comparability cross-country, thus the information symmetry. This suggests enhancements for the international investor in terms of value relevance of the accounting information to their investment decisions (Chen, Young and Zhuang, 2013) thus the CE (Armstrong, et al., 2010). According to this, the impetus of this thesis is to empirically investigate if financial instruments under the amendment (IFRS 9) released by IASB achieved an advantage compared to the previous standards on both the value relevance and CE.

To continue discussing Figure 4-4, the counterfactual reasoning theory predicts that investors relate the fair value reporting to more relevant reporting in case of losses and assets. Also, it predicts that fair value reporting is more relevant when the item is expected to be sold soon than the held-to-maturity items (Koonce, Lipe and Mcanally, 2005; Koonce, Nelson and Shakespeare, 2011). To finalise with the cognitive costs theory, this predicts that decision makers assign more weight for disaggregated types of information (labels) and vice versa for aggregated types of labels (Maines and McDaniel, 2000).

According to the aforementioned, this sheds light on the effect of the new issuance of IFRS 9, which incorporates changes in classification and measurement requirements. This

motivates an investigation into the following null hypotheses of the thesis. The hypotheses take a null form, as there is no previous empirical evidence about the early adoption of IFRS 9 or in the Middle East.

4.5.4 Financial Instrument under IFRSs: Disclosures

For financial instruments under the IFRSs, disclosures are not regulated to follow a certain presentation, even under IFRS 7. That is to say, IFRS 7 allowed but did not impose on commercial banks to disclose according to the measurement category in IAS 39. This allows banks to disclose under another two options: disclosing according to the investment purpose and product type (Bischof, 2014). Despite the absence of regulations, in 2009, the majority of European banks disclosed their information in line with labels used in the presentation or measurement category on the financial position (Gornik-Tomaszewski, 2006; Bischof, 2009). Disclosure level as a reporting tool heats the debate between the researchers. For example, basic disclosures are incapable of mitigating misinterpretation, especially for nonprofessional users (Hodder, Koonce and McAnally, 2001). Another possibility, relational disclosures, increase the ability of users by just 25% to understand gains (or losses) resulting from changes in liabilities' fair value (Gaynor, Mcdaniel and Yohn, 2011). This possibility suggests that both presentation and disclosure are not substitutable. This idea will be discussed extensively in the literature chapter. Figure 4-5 summarises the direct and indirect effects of labels on both presentation and disclosure.
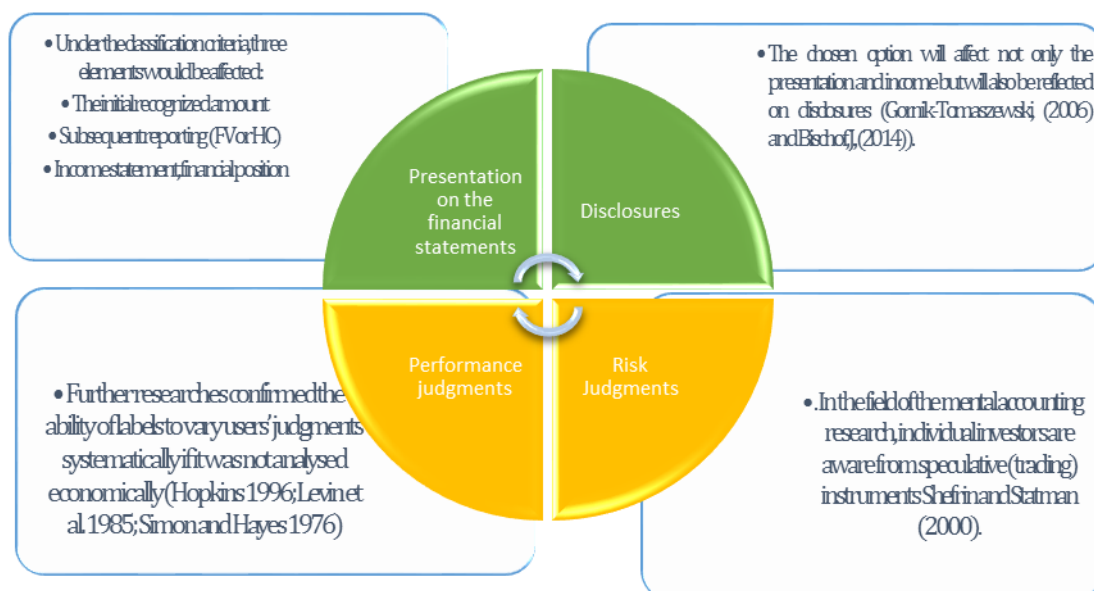
Figure 4-5: Summary of Labels' Direct Effect (Presentation and Disclosures) and Indirect Effect (Judgments)

To sum, this suggests expectations of a substantial impact stems from the release of IFRS 9 on both value-relevance and cost of equity. Owing to this fact, perceived investors' judgments are affected by the change in classification labels in addition to disclosures, which in turn implies the variances in anticipated cash flows and then cost of equity. Building on all aspects discussed previously; there is an intimate relation between standards quality or disclosure level as well as labels with the investors' anticipations, this leads to the following hypothesis:

H0-1: Fair value recognitions are not significantly value relevant by early adopting IFRS 9.

H0-1.1: Fair value recognitions of derivatives under pre IFRS 9 standards are not value relevant

H0-1.2: Fair value recognitions of derivatives under IFRS 9 are not value relevant

H0-1.3: Fair value recognitions of derivatives under pre IFRS 9 standards are not significantly value relevant over their recognised amortised costs (notional amounts).

H0-1.4: Fair value recognitions of derivatives under IFRS 9 standards are not significantly value relevant over their recognised amortised costs (notional amounts).

H0- 2: Fair value disclosures are not significantly value relevant over their historical cost by either adopting IFRS 9 or IAS 39.

H0-2.1: Fair value disclosures of financial instruments under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost).
H0-2.2: Fair value disclosures of financial instruments under post IFRS 9 standards are not significantly value relevant over their recognized amortized cost (historical cost).
H0-2.3: There is no significant statistical difference in value relevance of fair value disclosures between the classification rules pre and post IFRS 9

H0-3: The early adoption of IFRS 9 did not have any statistical significant impact on the CE.

4.5.5 The Financial Condition and Regulatory Environment

Under the fair value literature, many studies opposed using the fair values for many reasons. Indeed, some concluded that fair value leverage might be considered as a good reflection of the bank's credit risk. However, fair values additionally incorporate market risks, which leads to considering that they do not reflect or affect the overall bank risks, making it a poor representation. Alternatively, the fair value stands as the exchange price of the financial instruments where it resembles the discounted estimated cash flows, the liquidity risk and interest rate risk in addition to the credit risk. Accordingly, bank managers should reflect its credit risk through Tier 1 leverage ratios using their estimates for loan loss provisions. Under Tier 1, managers can better estimate their loans portfolio than the market based on net realisable value. That is to say, leverage based on managers' estimates is better than leverage based on fair value (Blankespoor, et al., 2013). Taking these thoughts and applications of CARs might increase the opportunity to manipulate fair values for financial instruments. Accordingly, fair value relevance is likely related to the financial health of banks (Barth, Beaver and Landsman, 1996). The latter researchers reported higher relevance for loans' fair values for banks with greater CARs. This confirms the idea that less healthy banks tend to manipulate fair values for their financial instruments.

That said, manipulation is greatly restricted by the regulatory environment, law enforcement or peaceful indicator in each domiciled country. For instance, banks which domicile in countries with weak law enforcement are more likely to abuse discretionary choices and be engaged in earnings management (Burgstahler, Hail and Leuz, 2006). Furthermore, much evidence has arrived at the idea of the relevance of fair values only in countries of strong legal enforcement (Lambert, Leuz and Verrecchia, 2007a; Li, 2010). Accordingly, this study sheds light on the relevance of deposits' fair value over their historical cost for healthy banks domiciled in countries with a high peaceful indicator for the following reasons. Firstly, the latter stated on page 1147 that, 'the financing of a bank's operations links loans issued with the deposits received and, therefore, in order to best capture the economics of the banking model, loans and deposits need to be similarly measured'. Secondly, deposits are difficult to measure in fair value as banks cannot settle liabilities with maturity before their maturity at the principal amount. Also, they are affected by the illiquidity of the debt markets. Thirdly, drawing on conclusions from the descriptive analysis, banks rely on deposits to finance their operations on high percentages (83% and 63% for pre and post respectively). Despite all the reasons, IFRSs still imposed

banks to disclose the fair values for financial liabilities, which additionally leads to the following hypotheses:

H0-2.4: Fair value disclosures of deposits under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator.

H0-2.5: Fair value disclosures of deposits under post IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator.

Following on, Li (2010), investigated whether the adoption nature might affect the CE. He found that there was a significant decrease in CE by .0047 basis points for European firms which mandatorily adopted the CE after 2005. This drives to state the following hypothesis:

H0-3.1: There is no statistical significant relationship between the Middle Eastern central banks' intervention to mandate IFRS 9 earlier and the CE after controlling for risk factors.

According to the above discussion, the mentioned hypotheses will be further discussed and tested on the presented order in the table below:

Table 4-2: The Research Hypotheses

H0-1: Fair value recognitions are not significantly value relevant by the early adoption of IFRS 9.
H0-1.1: Fair value recognitions of derivatives under pre IFRS 9 standards are not value relevant.
H0-1.2: Fair value recognitions of derivatives under IFRS 9 are not value relevant.
H0-1.3: Fair value recognitions of derivatives under pre IFRS 9 standards are not significantly value relevant over their recognised amortised costs (notional amounts).
H0-1.4: Fair value recognitions of derivatives under IFRS 9 standards are not significantly value relevant over their recognised amortised costs (notional amounts).

H0- 2: Fair value disclosures are not significantly value relevant over their historical cost by adopting IFRS 9 or IAS 39.

H0-2.1: Fair value disclosures of financial instruments under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost).

H0-2.2: Fair value disclosures of financial instruments under post IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost).

H0-2.3: There is no significant statistical difference in value relevance of fair value disclosures between the classification rules pre and post IFRS 9.

H0-2.4: Fair value disclosures of deposits under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator.

H0-2.5: Fair value disclosures of deposits under post IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator.

H0-3: The early adoption of IFRS 9 did not have any statistical significant impact on the CE.

H0-3.1: There is no statistical significant relationship between the Middle Eastern central banks' intervention to mandate IFRS 9 earlier and the CE after controlling for risk factors.

4.6 Summary

The aim of this chapter was to present the theory which underpins the research empirical objectives: value relevance and the economic consequences. The theory is covered by many studies to invent the most suitable contemporary parameters behind many assumptions that meet mostly with investors' anticipations. This resulted in many empirical models underpinning the theory which two basic pieces of research investigated, namely BSM and Ohlson (1995).

The first objective is the value relevance of fair value of disclosures over their book value. This objective combines the link between the fair and book values of both assets and liabilities where it is covered suitably by the BSM. The fair value recognition directly affects the income statement, but the most appropriate model to investigate comparatively is Ohlson's (1995).

The features of the CE theory also support an opportunity to estimate the CE. Those estimations relied on four studies (Gebhardt, Lee and Swaminathan, 2001; Claus and Thomas, 2001; Gode and Mohanram, 2003; Easton, 2004). The CE theory also featured due to its ability to use the forecasted information where it differs from the CAPM.

The chapter crystalises the relationship between the investor-required return and the accounting standards using the references from Choi (1973) and Amihud and Mendelson (1986). Their research brought round the idea of reducing the CE when adopting a higher quality of standards where the dispersion of investors' anticipations became lower but with higher shares' liquidity. Overall, adopting IFRSs enhances the quality of financial reporting as it has been a commitment across countries which implies higher comparability (Armstrong, et al., 2010; Liang and Jang, 2013).

The validity of the value relevance research synthesised between two streams. Advocating this aspect stems from being part of a faithful representation which helps the standards' setters in their settings or part of the qualitative characteristics of the financial information which dominated the theoretical framework. However, many opposed this type of study for the absence of an accounting descriptive theory or theories adopted and stated by the standards' setters.

Finally, besides the mentioned sections, the chapter builds the hypotheses according to the derived conceptual framework. These hypotheses are supported by the literature review for both value relevance and the CE. Furthermore, they are investigated and tested for confirmation in the findings chapter.

Chapter 5: Research Design and Methodology

5.1 Introduction

This chapter discusses the nature of knowledge and its development depending on related philosophical overarching terms. Additionally, it explains the methodology adopted in this thesis in order to match the research objectives as well as data collection and analysis. Relying on the discussed theoretical framework, this thesis distinguishes between value relevance and the economic consequences of changes in accounting and reporting for the financial instruments under the IFRSs' amendments. In the first objective, value relevance, there are two parts to be investigated: fair value disclosures for financial instruments, which are accounted for in the historical cost model such as holding to maturity bonds. In addition, the fair value recognitions for items accounted initially and subsequently for the fair value base such as derivatives. Moving onto the second objective, this compares the economic consequences on the commercial banks as it is expected in the theoretical framework that amendments hold higher transparency in its content, which positively affects the CE.

The methodology uses models discussed in the theoretical framework chapter. The adopted primary models for fair value disclosures and recognition objectives are the BSM and Ohlson (1995) model respectively. On the other hand, in order to test the CE, this is returned using four measures. Two of them were based on RIVM under the specifications of Gebhardt, Lee and Swaminathan, (2001) and Claus and Thomas (2001). The third measure is based on the EGM specified by Gode and Mohanram (2003). Finally, the average also takes a place, as there is no consensus on any of the prescribed methods.

In order to fulfil the research's objectives, this chapter justifies some of the philosophical issues that underpin it. Philosophical issues that clarify developments should be applied to the nature of reality that is concerned with our philosophical assumptions. Afterwards, it also sheds light on ways to acquire the knowledge depending on the assumed position. Besides that, there is a discussion covering some valid and suitable sets of techniques or methods that allow for inquiring the value relevance and CE for commercial banks before and after the IASB amendments in reporting for financial instruments.

5.2 Philosophy and Paradigm

Under philosophical frameworks, the term 'research paradigm' implies 'how should the scientific research be conducted, based on people's philosophies and their assumptions about the world and the nature of knowledge' (Collis, 2009). Philosophy is defined as 'the use of reason and argument in seeking truth and knowledge, especially of ultimate reality or of general causes and principles' (Elliott and Knight, 1997). Philosophical paradigm relies on the nature of reality perceived by individuals and practitioners as it would be related to either the natural or social sciences. Natural sciences stem from observing social reality. Alternatively, positivist philosophy looks at where inanimate objects are discovered such as the properties matter, energy and gravity. Natural scientists apply inductive logic to build their hypothesis and interrelated variables by observing facts and experiments. Positivists' outcomes can be 'law like generalisations' similar to those in physics (Remenyi, 1998). Later on, capitalism and industrial developments helped emerge the social sciences into the research field. This emergence is a reason for the existence of interpretivist philosophy to explain plural phenomena (Collis, 2014). Interpretivism is based on idealism where facts are all created by competing theories and debates. Under the two discussed philosophies, the nature of research and knowledge underpins and frames the choice of philosophy while it is not a case of preference for the best philosophy.

5.2.1 Ontological Assumptions

Ontology is defined as 'the nature of reality' (Saunders and Lewis, 2000; Collis, 2014). Ontology is based on two philosophical aspects: objectivism and subjectivism. Objectivism relates to the positivists who believe that social reality exists and the role of the researcher is only to investigate it without any actual intervention. Conversely, subjectivism relates to the interpretivists who believe that reality is socially constructed by researchers and depends on their perceptions. This could explain there being one social reality in the first aspect of ontology but multi-social realities in the second type. The dynamic research trends and natures imply different ranges of ontological aspects to satisfy the researchers' needs. For instance, philosophical assumptions might pass through realism, internal realism, and relativism to nominalism as explained in the underneath table.

	Positivism ←					→ Interpretivism
Ontological assumption	Reality as a concrete structure	Reality as a concrete process	Reality as a contextual field of information	Reality as a realm of symbolic discourse	Reality as a social construction	Reality as a projection of human imagination
Epistemological stance	To construct a positivist science	To construct systems, process, change	To map contexts	To understand patterns of symbolic discourse	To understand how social reality is created	To obtain phenomeno- logical insight, revelation
Research methods	Experiments, surveys	Historical analysis	Interpretive contextual analysis	Symbolic analysis	Hermeneutics	Exploration of pure subjectivity

Figure 5-1: Ontological Assumptions

Source: (Morgan and Smircich, 1980)

The position of this research is to investigate the reality (existence) of value relevance and the economic consequences of changes in accounting for financial instruments under the IASB amendments. Alternatively, it is to look at the relationship between fair value over the historical cost and the ratio of the companies' market value to BVE, as well as the association between the required rate of return and adopting the amendments. This view emphasises the structural aspects of the concrete process of CE theory to reveal the IASB's claim that more transparency and relevance could be achieved by the new amendments of IFRS that are related to financial instruments. The following graph clarifies the assumption of ontology for this study.

Ontology

Realism (Objectivity)

investigate the validity of value relevance and cost of equity
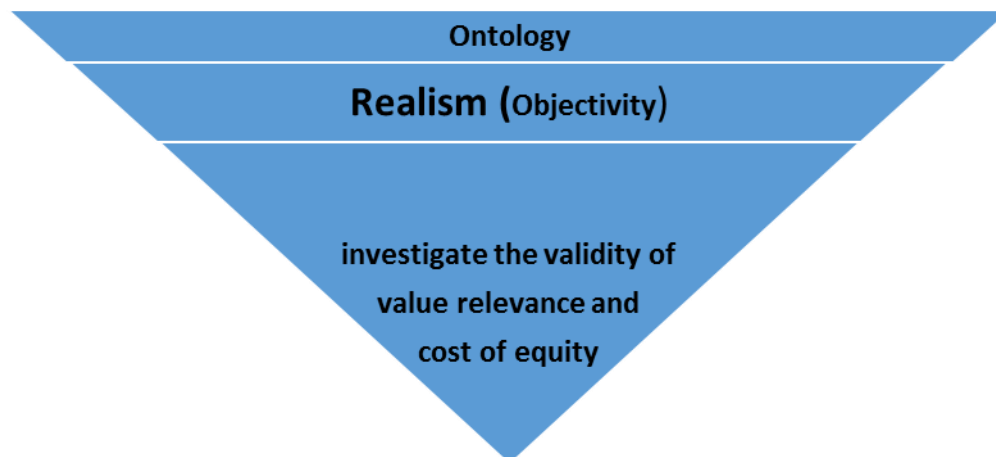
Figure 5-2: The Research Ontology

5.2.2 Epistemological, Axiological and Rhetorical Assumptions

Saunders and Lewis (2000) defined epistemology as 'it concerns what constitutes acceptable knowledge in a field of study'. Similarly, Collis' (2014) definition is that it is 'concerned with what we accept as valid knowledge'. The implication of the definitions denotes the relationship between the researcher and study subject, which relies on the ontological aspect, whether it is positivism or interpretivism. Positivists' knowledge is constrained by the measurable, independent and objective stance. In contrast, interpretivists' knowledge is acceptable of the participative (constructive) stance by different forms (methods) of enquiry. Smith (1983, P. 10) stated that, 'In quantitative research, facts act to constrain our beliefs; while in interpretive research, beliefs determine what we should count as facts'. This implies different ranges of epistemological aspects (branches) according to research aims from strong positivism, positivism, constructionism and, finally, strong constructionism.

IASB claims that the issuance of IFRS 9 that completely replaces the preceding standards will reflect more relevance and reliability. This claim carries higher relevance and positive signs on CE. This research is based on the CE theory to measure these aspects, as explained in the theoretical framework, in order to investigate the validity of this claim. Afterwards, starting from the research hypothesis, the historical analysis contains the verification and falsification of both the value relevance and CE to satisfy our outcome of confirming the CE theory. As a result, the epistemological aspect of this research is under the positivism aspect as its knowledge holds an independent and objective stance. The diagram below explains the epistemological assumption of our research.
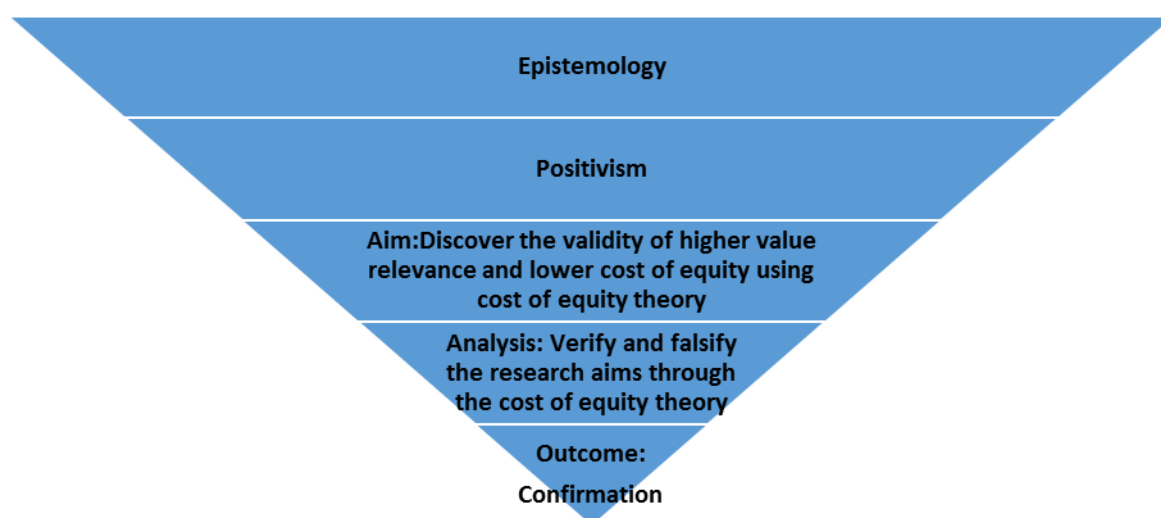
Figure 5-3: The Research Epistemological Assumption

A close relationship lies between the researcher and the researched value. This relationship is called the 'axiological assumption'. Positivists believe that they are detached from valuing the items under their research, which is value free. Their role is basically to independently investigate the interrelationships between the research phenomena's objects. This is owing to the fact that the objects take place in reality and are not affected by the researcher's interest. Conversely, interpretivists believe that their values are involved in the valuing process (Collis, 2009). As this study incorporates variables that could be observed and measured, the study takes a value-free axiological position. Accepting this discussion, the study takes an independent and objective axiological assumption. This imposes the passive tone and formal language as there is no participation or distortion on the researcher's part. Alternatively, the study follows the rhetorical assumption.

5.3 Research Approaches and other Rationales of Adopting a Positivism assumption

As discussed in previous sections in this chapter, the nature of knowledge allows the researcher to be clear about his/her objective. The objective could be related to building on a theory as a basis and starting point of the research, or conversely, developing a theory as an objective or destination. In the first case, the approach of the research would be attributed (classified) as deductive but inductive in the second case. This classification is described as 'misleading and of no real practical value' in some cases (Saunders and Lewis, 2000). The following points stir a discussion regarding the research approach and other rationales of adopting the positivism.

Induction Approach

This approach begins from a close understanding of the context of the study. The researcher will collect data in a qualitative and flexible structure form in a trial to find out perspectives for building a theory. Hence, he/she will gain meanings that humans attach themselves to events or phenomena, which could be realised as relating to his/her participation in the research process. In another axiological term, the data under this approach would be value-bound in terms of the researcher's view about the role of values. Moreover, generalisability is of less concern in this way, so the sample size is considered not to be problematic.

Deduction Approach and the Research Method

This approach emphasises laws or theory as a starting point where the phenomena anticipates in giving more powerful predictions to be controlled (Collis, et al., 2003). Alternatively, this approach moves from theory to quantitative data in a highly structured casual process in addition to the operationalising mechanism to clarify the basic concepts. Hence, the researcher would be independent of the phenomena under the research, which implies the 'value-free' in the axiological term. Furthermore, generalisability is of concern in this way, so the sample size should be sufficient in order to satisfy this concern.

This thesis is under the classification of the deductive approach owing to many facts. Firstly, it is based on the CE theory and it adopts a chosen operationalisation. Secondly, the phenomena would be controlled for many variables (as will be discussed later in this chapter) to ensure the validity of the research data. Thirdly, the type of data is quantitative from archival resources, which requires the independence of any human participation or, similarly to say, the data is collected in a value-free way. Finally, this research is concerned with generalisability; hence, the sample incorporates all the IFRS 9 early-adopting commercial banks in the Middle East area.

5.4 Research Methodology

Methodology is defined by Collis (2009) as "an approach to the process of the research encompassing a body of methods". In addition, he defines the methods as "a technique to collect and/or analyse data". As discussed earlier, the paradigm (positivism) determines the research methodology and methods to meet the knowledge position. According to Saunders (2012), under positivism, methodology incorporates four types: experiments and surveys as well as longitudinal and cross-sectional studies. Another common type, which is listed under both paradigms, is the comparative study. A comparative study is primarily held to shed similarities and differences between different periods, industries sectors and contexts.

5.4.1 Comparative Study

This type of methodology pertains to studying two contrasting cases where it employs more or less identical methods (Bryman, 2016) and exists in social sciences unlike the natural sciences (Smelser, 1976). The rapid change of global features with the development in information technology enables a greater production of quantitative data, which spreads across different nations. It also fits constructing theories, related to socio-political or socio-cultural, from the qualitative side as organisations and cultures are not similar.

IASB claims that the issuance of IFRS 9 that completely replaces the preceding standards will reflect more relevance and reliability. This claim carries higher relevance and positive signs for CE. In order to investigate this claim, this study carries a comparative view for the value relevance and CE before and after the IFRS 9 release. This would contribute to the literature by the first empirical comparative view under the context of IFRSs.

5.5   Methodology of Fair Value Disclosures

As discussed earlier, this thesis distinguishes between the value relevance of fair value disclosures and the fair value recognition as required under the IFRSs. This fact results from changes in categories that are accounted for under either fair value or historical cost (amortised cost). Items which are classified to be accounted for under the fair value model are measured subsequently at fair value. Subsequently, changes in fair values are recognised through either income statements or other comprehensive income, so their amounts on financial statements reflect the fair value. On the other hand, items which are accounted for under the historical cost (amortised cost) model are subsequently measured using the effective interest rate method. Under IAS 39, IAS 32 and IFRS 7, the items' number of financial instruments that are accounted for under the fair value model are only two: available-for-sale financial instruments and financial instruments at FVTPL. Under IFRS 9, financial instruments which are measured at fair value are financial instruments at fair value through profit and loss and financial instruments at fair value through other comprehensive income. Conversely, items accounted for under the historical cost model before IFRS 9 were financial instruments held-to-maturity as well as loans and receivables, while under IFRS 9 only financial instruments measured at amortised cost follow the historical cost model. The criteria for classifying financial instruments into either the fair value model or historical cost model have changed under IFRS 9 compared with the preceding standards from the rule to principle-based accounting. Although entities account for some items under the historical cost, standards are required to disclose the fair value amounts in the notes accompanying their financial statements. Accordingly, this implies that fair value could have an impact on the investors' decisions which are concerned with value relevance for both disclosures and recognitions. The following section discusses separately the value relevance of fair value disclosures and then the value relevance of derivatives' fair value recognition.

5.5.1 Variables Description

The methodology applies the BSM, which has been explained in the theoretical framework chapter. Literature on value relevance is usually based on the price level specification model in addition to alternative specifications such as changes in in the BSM. The reason beyond choosing the BSM is that the model can be in different versions according to the objective of the studies. The objective of this thesis is to investigate the relevance of fair value disclosures over their book values as a comparison between pre and post the early adoption of IFRS 9. Therefore, according to the BSM, the difference between market value and book value would be calculated by subtracting the differences between the fair book values for both assets and liabilities. Accepting the fact that this research inclusively incorporates FALs under the scope of IFRSs, the equation substitutes the differences of assets and liabilities with FALs accounted for under the historical cost model. The following table describes the items that are accounted for under historical cost pre and post IFRS 9, which determines variables included in the initial study model.

Table 5-1: Items Accounted under Historical Cost Pre and Post IFRS 9

Pre IFRS 9	Post IFRS 9
Loans and advances (LNS)	Financial assets under historical cost (Amortised cost)
Held-to-maturity (HTM)	
Deposit liabilities (DEP)	Financial liabilities under historical cost (Amortised cost)
Other debt (DT)	

The BSM requires the inclusion of all assets and liabilities, so if the model ignored including all assets and liabilities, the coefficients of variables would face bias. Accepting this, the remaining items are financial instruments recognised at fair value and non-financial instruments items. Financial instruments at fair value are described in the following table.

Table 5-2: Financial Instruments under Fair Value Pre and Post the Issuance of IFRS 9

PRE IFRS 9	POST IFRS 9
Financial assets and liabilities through profit and loss	Financial assets and liabilities through profit and loss
Financial instruments available for sale	Financial assets and liabilities through other comprehensive income
Derivatives	Derivatives

Notably, some banks classify their assets into available-for-sale items but part of them cannot be measured reliably by fair value as mentioned by many annual reports such as the Arab Banking Corporation in 2009 and 2010. For this, the model of fair value disclosures add the variable of available-for-sale just to accommodate this case. Apart from the financial instruments, entities also carry other items in their financial statements and recognise them under the historical cost model. Consequently, the model contains two variables in each period as the following: non-IAS 39 assets (NON39AS), non-IAS 39 liabilities (NON39LI), non-IFRS9 assets (NON9AS) and non- IFRS9 liabilities (NON9LI).

The specification of the primary model (Pre IFRS 9)

$$MB_{it} = \alpha_0 + \beta_1 LNS_{it} + \beta_2 HTM_{it} + \beta_3 A4S_{it} + \beta_4 OAC_{it} + \beta_5 DEP_{it} + \beta_6 OD_{it} + \beta_7 NON39AS_{it} + \beta_8 NON39LI_{it} + \varepsilon_{it}$$

Equation 5-1

Where:

MB_{it}: The difference between the market value and book value of equity at the end of the period.

LNS_{it}: The difference between disclosed fair value and book value of net loans and advances.

HTM_{it}: The difference between disclosed fair value and book value of held-to-maturity financial-assets.

$A4S_{it}$: The difference between fair value and book value of available-for-sale financial assets.

OAC_{it}: The difference between fair-value and book value of other amortised cost financial assets.

DEP_{it}: The difference between disclosed fair value and book value of deposit liabilities.

OD_{it}: The difference between fair value and book value of other debt financial liabilities such as Cash and balances and due from banks.

$NON39AS_{it}$: The remaining from total assets after subtracting IAS 39 related financial assets.

NON39LI: The remaining from total liabilities after subtracting IAS 39 related financial liabilities.

The literature provides theoretical evidence that in perfect markets the β coefficients are (1) for assets but (-1) for liabilities (Landsman, 1986). Furthermore, in practice the β coefficients would likely be different from their theoretical values. The resulting values from the regression analysis will give the actual values which indicate whether values are statistically significant in addition to their predicted or anticipated signs.

The model is specified to add available-for-sale financial assets (if any) because some banks disclosed that they measured them using the historical cost due to the lack of fair value information.

The specification of the primary model (Post IFRS 9)

$$MB_{it} = \alpha_0 + \beta_1 ACI_{it} + \beta_2 LOANS_{it} + \beta_3 OACI_{it} + \beta_4 DEP_{it} + \beta_5 DEBT_{it} + \beta_6 NON9AS_{it} + \beta_7 NON9LI_{it} + \varepsilon_{it}$$

Equation 5-2

Where:

ACI_{it}: The difference between disclosed fair value and book value of amortised cost items.

$LOANS_{it}$: The difference between disclosed fair value and book value of net loans.

$OACI_{it}$: The difference between disclosed fair value and book value of other amortised items such as cash and balances and due from banks.

DEP_{it}: The difference between disclosed fair value and book value of deposit liabilities.

$DEBT_{it}$: The difference between fair value and book value of other debt financial liabilities.

NON9AS: The remaining from total assets after subtracting IFRS 9 related financial assets.

$NON9LI_{it}$: The remaining from total liabilities after subtracting IFRS 9 related financial liabilities.

5.5.2 Control Variables

Clarification of the model requires including control variables to enhance the power of interpretation and diminish the effect of omitted interrelated variables. The criteria of choosing the control variables is having a significant interpretation power to the banks' market values as evidenced from the literature. Therefore, the control variables are divided into two labels or types: those related to financial instruments and those not related to financial instruments. The first group incorporates variables such as the interest rate risk, the default risk and core deposits while the second group incorporates variables such as notional amounts of derivatives and off-balance sheet credit facilities amount. The following sections will discuss the justification of the research control variables.

Control Variables Related to Financial Instruments

A.   Interest Rate Risk

Casu (2006) defines the interest rate as "the price that relates to present claims on resources relative to future claims on resources". Alternatively, the price is paid by the borrower to consume resources at the present, not in the future, but received by the lender in order to forgo the current consumption of resources. It is noteworthy that the interest rate is determined by the demand and supply of claiming resources in the future. The interest rate gains its importance from its effect on the economy in terms of ranging the financial flows, distributing the wealth, feasibility of capital investment and, last but not least, the profitability of the financial institutions.

In this regard, assets and liabilities of banks should be distinguished according to their holding rate into three types (Casu, 2006): Firstly, fixed rate assets and liabilities that are constant throughout the holding period. Secondly, variable (floating) rate assets and liabilities which could be repriced with any change in interest rate during the holding period. Finally, non-earning assets and non-paying liabilities that do not generate any income and pay interest respectively, such as cash and balances with central banks. Having financial instruments holding any type of interest results in variability (risk exposure) in both value and cash flows (Ryan, 2007). Variability in value occurs when the financial instrument does not vary perfectly with the interest rate changes. This implies that fixed rate assets are more exposed to value variability than floating rate financial instruments. In the second place, cash flow variability means changes occur when the interest rate affects

the cash flows paid or received from the financial instruments. Thus, fixed rate instruments are not exposed to this type of risk as they are in the opposite place to floating rate instruments.

As mentioned above, any changes in interest rate would influence the study sample in different terms. Unexpected interest rate exposures affect both lenders if there was a fall and conversely borrowers if there was any rise. This is described as the following conditional sentence:

$$\begin{cases} rate\ sensitive\ assets > rate\ sensitive\ liabilities: \begin{array}{l} interest\ rate\ rise \rightarrow gains \\ interset\ rate\ fall \rightarrow Loss \end{array} \\ rate\ sensitive\ assets < rate\ sensitive\ liabilities: \begin{array}{l} interest\ rate\ rise \rightarrow Loss \\ interset\ rate\ fall \rightarrow gains \end{array} \end{cases}$$

For the unexpected changes, banks are affected differently according to the category of the financial instruments' maturity. It is noteworthy that if the ratio of interest rate sensitive assets to interest rate sensitive liabilities was > 1, then the firm would be more affected by the interest rate risk. Hempel, Simonson and Coleman (1994) stated that banks could manage this type of risk by holding a ratio close to one. However, it is difficult for banks to keep this ratio because it means having a low income on assets (loans).

To the best of knowledge, many studies have confirmed the consensus of share prices' sensitivity to interest rate changes because of the effect of the maturity structure of net assets (Merton, 1980; Flannery and James, 1984a; Flannery and James, 1984b; Elliott and Knight, 1997; Ryan, 2007). Namely, Flannery and James (1984b) provided market evidence of the effect of the maturity structure of nominal assets and liabilities of banks on the equity value of commercial banks in the US economy. Following on from this, this thesis measures the interest rate risk by the maturity gap of nominal net assets. Primarily, securities with high maturity sentenced their owners to a higher amount of interest rate risk while short maturity securities such as treasury bills have much less exposure from changes in interest rate. Accepting this fact, this control variable will be expressed as follows:

$$IGAP_{it} = ISAS_{it} - ISLI_{it}$$

Equation 5-3

Where:

IGAP: the maturity gap between nominal net assets with maturity of more than one year

ISAS: interest sensitive assets with maturity of more than one year

ISLI: interest sensitive liabilities with maturity of more than one year

Determining whether the expected sign of this variable was positive or minus requires finding out the general trend of the commercial banks in the study sample. The general trend incorporates two concerns. The first one is if $rate\ sensitive\ assets - rate\ sensitive\ liabilities$ >zero or <zero as well as the interest rate trend of our sample. This could require the trend of a 10-year government bond yield. Thus, the expected sign would be determined according to the effect on value introduced by Ryan (2007). Graphs (5-4) and (5-5) display that the net assets structure of the sample has a long position nature which posits the sign under the probability of loss if there is a decrease in interest rates and vice versa. Additionally, the interest rate has a decreasing trend which implies a minus expected sign for this variable as represented by tables (5-3) and (5-4) and related graphs (5-6) and (5-7) below. Accordingly, the sign of IGAP would be a minus. Graphs (5-4) and (5-5) below represent the structure of assets and liabilities in commercial banks in the Middle East over both pre and post periods. However, tables (5-3) and (5-4) and their related graphs (5-6) and (5-7) report the interest rate trend based on a 10-year government bond yield in commercial banks in the Middle East over both pre and post periods.
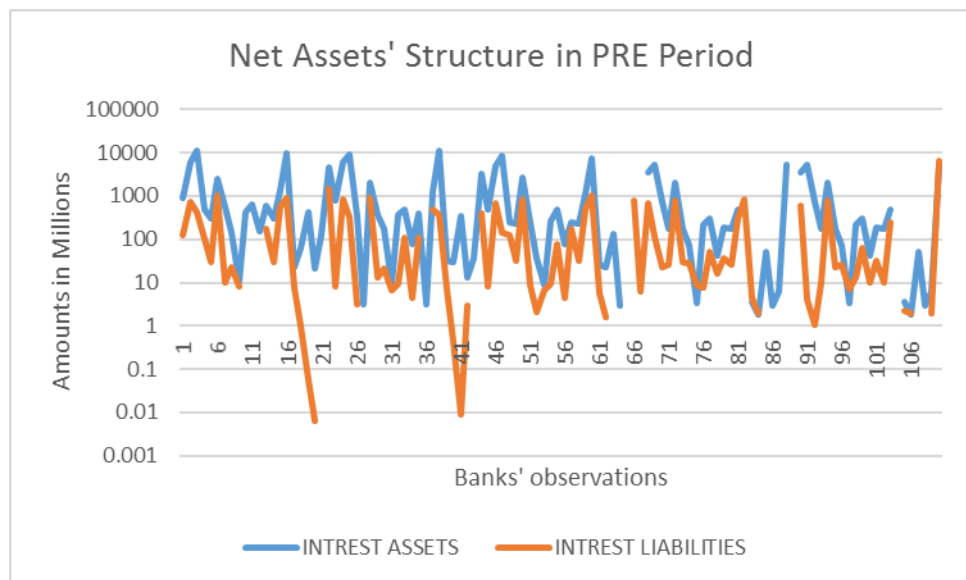
Figure 5-4: Assets Structure for Commercial Banks in the Middle-East Pre Period (in millions)
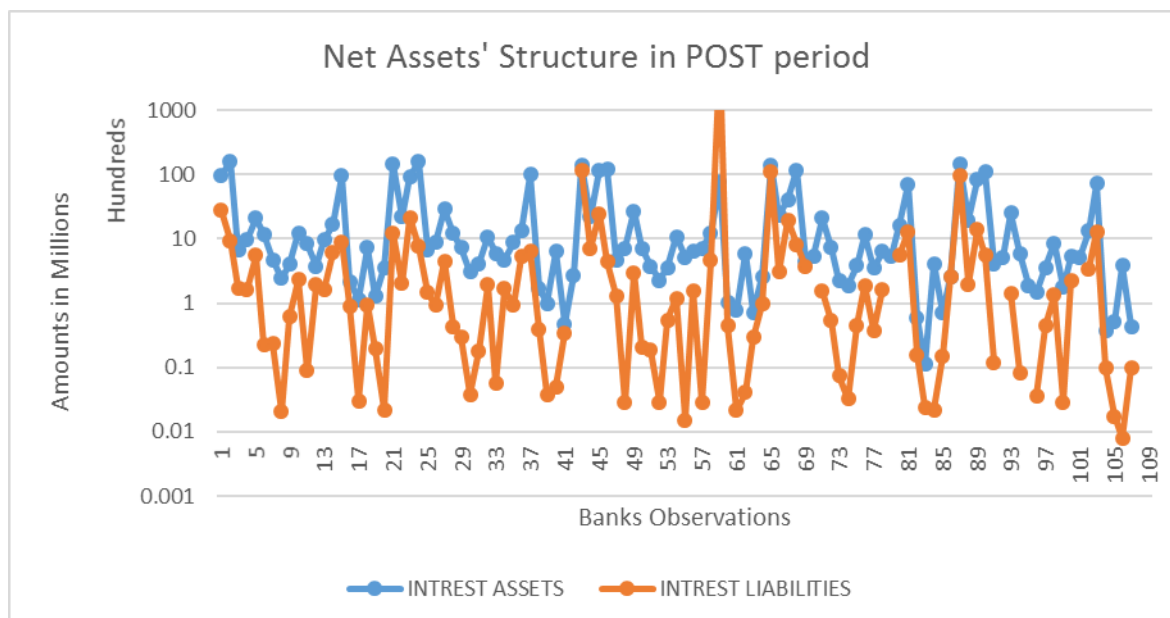
Figure 5-5: Assets Structure for Commercial Banks in the Middle-East Post Period (in millions)

Table 5-3: Yield Percentage of 10-Year Government Bond Pre Period

	JORDAN	Lebanon	Palestine	Bahrain	average
2005	8.1	10.12	7.34	7.82	8.33
2006	8.56	10.37	7.73	7.98	8.66
2007	8.86	10.1	7.98	8.27	8.80
2008	9.48	9.95	7.47	8.22	8.79
2009	9.07	9.04	6.19	7.94	8.06
2010	9.01	7.91	6.33	7.25	7.63

Table 5-4: Yield Percentage of 10-Year Government Bond Post Period

	JORDAN	Lebanon	Palestine	Bahrain	average
2011	8.67	7.38	6.79	6.79	7.41
2012	8.95	7.07	6.97	6.03	7.25
2013	9.03	7.29	7.06	5.93	7.33
2014	8.84	7.49	6.88	5.87	7.27
2015	8.24	7.45	6.88	5.87	7.11
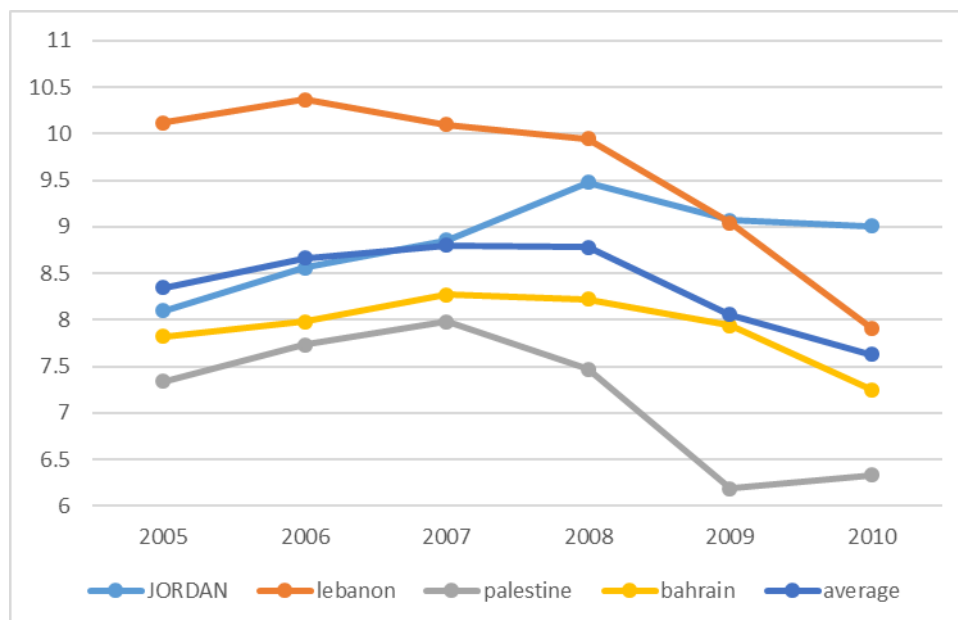
Figure 5-6: The Yield Percentage of 10-Year Government Bond during the Pre Period
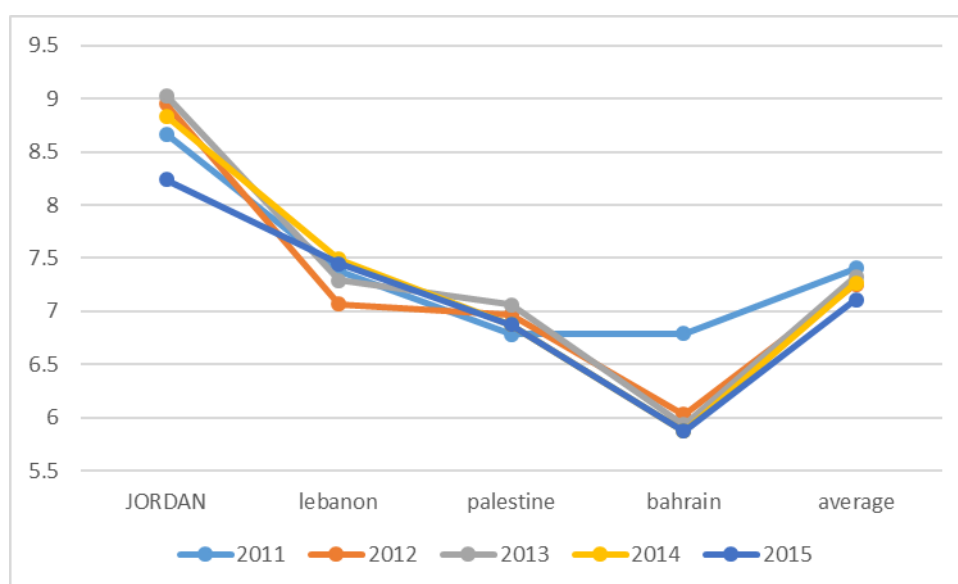
Figure 5-7: The Yield Percentage of 10-Years Government Bond during the Post Period

B.   Default Risk

This risk is considered as one among the primary risks that banks face. Besides, it is one among other indicators of financial stability in addition to assets quality (Rajan and Dhal, 2003). Default risk occurs when the borrower (counterpart) is in default and cannot make principal payments as stated in contractual conditions and terms (Rajan and Dhal, 2003). In consequence of the absence of loan impairment information in the market, investors need to have default risk information, which is useful to value their investments.

NPL have been reported as an intensive indicator or explanatory variable to fair value of loans (Barth, Beaver and Landsman, 1996; Venkatachalam, 1996; Barth, et al., 2006). These results suggest that NPL are zooming the reality of default risk included in net loans. Owing to this fact, this thesis adopts NPL as a measure of default risk. Above all, NPL do not include loans under any impairment assessment (impaired loans) (Casu, 2006). According to the literature in this regard, the expected sign of the NPL would be negative.

C.   Core Deposit

Core deposits or primary deposits are amounts paid by the clients without any nominal interest rates and, on demand, feature without a maturity date. That is to say, clients would not alter their banking habits according to external or general economic changes such as the interest rate. Clients would also prefer pooling their funds in banks so that they can accept the least risk under the deposit insurance schemes organised by the government. Accepting this, particular studies compared short and long-term deposits and did not find any difference between long-term and core deposits (Flannery and James, 1984a; Flannery and James, 1984b). This fact suggests that core deposits stand as one among the assets, indicating the clients' loyalty in addition being a cheap financial resource in the banking system.

Accordingly, core deposits constitute the remaining amounts after subtracting the maturity deposits from the domestic deposits. In some countries, where deposit insurance schemes exist, Barth, Beaver and Landsman (1996) stated the calculation of the core deposits as the following equation:

$$CORE_{it} = Domestic\ deposit_{it} - Time\ deposit_{it} - \$100000$$

Equation 5-4

According to their equation, $100,000 is the deposit insurance in the US banking from the Federal Deposit Insurance Corporation. In the study sample, the Middle Eastern countries are not entitled under one single body of deposit insurance. However, according to the central banks' directives, each state in the Middle East has to prevent bank failure from clients and create its own deposit insurance institution and schemes. This thesis initially adopts the same equation as Barth, Beaver and Landsman (1996) and excludes the insured deposit amount because of variability of the maximum insured deposit and the subordination of foreign deposits under their regulations. Overall, the expected sign of core deposits is positive, owing to the fact that they affect the market value positively.

Control Variables not Related to Financial Instruments

A. Notional Amounts of Derivatives

In recent years, banks' usage for derivatives has increased dramatically to manage many purposes for trading and hedging. The large space for derivatives drives the research area to find out the impact of their notional amount on investors' decisions such as equity valuation. Namely, with the advantage of a long period, Wang, Alam and Makar (2005) reported the relevance of notional amounts of derivatives in the US economy which implies the incremental information content for investors. Additionally, this study supports the idea of the economic significance of fair value disclosures and the information content beyond book value and earnings (see also: (Riffe, 1993; Seow and Tam, 2002)). On the other hand, other studies did not find any significant evidence about the relevance of notional amount disclosures in addition to the negative implications on the valuation process, but it is fundamental to fair value and vice versa (Eccher, Ramesh and Thiagarajan, 1996; Barth, Beaver and Landsman, 1996; Venkatachalam, 1996). According to the previous discussion, the expected sign of this control variable would not be determined for the reason of finding variances in the relevance of the notional amounts. Secondly, notional amounts will have two positions in the financial statements: positive (long) and negative (short).

B. Off Financial Position Items (OFFFP)

Commercial banks have facilities or items in order to provide credit and generate fees, commissions and sometimes interest. These facilities or items guarantee credit or provide credit such as standby credit letters, letters of credit (commercial letters) and commitments.

Banks would recognise the upfront fees applicable to these items in the financial position as deferred. Banks would also anticipate the inflows (earned interest or any generated fees) and outflows (risk of counterpart default). Thus, the incremental value in the disclosures of the OFFFP is the present value of inflows minus the present value of outflows.

Although, some of those facilities are not recognised through the financial position, the accounting identity model or the BSM requires that MVE equals the difference between the recognised and unrecognised net assets (Landsman, 1986; Beaver, et al., 1989; Riffe, 1993; Venkatachalam, 1996). The later studies reported the relevance of disclosed notional amounts of the off-balance sheet items. Adopting their idea, this study would consider the off-financial position as a control variable with a sign that depends on the present value of inflows (outflows) or alternatively, positive (negative).

Primary models including the control variables would be presented as the following:

The specification of the primary model (Pre IFRS 9)

$$MB_{it} = \alpha_0 + \beta_1 LNS_{it} + \beta_2 HTM_{it} + \beta_3 A4S_{it} + \beta_4 OAC_{it} + \beta_5 DEP_{it} + \beta_6 OD_{it}$$
$$+ \beta_7 NON39AS_{it} + \beta_8 NON39LI_{it} - \beta_9 IGAP_{it} - \beta_{10} NPL_{it}$$
$$+ \beta_{11} CORE_{it} \mp \beta_{12} NOTION_{it} \mp \beta_{13} OFFFB_{it} + \varepsilon_{it}$$

Equation 5-5

The specification of the primary model (Post IFRS 9)

$$MB_{it} = \alpha_0 + \beta_1 ACI_{it} + \beta_2 LOANS_{it} + \beta_3 OACI_{it} + \beta_4 DEP_{it} + \beta_5 DEBT_{it}$$
$$+ \beta_6 NON9AS_{it} + \beta_7 NON9LI_{it} - \beta_8 IGAP_{it} - \beta_9 NPL_{it} + \beta_{10} CORE_{it}$$
$$\mp \beta_{11} NOTION_{it} \mp \beta_{12} OFFFB_{it} + \varepsilon_{it}$$

Equation 5-6

Where:

MB_{it}: The difference between the market value and book value of equity at the end of the period.

LNS_{it}: The difference between disclosed fair value and book value of net loans and advances.

HTM_{it}: The difference between disclosed fair value and book value of held-to-maturity financial-assets.

$A4S_{it}$: The difference between fair value and book value of available-for-sale financial-assets.

OAC_{it}: The difference between fair-value and book value of other amortized cost financial-assets.

DEP_{it}: The difference between disclosed fair value and book value of deposit liabilities.

OD_{it}: The difference between fair value and book value of other debt financial liabilities such as Cash and balances and Due from banks.

$NON39AS_{it}$: The remaining from total assets after subtracting IAS 39 related financial assets.

NON39LI: The remaining from total liabilities after subtracting IAS 39 related financial liabilities.

ACI_{it}: The difference between disclosed fair value and book value of amortised cost items.

$LOANS_{it}$: The difference between disclosed fair value and book value of net loans.

$OACI_{it}$: The difference between disclosed fair value and book value of other amortized items such as cash and balances and due from banks

DEP_{it}: The difference between disclosed fair value and book value of deposit liabilities.

$DEBT_{it}$: The difference between fair value and book value of other debt financial liabilities

NON9AS: The remaining from total assets after subtracting IFRS 9 related financial assets.

NON9LI: The remaining from total liabilities after subtracting IFRS 9 related financial liabilities.

IGAP: The maturity gap between nominal net assets with maturity of more than one year

NPL: Non-performing loans

CORE: Domestic deposits – time deposits

NOTION: Notional amounts of derivatives

OFFFP: Off financial position items

5.5.3 Additional Result

Following Barth, Beaver and Landsman (1996), as well as Burgstahler, Hail and Leuz (2006), the additional model included (control), a variable which accounts for deposits in financially healthy banks where they domiciled in countries with high regulatory indicators. Accordingly, the model added the interaction term of DEP*CAR*PEACE as the following for pre and post respectively:

$$MB_{it} = \alpha_0 + \beta_1 LNS_{it} + \beta_2 HTM_{it} + \beta_3 A4S_{it} + \beta_4 OAC_{it} + \beta_5 DEP_{it}$$
$$+ \beta_6 DEP * CAR * PEACE_{it} + \beta_7 OD_{it} + \beta_8 NON39AS_{it}$$
$$+ \beta_9 NON39LI_{it} - \beta_{10} IGAP_{it} - \beta_{11} NPL_{it} + \beta_{12} CORE_{it}$$
$$\mp \beta_{13} NOTION_{it} \mp \beta_{14} OFFFB_{it} + \varepsilon_{it}$$

Equation 5-7

$$MB_{it} = \alpha_0 + \beta_1 ACI_{it} + \beta_2 LOANS_{it} + \beta_3 OACI_{it} + \beta_4 DEP_{it}$$
$$+ \beta_5 DEP * CAR * PEACE_{it} + \beta_6 DEBT_{it} + \beta_7 NON9AS_{it}$$
$$+ \beta_8 NON9LI_{it} - \beta_9 IGAP_{it} - \beta_{10} NPL_{it} + \beta_{11} CORE_{it}$$
$$\mp \beta_{12} NOTION_{it} \mp \beta_{13} OFFFB_{it} + \varepsilon_{it}$$

Equation 5-8

Where the codification term CAR stands for healthy banks (1, 0 for above and under the median banks respectively). Moreover, the PEACE term stands for countries with high regulatory environment indicators. For this purpose, the study used the Global Peace Index released by the Institute for Economic and Peace (IEP). This index is considered as comprehensive and integrated for many reasons: firstly, as this is the first study to look at this point in the Middle East area, and to the best of knowledge, there is no research classifying the countries in this area according to their regulatory environment or rule of law for the peace factor. For example, the World Bank Policy Research Working Paper by Kaufmann, Kraay and Mastruzzi (2009) updated the Worldwide Governance Indicators for many countries. In addition, a previous contribution by Porta, et al. (1998) evaluated the rules which governed the shareholders' and creditors' protection in addition to their enforcement quality. Despite the fact that many studies followed those indexes, this study did not choose any of them due to delisting countries related to the study as well as the necessity to bring more recent data up to 2015 (Hail and Leuz, 2006; Daske, et al., 2008; Li, 2010). Secondly, GPI's data are collected by the Economist Intelligence Unit. Thirdly, GPI is based on an innovative conceptual framework where countries are classified under positive or negative peace. Negative peace is defined as the absence of violence or fear of violence. Positive peace is defined as attitudes, institutions and structures that create and sustain peaceful societies. Positive peace is measured using eight pillars and each one has three indicators, totalling 24 indicators. Among those pillars, there are six relating to the governmental function, economical aspects and information freedom (transparency) (Positive Peace Report, 2016). Indeed, a well-functioning government demonstrates

political stability and sustains the rule of law. The following graph clarifies the eight domains of measuring peace as stated by the IEP:
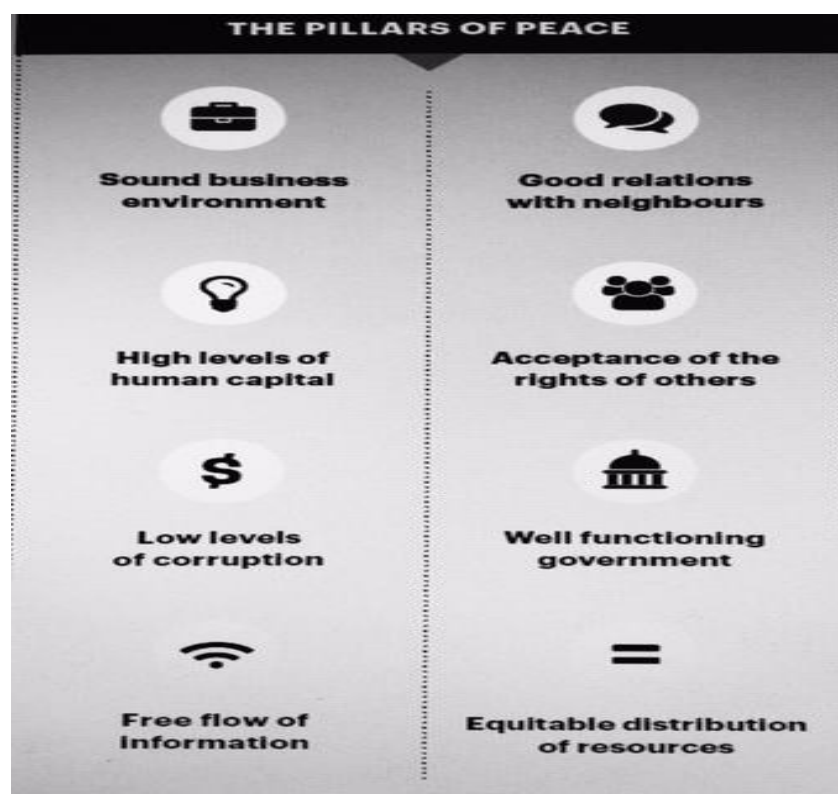
Figure 5-8: The Pillars of Peace for Institute for Economic and Peace

Source: Positive Peace Report, (2016)

Finally, the Middle East is a well-known area for conflicts and wars such as those in Palestine and Lebanon. This implies taking this effect into consideration and controlling the model by this effect in further results. Consequently, the index likely reflects the environment with high regulatory indicators for a peaceful country. Alternatively, the index returns the economic cost of violence as well as analyses country level risk (see Appendix (15) for further details). The codification term PEACE stands for banks domiciled in a peaceful country (1, 0 for above and under the median banks respectively). The following table presents the GPI for the listed countries in the study, where higher figures are for lower peace. Notably, Palestine has the highest figures for its high instability for peace. However, Jordan stayed as the most peaceful country with the lowest figures of the peace index.

Table 5-5: Global Peace Index for the Sample's Countries

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Lebanon	2.662	2.662	2.84	2.72	2.639	2.6	2.46	2.58	2.62	2.623
Jordan	1.997	1.997	1.97	1.83	1.948	1.92	1.91	1.861	1.861	1.944
Palestine	3.033	3.033	3.05	3.04	3.019	2.9	2.84	2.73	2.689	2.781
Bahrain	1.995	1.995	2.02	1.88	1.956	2.4	2.25	2.11	2.225	2.142

Adding $DEP * CAR * PEACE_{it}$ allows for investigating the effect of the financial health in addition to the peace indicator on the relevance of deposits' fair values over their historical. According to Barth, Beaver and Landsman (1996), they assigned a lower coefficient for loans of banks with low financial health (less CAR). This means that banks exploit fair value choice to over or underestimate the unrealised gains or losses if they need to. However, the role of law effect or law enforcement became more dominant in cross-country studies (see theoretical framework chapter, Section 3.5.5). That is to say, if banks needed to manipulate their fair values, they would be restricted by the level of low enforcement in their country. Accordingly, the sample in this study is separated into four groups based on four probabilities, as clarified by the table below:

Table 5-6: The Sample Groups under the DEP*PEACE*CAR Interaction Term

	High CAR	**Low CAR**
High Peace	Group A	Group B
Low Peace	Group C	Group D

Group A is expected to have the highest coefficient with the highest relevance of deposits' fair value over historical cost as it is related to healthy banks domiciled in a high regulatory environment (Deposits*1*1). Conversely, the lowest coefficient would be assigned to Group D where the banks have two drivers to manipulate their fair values: low peace indicators and low financial health. All groups except A would be similar or assigned to zero value for their interaction terms, either for 0 value for CAR or peace or both.

5.5.4 Robustness Tests

Under this section, the study presents different specifications in order to robust the findings of this study. The justification for this part is that the confidence and validity concern the results' consistency under different specifications.

A.   Following earlier studies, the first robustness test deflates the dependent variable the difference of market-to-book value of equity (Nelson, 1996; Eccher, Ramesh and Thiagarajan, 1996). Afterwards, the BVE would be shifted to the independent side of the model. Consequently, the models would be deflated and controlled for similar variables.

B.   This model is controlled by the size of banks for two reasons: Firstly, there was a dispersion in the banks' sizes. Secondly, size stands for its significant role in the modelling process. Size is measured using the natural logarithm of total assets (Fiechter and Novotny-Farkas, 2016).

5.6   Methodology of Derivatives' Fair Value Recognition

5.6.1   The Specification of the Primary Model

To satisfy the second objective of this study, this thesis adopts the Ohlson (1995) model. As discussed in the theoretical framework chapter, this model looks at the market value of the firm as the corporation of book value and abnormal earnings using the LID (autoregressive relation), as the following shows:

$$P_t = BV_t + \alpha_1 X_t^a + \alpha_2 V_t$$

Equation 5-9

Accordingly, the accounting constructs, both BVE and earnings, could explain the variations in stock prices. Wang, Alam and Makar (2005) used this model to investigate the value relevance of trading and non-trading derivatives' disclosures under SFAS 119: *Derivatives Disclosures* and SFAS 133: *Accounting for Derivative Instruments and Hedging Activities*. The later study found the incremental information of expanded disclosures of derivatives over banks' earnings and book value. This thesis aims to investigate the value relevance of fair value recognition in addition to investigating the value relevance over their book value pre and post IFRS 9: *Financial Instruments*. Precisely, IFRS 9 changed the preceding rules of classification and measurement that gives more space to managers' judgment or it is to say, business model, more principle oriented

than IAS 39: *Financial Instruments: Recognition and Measurement* and IAS 32: *Financial Instruments: Presentation*. IFRS 9 is conceptually framed as it will provide the financial statements' users with more relevant and reliable information. A further reason for this choice is that the Ohlson (1995) model specified using similar variables for both periods to test the relevance of fair value recognition. Accordingly, it allows to be pooled during the study period (10 years) as well as adding dummy variables which control for the time (early adopting) and voluntarily or compulsory adoption. Above all, the BSM will be used to robust the findings of this objective.

Consistently, the model was adopted to test the relevance of fair value recognition using the following primary model pre and post IFRS 9:

$$MVE_{it} = \alpha + \beta_1 BV_{it} + \beta_2 NII_{it} + \beta_3 NGLFI_{it} + \beta_4 NTDER_{it} + \beta_5 NHDER_{it}$$
$$+ \beta_6 NOTION_{it} + \beta_7 NPL_{it} + \beta_8 IGAP_{it} + \beta_9 CORE_{it} + \beta_{10} OFP_{it}$$
$$+ \varepsilon_{it}$$

Equation 5-10

Where:

MVE_{it}: Market value of equity for bank t at time i

BV_{it}: Book value of bank t at time i

NII_{it}: Net interest income= interest revenues from loans-interest expenses from deposits

$NGLFI_{it}$: Net gains and losses on financial instruments through income statement

$NTDER_{it}$: Net trading derivatives= long position (assets)-short position (liabilities)

$NHDER_{it}$: Net hedging derivatives= long position (assets)-short position (liabilities)

The remaining control variables are prescribed previously in Section 5.5.2.

The previous model stirs up two points. Firstly, as discussed by Ohlson (1995), the equity market value depends on book value, earnings and other information. Other information contains not only past and current but also future unexpected earnings (V_t) . The neglect of this variable is due to taking the whole variables (tangible and intangible) into account with their fair value, which makes other information equal to zero (Barth, et al., 2006). This thesis would be consistent with this idea as the study sample is the commercial banks which carry a large proportion of financial instruments and derivatives. Secondly, this model allows for collecting the effect from both the income statement and the financial position or β_2, β_3 and β_4, β_5 respectively. If β_4, β_5 are positive and significant then the fair value recognitions are value relevant (Ahmed and Lobo, 2006). Also, if β_4, β_5 are

incrementally more significant than β_6, the derivatives' fair value recognition is more value relevant than their historical cost.

5.6.2 Robustness Tests

The justification for this part is that the confidence and validity concern the results' consistency under different specifications.

A.   This model follows similar predictors to the primary model; however, it controls the association by banks that are financially healthy and domiciled in peaceful countries. This term is added to control for the effect of peace and financial health. During the study period, especially in the pre period, a third of banks were domiciled in high-risk areas such as Lebanon during 2006 and 2007 and Palestine in 2014. This variable is found to be significant when added to the primary model (see Appendix (1)). Even though the sample features homogenous characteristics, as witnessed by many studies, it could be distinguished by the peace indicator into peaceful and unpeaceful.

B.   This model was built according to the BSM based on the differences between assets and liabilities in addition to values of recognised fair values from the income statement (Fiechter and Novotny-Farkas, 2016). The model's specification takes two forms in the pre and post periods. This model is chosen as a robustness test and not as primary, owing to the fact that, under the primary model, there would an opportunity for pooled data regression during the whole period and to introduce a comparative test as explained in the following section.

5.6.3 Comparative Test

According to the model provided by Ohlson (1995), the study tests the hypothesis of whether there would be any significant effect of adopting IFRS 9 on interpreting the difference between the market values by adding a dummy variable on a pooled data set. Indeed, the dummy variable took the value of 1 for the post period and 0 for the pre period. Simply, in addition to this dummy variable, the variables were pooled into a period of 10 years.

5.7 Methodology of CE

The second objective of this thesis is to investigate the CE from a comparative perspective pre and post IFRS 9. IASB issued IFRS 9 to increase the relevance and reliability of accounting information in three stages: classification and measurement, impairment and hedging. The focus of this thesis is on the first one owing to the fact that the behavioral theory sheds light on the influence of labels on investors' behavior, such as the perceived risk of the item's label. Consistent with behavioral theory, a consensus has been witnessed by researchers that labelling has an impact on judgment of risk or performance from the users' perspective (Bischof, 2014). This brings forward the discussion that CE would be affected since equity valuation models use forward-looking information. For instance, dividends are affected by users' perspective and estimation (see theoretical framework chapter).

By achieving this objective, this study empirically tests the validity of the IASB's claim about reducing the CE by issuing new classification and measurement rules. Accordingly, this study investigates the CE comparatively between pre and post early adoption of IFRS 9 in the commercial banks domiciled in the Middle East. The banking sector more reflects the consequences of IFRS 9 as its scope contains the financial instruments, which incorporate 90% of the banks' net assets (Bischof, 2009).

5.7.1 Estimation of the CE

Many studies rely heavily on the RIVM (see theoretical framework chapter, Section 3.2.2) (Feltham and Ohlson, 1995; Gebhardt, Lee and Swaminathan, 2001; Claus and Thomas, 2001; Gode and Mohanram, 2003). Each of these studies could be distinguished for their assumptions about the earnings growth in perpetuity.

The CE is measured according to multi-models with different assumptions and specifications. Each model has not been confirmed with a consensus as the optimal model to measure the CE or the return required by the investor. Chiefly, this thesis returns the CE using the EGM (Ohlson and Juettner-Nauroth, 2005) implemented and specified under (Gode and Mohanram, 2003), in addition to the RIVM, where this thesis employs the specifications by Gebhardt, Lee and Swaminathan (2001) and Claus and Thomas (2001).

The Unrestricted Abnormal Earnings Growth Model (Gode & Mohanram, 2003)

Many studies improved parsimonious models to ease the implementation of the EGM (Ohlson, 1995). It was namely Ohlson and Juettner-Nauroth (2005) who implied this model. Later on, studies differently assumed the earnings growth in perpetual (Gode and Mohanram, 2003; Easton, 2004). For instance, under this model, the firms' equity could be easily calculated without the need for earnings expectations after two years in the future. This model is expressed by Dhaliwal, Krull and Li (2007) mathematically as follows:

$$r_e = A + \sqrt{A + \left(\frac{FEPS_{t+1}}{P_t}\right)\left(g - (r_f - .03)\right)}$$

Equation 5-11

Where:
r_e: The cost of equity capital

$FEPS: Forecasted\ Earnings\ Per\ Share$

$$A = \frac{1}{2}\frac{[r_f - .03] + DPS_{t+1}}{P_t}$$

Equation 5-12

$g = \left(FEPS_{t+2}/FEPS_{t+1}\right) - 1$ Or the average of the change in forecasted EPS percentage

$FEPS_{t+1} = FEPS_{t+1} * dividend\ payout\ ratio$

r_f: Risk-free rate, 10-year US treasury bonds

According to the previous description, it is noteworthy that this model returns the CE without the expected book value or more than two years ahead of EPS. This thesis follows Daske, et al. (2008) as it is applied a non-US sample. Subsequently, this implies that earnings grow at a steady percentage, which equals the expected median inflation rate. The approach to estimating inflation in the Middle East deals with the median of one year ahead of the published monthly inflation rates by the specific country's central bank.

The Method of the Industry ROE Model (Gebhardt, Lee and Swaminathan, 2001)-GEB:

Relying on the RIVM to calculate the CE, estimations about earnings should cover the long term in perpetual. This model depended on the earnings estimations up to the long-term growth rate in year t+3 while they assumed that on perpetual up to year T=12 (from year t+4 to t+T) the earnings grow at the median of industry EPS. The equation for this implication is as follows:

$$P_t = B_t + \frac{FROE_{t+1} - r_{GEB}}{(1 + r_{GEB})} B_t + \frac{FROE_{t+2} - r_{GEB}}{(1 + r_{GEB})^2} B_{t+1} + TV$$

<div align="right">Equation 5-13</div>

$$TV = \sum_{i=3}^{T-1} \frac{FROE_{t+i} - r_{GEB}}{(1 + r_{GEB})^i} B_{t+i-1} + \frac{FROE_{t+T} - r_{GEB}}{(1 + r_{GEB})^{T-1}} B_{t+T-1}$$

<div align="right">Equation 5-14</div>

Where,

$FROE_{t+i} = FEPS_{t+i}/B_{t+i-1}$

$FROE_{t+3} = FROE_{t+2} * (1 + analyst\ long\ term\ growth)$

$FROE_{t+1} = analysts\ forecated\ EPS\ year\ a\ head$

$FROE_{t+2} = analysts\ forecated\ EPS\ two\ years\ a\ head$

$B_{t+1} = \dfrac{Book\ value\ at\ (t+1)}{outstanding\ shares\ at\ (t)}$

According to clean surplus accounting (see theoretical framework chapter), the book value per share at t+i

$$B_{t+i} = B_{t+i-1} + FEPS_{t+i} - FDPS_{t+1}$$

<div align="right">Equation 5-15</div>

$$FEPS_{t+1} = FEPS_{t+1} * dividend\ payout\ ratio$$

<div align="right">Equation 5-16</div>

It could be assumed that in a highly competitive environment, firms in the same industry tend to be closer to the industry median of ROE. Consequently, the FROE: *Forecasted Return on Equity* for the periods beyond t+3, equals the industry median of ROE which is calculated for 10 years. In addition, this model relies on the assumption that period T forms the perpetuity or the period beyond T=12.

The Economy-Wide Growth Model (Claus & Thomas, 2001) (CT method)

This method is based on the idea that after the fifth year, abnormal earnings are imposed to grow at a steady rate, which equals the expected inflation rate. Consequently, this model only needs EPS for the first five years to calculate the CE in addition to the inflation rate g_{ae} as follows:

$$P_t = B_t + \frac{AE_{t+1}}{(1+r_{ct})} + \frac{AE_{t+2}}{(1+r_{ct})} + \frac{AE_{t+3}}{(1+r_{ct})} + \frac{AE_{t+4}}{(1+r_{ct})} + \frac{AE_{t+5}}{(1+r_{ct})} + \frac{AE_{t+5}(1+g_{ae})}{(1+r_{ct})^5 * (r_{ct} - g_{ae})}$$

Equation 5-17

Where,

$$AE_{t+i} = FEPS_{t+i} - r_{ct} * BVE_{t+i-1}$$

Equation 5-18

$$BVE_{t+i-1} + FEPS_{t+i} - FDPS_{t+i} = BVE_{t+i}$$

Equation 5-19

g_{ae}: is the stable growth rate, which equals the median of year ahead monthly inflation rate

$FEPS_{t+i}$: Forecasted Earnings per Share

$FDPS_{t+i}$: Forecasted Dividends per Share

This thesis follows Daske, et al. (2008) as it is applied to a non-US sample, and thus, this implies that the earnings grow at a steady percentage, which equals the expected median inflation rate. The study's approach to estimating the inflation in the Middle East deals with the median of one year a head of the published monthly inflation rates by the specific country central bank.

5.7.2 The Specification of the Primary Model for Cost of Equity (Multivariate Analysis)

The CE data will be tested by both univariate and multivariate tests. Univariate tests provide results with regards to timely changes of the CE through the period. These results should be taken with caution as there are many factors which affect the CE in commercial banks apart from the adoption of IFRS 9. Consequently, under multivariate analysis, this thesis developed a model based on those developed by Dhaliwal, Krull and Li (2007), Lee, Walker and Christensen (2008) and Li (2010). This model allows for discovering the impact of IFRS 9's early adoption by controlling other variables that could affect the CE. The primary model set for this objective is as follows:

$$CE_{it} = \alpha_{it} + \beta_1 Time_{it} + \beta_2 MANDADOPT_{it} + \beta_3 Time * MANDADOPT_{it}$$
$$+ \beta_4 CAR_{it} + \beta_5 Leverage_{it} + \beta_6 LD_{it} + \beta_7 BETA_{it} + \beta_8 RFR_{it}$$
$$+ \beta_9 BMR_{it} + \beta_{10} ASSETS_{it} + \beta_{11} LTG_{it} + \beta_{12} EARNDEV_{it} + \varepsilon_{it}$$

Equation 5-20

Where:

CE_{it}: Cost of equity capital, according to each model and the average of all estimations from the three methods.

$Time_{it}$: Dummy variable indicates time, equals 1 post the early adoption in and after 2011 and 0 otherwise

$MANDADOPT_{it}$: Dummy variable equals 1 for mandatory early adoption as imposed from the central bank, and 0 otherwise.

$Time * MANDADOPT_{it}$: The interaction term between $Time_{it}$ and $MANDADOPT_{it}$

CAR_{it}: Capital Adequacy Ratio

$Leverage_{it}$: Financial leverage returned by the ratio of long-term debt to the book value of equity

LD_{it}: Loans to Deposits Ratio

$BETA_{it}$: Market Beta as returned under CAPM by Bloomberg

RFR_{it}: Risk-free rate

BMR_{it}: Book-to-market Ratio

$ASSETS_{it}$: Control variable for banks' size returned by the logarithm of the total assets

LTG_{it}: Long-Term Growth as provided by Bloomberg

$EARNDEV_{it}$: Earnings variability retuned by the standard deviation of earnings

BM_{it}: Book-to-market ratio

$Ln(Size)_{it}$: Control variable for banks' size, defined as the ln of the total assets.

As noted above, the model contains three primary variables and other control variables that are likely considered to affect the cost of equity capital. The primary variables incorporate the time of early adoption, the nature of early adoption, whether it was mandatory or voluntary, and the interaction term to determine the effect of banks who mandatorily adopted in 2011. This allows for investigating the effect of IFRS 9's early adoption (β_1) where a positive sign indicates that the risk outweighs the benefits of IFRS 9, so the inverse relation is not satisfied and vice versa. Mainly, when (β_1) is significant, then IFRS 9 has a material impact on the CE. In addition, (β_3) investigates this effect differently between banks that voluntarily or mandatorily early adopt IFRS 9.

5.7.3 Control Variables

Under this model, the control variables indicate some of the financial and firms' characteristics. The following are the justifications for adding the control variables:

A.   This research controls for the industry effect by two ratios: capital adequacy (CAR) and loans-to-deposits (LD). The International Regulatory Framework for banks introduced many reforms starting with Basel I and ending with Basel Ⅲ in 2011. Generally, the reforms aim to enhance the regulatory framework for banks by international convergence of measuring the capital and presenting international capital standards as well as banks' liquidity. Under CAR, the target for recent Basel reforms is the macroprudential policy (related to each institution rather than the whole financial system in the economy) to enhance the resilience of each bank to periods of crisis or stress. Similarly, it targets the microprodential policy where the risks surround the banking sector and amplify its effects with its procyclicality. Through these aims and targets, banks are imposed to maintain a core capital-to-risk weighted assets ratio not less than 8%. Notably, in the Middle East, each country has its central banks' requirements, which are higher than those required by the Basel Committee, such as 12% by the Jordanian Central bank. This means that when this ratio falls below 8%, the bank would be asked to increase its capital or to illiquid its risky assets. The higher CAR implies lower regulatory costs and lower bank risks. Thus, the expected sign for CAR is minus where a higher CAR supports less CE (Karels, Prakash and Roussakis, 1989). For the second variable, the LD ratio, commercial banks use their deposits to finance their regular activity (loans) as the cheapest resource. This percentage should be united as the bank has to control for its credit risk in case of significant deposit

withdrawals or clients' default. Higher LD leads to a higher CE, which implies the positive sign for this variable (Mansur, Zangeneh and Zitz, 1993).

B.   Based on the CAPM, the relationship direction of beta is in parallel with asset prices or CE. For instance, beta has been added to control for the market volatility in CE literature (Botosan and Plumlee, 2002; Poshakwale and Courtis, 2005; Daske, 2006). Despite this fact, many studies used different proxies for market volatility such as the returns variability or the standard deviation of returns (Daske, et al., 2008).

C.   Beaver, Kettler and Scholes (1970) stated that there is a significant association between market and accounting risk measures which implies the importance of controlling for risk in the equity valuation process. Accordingly, the empirical model included earnings variability which is measured by the standard deviation of the returns over the past five years divided by the mean of the returns over the same period (Gebhardt, Lee and Swaminathan, 2001).

D.   Fama and French (1993) introduced in their paper "common risk factors in the returns on stocks and bonds" other risk factors such as the size and book-to-market ratio in addition to beta. This paper has been followed by an extensive number of researchers, as has this thesis (Daske, 2006; Francis, Nanda and Olsson, 2008). Firm size is measured by the natural logarithm of banks' total assets.

E.   Modigliani and Miller (1958) stated in their paper "In the language of finance, the shares will be subject to different degrees of financial risk or "leverage" and hence they will no longer be perfect substitutes for one another". Accordingly, the leverage has an inverse impact on the CE. This thesis follows many researchers to measure the leverage by the ratio of long-term liabilities to book value of the bank (Lee, 1999; Daske, et al., 2008; Li, 2010).

F.   To control the interest structure in every country listed in the study sample, the model of CE includes the risk-free rate. This is owing to the fact that the risk-free rate reflects changes in the interest structure between countries. According to the projects, the risk-free rate reflects the interest rate for deposits and the attractiveness of a country for investments. Consequently, the association between the CE and the risk-free rate has an inverse nature. This variable is measured by the short-term treasury bill yields as published in the central banks' bureaus (Hail and Leuz, 2006; Daske, et al., 2008).

5.7.4   Robustness Test

This test takes the risk premium instead the CE as an independent variable.

5.8 The Sample and Study Period

A sample is a subset from the population, which is important when the population is large and limitations surround investigating all units. For generalisation purposes, it is vital to choose an unbiased sample (Collis, 2009; Bryman, 2016). There are two distinct types of unbiased sample to choose from: probability and non-probability. The first type occurs when every unit in the population has an equal chance of being selected. In addition, it is accepted that using probability sampling is more likely to result in an unbiased sample. However, under the second type, not every unit is likely to be selected randomly and some of them have a higher probability of being selected (Collis, (2009). For the sampling process, this research follows a natural sampling technique under the non-probability sampling type. This is owing to the following reasons mentioned by Collis (2009): that natural sampling is considered among the non-probability sampling methods where the researcher has no influence on selecting from the population units. For example, this could be restricted by the data availability, so the researcher has no option but to take units with data available.

The population and the sample of this research hold all commercial banks domiciled in the Middle East as presented in the table below. Additionally, the study covers two periods to support the comparative aim: pre from 2006 until 2010 (under the preceding IFRS 9 standards) and post from 2011 until 2015 (under the early adoption of IFRS 9).

According to the study's objective, the banking sector is an idealistic sector to study the financial instruments. This is owing to the fact that the majority of its net assets are financial instruments. For example, Bischof (2009) stated that 90% of European banks' assets are under the scope of IAS 39. Namely, Eccher, Ramesh and Thiagarajan (1996, P. 80) mentioned, "The relevance of fair value disclosures for such instruments is likely to be more pronounced for financial institutions than for other firms". Another justification is provided by Nelson (1996, P. 162), where he stated that his paper "focuses on commercial banks for two reasons: 1) financial institutions, particularly banks, are at the centre of the debate over fair value accounting, and 2) financial instruments are significant to banks' operations and financial reports".

Notably, the Middle East also features relatively homogenous cultural characteristics. This gives opportunity to investigate the studies' objectives without considering regional differences and effects on the investor (Harrigan, Wang and El-Said, 2006; Elnahass,

Izzeldin and Abdelsalam, 2014). Above all, the Middle East stands as a unique study sample. This is owing to the fact that it has a larger number of early IFRS 9 adopter banks compared with other regions (such as Europe and the USA). Commercial banks early adopted the IFRS 9 either voluntarily or mandatorily according to their central banks' requirements. This fittingly contributes to the literature as empirical evidence from developing economies.

The sample contains the commercial banks that early adopted the IFRS 9 to report for their financial instruments. The following table contains countries domiciled in the Middle East in addition to all national commercial banks listed in these countries:

Table 5-7: The Structure of the Study Sample

Country	Name of the Stock Exchange	Number of Commercial Banks	Number of Islamic Listed Banks	Number of IFRS 9 Early Adopters Banks	Year and Nature of Early Adoption
Bahrain	Bahrain Bourse	3	4	1	2012/voluntarily
Cyprus	Cyprus Stock Exchange	12	0	0	----
Iraq	Iraq Stock Exchange	21	3	0	----
Jordan	Amman Stock Exchange	13	2	13	2011/ Mandatorily
Kuwait	Kuwait Stock Exchange	10	0	0	----
Lebanon	Beirut Stock Exchange	6	0	3	2011/voluntarily
Oman	Muscat Securities Market	4	1	0	----
Palestine	Palestine Exchange	5	0	5	2011/ Mandatorily
Qatar	Qatar Stock Exchange	5	3	0	----
Saudi Arabia	Saudi Arabia Stock Exchange	12	0	0	----
Syria	Damascus Stock Exchange	4	0	0	----
United Arab Emirates	Abu Dhabi Stock Exchange	11	1	0	----

The table displays the number of listed commercial banks in the Middle East. As it is clarified in the table, in the Middle East, the thesis excludes the countries that do not adopt

IFRSs (during the study period) in its regime for its commercial banks such as Turkey and Iran (Kennedy, 2016). Furthermore, in countries that adopt IFRSs in its regime, it has banks with Islamic operations and nature. Accordingly, the thesis excludes Islamic listed banks, as they are different in their specific nature and operations. Furthermore, Islamic banks are required to adopt the Accounting and Auditing Organisation for Islamic Financial Institutions' standards, thus, the study will be inclusive of the listed commercial banks. It also presents banks that early adopted IFRS 9 where they are taken for comparative purposes in both periods.

For sample size, this research follows central limit theorem where the statement is that a large sample is usually defined as greater than 30 observations. Also, pooled data mitigates the small sample size problem which was exposed by the time series and cross-sectional analysis (Collis, 2009). For this, the research adopted a longitudinal methodology for each period.

5.9 Data Availability

The data are simply collected from the Bloomberg database. Bloomberg provides a variety of data, both historical and forecasted, such as the earnings and some sector- related data. For instance, CE is needed for analysts' forecasts where it is available through Bloomberg in addition to the follower's name. Also, it supports data related to different frequency levels such as annual (which the thesis collected), semi-annual, quarterly and daily. Interestingly, it has been found to be useful in presenting data related to a specified sector such as regulatory requirements of Basel ratios, the LD ratio and beta. Owing to the comprehensive and integrated level of study data, the data are collected from Bloomberg, annual reports for detailed disclosures such as fair values and derivative-related information, central banks' bureaus for rates structure, and the Institute for Economics and Peace's statistical publications.

For the value relevance objective, two observations were excluded in the pre period as their annual reports were unavailable (BLC in Lebanon and Arab Bank in Jordan). Additionally, three observations in 2011 were excluded in the post period because they early adopted only in 2012 in both Palestine (Al-Quds bank) and Bahrain (Al-Ahli United Bank). However, the third observation was omitted because its annual report was not available in 2015 in Lebanon (BLC bank). This resulted in 22 banks or 108 and 107 year-bank observations in pre and post periods respectively.

For CE, the research excluded all banks that do not have earnings forecasts in Bloomberg. This resulted in excluding three banks from the sample domiciled in Palestine (Palestinian Commercial Bank, Palestinian Investment Bank) and one in Jordan (Jordan Ahli Bank). The resulted number of observations are 90 and 88 during the pre and post periods respectively.

All amounts were returned and presented in millions of US dollars as requested by Bloomberg. However, hand-collected data from the annual reports were presented in different local currencies. For this information, figures are returned in US dollars according to the exchange rate at the end of each specified financial year from Bloomberg.

5.9.1 Bloomberg's Validity and Accuracy

To verify Bloomberg's accuracy, the data for Jordan were collected and compared with data published on Bloomberg's platform. The Jordanian data comprised annual reports for Jordanian commercial banks which were collected from their official websites, the Amman Stock Exchange data and the Central Bank of Jordan. This process evidenced the accuracy and the validity of the data available on Bloomberg. Additionally, the contact with Bloomberg's help desk was prompt with a quick response to update data related to Palestine. The added data for Palestine were consistent with the Palestine Exchange and the annual reports available on the banks' websites.

5.10 Summary

This chapter clarified the philosophical terms of the study in addition to the methodology for the study's objectives. The main objective is to compare the fair value relevance and economic consequences of financial instruments under IFRSs. The methodology represents comparative views between pre and post periods. The models were run longitudinally for five years in both pre (2006-2010) and post (2011-2015) periods. This evidence is empirical in its nature on the Middle East area.

For the fair value disclosures, this thesis follows the BSM which was controlled for many control variables that are found in the literature to be significant in explaining changes between market-to-book ratios. Control variables are classified into two groups: related and unrelated to financial instruments. Related items are interest rate IGAP, NPL and core deposits. Unrelated variables are notional amounts and OFFFP. Apart from the primary model, the results are performed using alternative models in addition to a univariate comparative test.

For the fair value recognition, the study followed the specification of Wang, Alam and Makar (2005) in adopting the Ohlson (1995) model. The model was controlled for similar control variables which are added for the fair value disclosures. For robustness purposes, the study controlled for financial health in addition to peace indicators in the study countries. Also, it used the BSM to satisfy the results' validity, following Fiechter and Novotny-Farkas (2016).

Under the CE, the thesis followed Daske et al. (2008) and Li (2010) where it adopted three methods to return the CE. Two of them are under RIVM: Gebhardt et al. (2001) and Claus & Thomas (2001) and the third under the EGM which was specified by Gode & Mohanram (2003).

The analysis incorporates two types of test: univariate and multivariate. The univariate test was included for examining changes over time pre and post or 2006-2015. The multivariate analysis (regression model) was modified by risk factors which impact the CE as found in the literature. These variables were the CAR, LD ratio, the market beta, variability of earnings, size, book-to-market ratio, financial leverage and the risk-free rate. Afterwards, robustness tests were modelled to ensure the results' validity. The test primarily substituted the risk premium instead of the CE.

Findings will be presented in two chapters. The first covers the fair value, whilst the second includes CE.

Chapter 6: Fair value Relevance Findings

6.1 Introduction

This chapter presents the findings of the first empirical objective, namely the value relevance of financial reporting using fair value. Furthermore, the chapter supports the value relevance literature with a comparative view pre and post IFRS 9. The value relevance results encompass two primary sections. The first presents the value relevance for historical cost items, whilst the second presents the fair value recognition.

The first key section discusses the value relevance of fair value disclosures for historical cost items. Historical cost items, before issuing the new classification and measurement stage under IFRS 9, were different (see methodological chapter for extra explanation). Consequently, the chapter presents results comparatively between the two periods. The second key section presents results for fair value recognition primarily for trading and hedging derivatives.

In particular, this chapter displays the results for each section separately. Therefore, it is structured as follows: First is the descriptive analysis and second is the validity for the data to be tested under the linear regression model. Next are the regression results for both pre and post periods. Afterwards, the chapter presents robustness tests for the primary model. The results start by discussing the primary regression model and end with alternative specifications for robustness purposes. In addition, comparative tests are established at the end of each section. For instance, the second section applies the pooled regression model using the same variables in addition to dummy variables. Finally comes the conclusion.

6.2   The Value Relevance of Fair-Value Disclosures

The following table individually displays hypotheses under the examination in this section according to Section (4.5) in building hypotheses.

Table 6-1: Hypotheses Examined under Disclosures Value Relevance

Number	Hypothesis	Method of examination
H0-2.1	Fair value disclosures of financial instruments under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost).	Multivariate analysis
H0-2.2	Fair value disclosures of financial instruments under post IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost).	Multivariate analysis
H0-2.3	There is no significant statistical difference in value relevance between the classification rules pre and post IFRS 9.	Univariate analysis (Comparative - Levene's test)
H0-2.4	Fair value disclosures of deposits under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator.	Multivariate analysis
H0-2.5	Fair value disclosures of deposits under post IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator	Multivariate analysis

6.2.1 Descriptive Statistics:

Table 6-2: Descriptive Statistics under IAS 39

Variable	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable: Equity Values				
MVE	8.00	14767.50	967.879	2174.145
BVE	13.30	7647.80	634.504	1404.761
DIFMBE	-492.50	7998.40	333.374	992.974
RMBE	.54	21.25	1.744	2.237
Book Values				
BVLOANS	5.18	22889.00	3104.838	5422.696
BVHTM	.00	3651.10	236.3689	540.534
BVA4S	.00	12883.00	943.165	1969.558
BVOAC	.00	16241.59	1400.230	2542.098
BVDEP	1467.4	37156.88	4656.209	7239.345
BVOD	.00	9849.00	625.397	1650.505
Independent Variables: Differences between Fair Values and Book Values				
DIFLOANS	-56.61	9414.93	133.747	959.383
DIFHTM	-71.40	15.60	-.6639	8.358
DIFA4S	-152.00	.00	-3.491	21.665
DIFOAC	.00	428.69	21.396	71.688
DIFDEP	-26.46	99.00	3.959	15.779
DIFOD	-157.00	21737.00	199.675	2091.979
Control Variables				
NONIAS39ASSETS	.00	19965.00	1194.905	3389.006
NONIAS39LI	1.1	18952.00	805.074	2859.233
IGAP	-1110.35	10567.91	1172.825	2361.033
NPL	.43	1911.90	121.970	272.204
CORE	.00	21254.58	2917.32	5094.574
NOTIONAL	-1.95	36406.00	2110.102	5919.849
OFFFP	.13	60321.40	2067.593	6941.128
Other Variables				
Total Assets	42.71	50600.60	5552.352	9969.772

Notes to table:

- All amounts are in millions of US dollars.

- The number of observations is 108 during the period.

- MVE= Market Value of Equity, BVE=Book Value of Equity, MBE= Ratio of Market to Book Value of Equity, DIFMBE= MVE-BVE, BVLOANS= Book Value of Loans, DIFLOANS= Difference between Fair and Book Values of Loans, BVHTM=Book Value of Held-to-Maturity Investments, DIFHTM= Difference between Fair and Book Values of Held-to-Maturity investments, BVOAC= Book Value of Other Amortised Cost Assets, DIFOAC= Difference between Fair and Book Values of Amortised Cost Assets, BVDEP=Book Value of Deposits, DIFDEP= Difference Between Fair and Book Values of Deposits, BVOD= Book Value of Other Debt, DIFOD= Difference between Fair and Book Values of Other Debt.

- Control variables are: NONIAS39AS= All assets not under the scope of IAS 32&39, NONIAS39LI= All liabilities not under the scope of IAS 32&39, IGAP= Interest Sensitive Assets (more than 1 year maturity) -Interest Sensitive Liabilities (more than 1-year maturity), NPL= Non-Performing Loans, CORE= Deposits without Maturity, Notional= Notional amount of Derivatives, OFFFP= Off Financial Position Items.

Table 6-3: Descriptive Statistics under IFRS 9

Variable	Minimum	Maximum	Mean	Std. Deviation
Dependent Variable: Equity Values				
MV	20.72	5913.20	885.536	1469.029
BV	21.92	7886.60	914.708	1667.879
DIFMBE	-2074.10	1961.00	-29.172	618.192
RMBE	.5	2.4	.979	.435
Book values				
BVACI	.98	14024.93	1818.457	2792.513
BVLOANS	.00	17305.68	2402.878	3832.134
BVOACI	.00	12331.02	1806.150	3113.982
BVDEP	125.08	27509.36	4948.610	7785.921
BVDEBT	.00	3459.27	352.027	733.834
Independent Variables: Differences between Fair Values and Book Values				
DIFVACI	-8286.02	357.40	-109.484	886.222
DIFLOANS	-386.31	110.47	2.026	41.752
DIFOACI	-134.94	460.89	7.977	53.612
DIFDEP	-57.29	98.29	6.636	22.499
DIFDEBT	-4.99	427.12	7.6921	52.18350
Control Variables				
NONIFRS9ASSETS	.00	569.00	105.435	135.234
NONIFRS9LIAB	.00	29027.30	1304.769	4477.423
IGAP	.00	672131.41	6863.156	64946.469
NPL	1.38	1932.78	254.327	458.777
CORE	89.25	14144.03	2525.655	3769.571
NOTIONAL	-1	33023	960.180	3782.092
OFFFPI	.00	60952.30	2297.567	7133.141
Other Variables				
Total Assets	168.8	49044.6	7830.8861	12135.35440

Notes to table:

- All amounts are in millions of US dollars.
- The number of observations is 107 during the period.
- The presented variables in the table are: MVE= Market Value of Equity, BVE=Book Value of Equity, MBE= Ratio of Market-to-Book Value of Equity, DIFMBE= MVE-MBE, BVACI=

139

Book Value of Amortised Cost Assets, DIFACI= Difference between Fair and Book Values for Amortised Cost Items, BVLOANS= Book Value of Loans, DIFLOANS= Difference between Fair and Book Values of Loans, BVOAC= Book Value of Other Amortised Cost Assets, DIFOAC= Difference between Fair and Book Values of other Amortised Cost Assets, BVDEP=Book Value of Deposits, DIFDEP= Difference between Fair and Book Values of Deposits, BVOD= Book Value of Debt, DIFOD= Difference between Fair and Book Values of Debt.

- Control variables are similar to the description as in Table (6-2).

Dependent Variable

The tables above report the descriptive statistics for the research variables under the IAS 39 period from 2006 to 2010 and under the IFRS 9 period from 2011 to 2015. On average, the MVE under IA 39 is almost one third more than that of the BVE, however, under IFRS 9 the market value is slightly under the book value. Fair values were higher than the book value under IAS 39 by $333million but with a slight minus difference under IFRS 9 of -$29 million. Notably, the standard deviation for the difference in market-book ratio (DIFMBE) relatively rocked with the minus mean in the second table. This suggests the interest rate and the net assets structure as a plausible reason. This study aims to explain whether or not the difference was significantly due to the requirement of fair value disclosures. The market-to-book value of equity ratio is 1.744% under IAS 39 but 97% under IFRS 9, which implies the partial use of the fair value for the net assets. This is because IFRSs in both stages require some financial instruments to be measured subsequently using the amortised cost instead of the fair value. Additionally, there are many internally generated assets by the bank that the bank is not allowed to recognise, including goodwill and items which represent the client's loyalty such as the core deposits.

Book value of the Financial Net Assets

The second group in the tables stands for the book value of the financial net assets that are measured using the amortised cost and whose fair value should be disclosed. Noteworthy, these items are different in the tables according to the new classification and measurement rules under IFRS 9.

Figures 6-1 and 6-2 individually describe the ratio of each financial instrument out of the average of the total assets in terms of their book value in both periods.

The ratio of the average of financial instruments book value and total assets under IAS 39
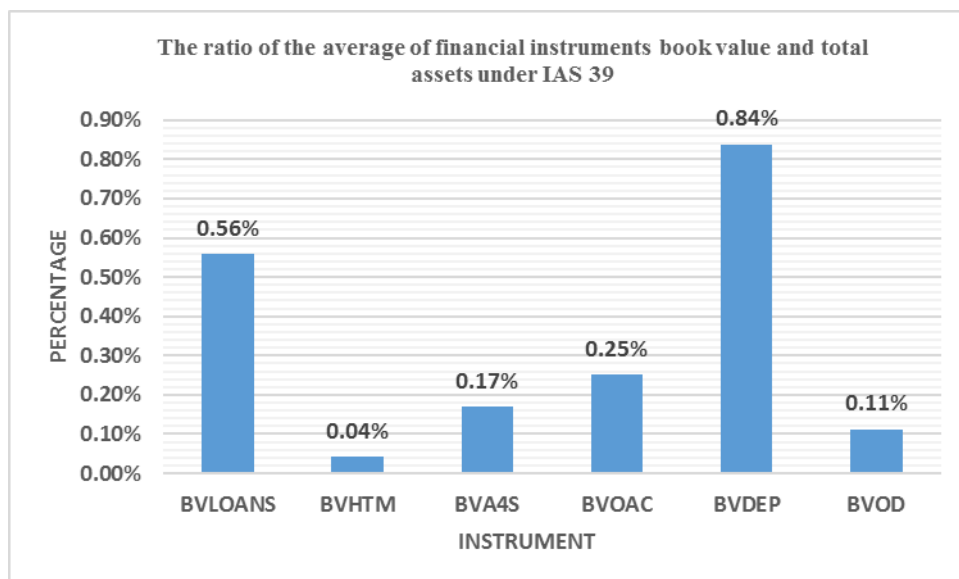
Figure 6-1: Amortised Cost Financial Instruments' Order under IAS 39

To begin with the IAS 39 period, on the assets side, loans (BVLOANS) represent the highest ratio, .559 of total assets, which represents their significant operational role in the commercial banks. This ratio is followed by other amortised cost items (BVOAC) and available-for-sale (BVA4S) ratios of 25% and 17% respectively. However, held-to-maturity instruments (BVHTM) were at the lowest level potentially meaning that banks do not favour classifying or recognising their financial instruments as held-to-maturity.

On the liabilities side, deposits (BVDEP) domiciled 83% of total assets, which implies the reliance of banks on deposits in their financing processes. Notably, the standard deviation for the deposits item is near the mean, which is around $7,239.345 million.

The ratio of the average of the financial instruments book values and total assets under IFRS 9
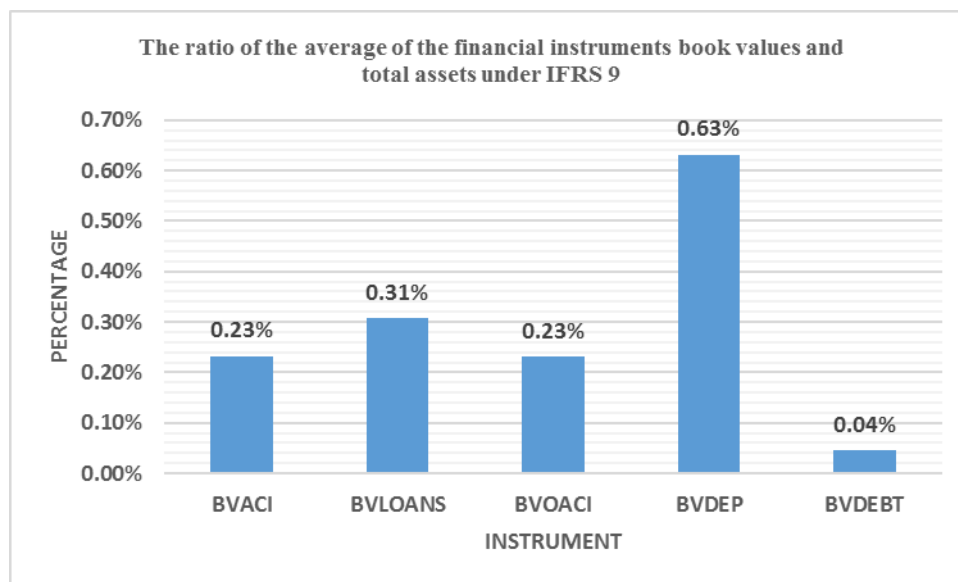
Figure 6-2: Amortised Cost Financial Instruments' Order under IFRS 9

Secondly, under IFRS 9, on the assets side, the instruments almost levelled off by similar percentages. Amortised cost items (BVACI) primarily consist of investments in bonds while the other amortised cost items (BVOACI) are the remainder from amortised cost items after deducting loans and items precisely classified under BVACI, such as deposits in banks and other financial institutions. Compared with the previous graph, there was a sharp change between labels using amortised cost for instant loans and held-to-maturity items. This study helps to investigate whether this trend significantly interprets the difference between market and book values.

The remaining liabilities' trend slumped for deposits (BVDEP) by 63% but only 4% for the other debt. This demonstrates that the sample from 2011 to 2015 relied on deposits to substantially finance their activities.

Furthermore, the following figures show the differences between the fair and book values that derived from each of the presented financial instruments in the previous figures.

142

Independent Variables
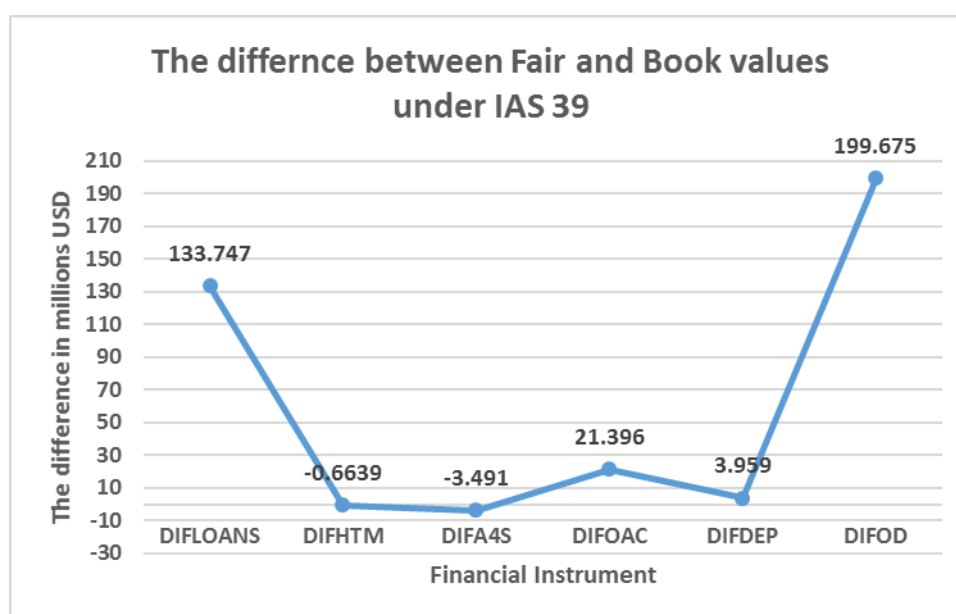
Figure 6-3: The Difference between Fair and Book Values under IAS 39

According to Figure 6-3, on the assets side, loans stayed with the highest positive difference by $133.747million followed by other amortised cost assets. Conversely, on average, held-to- maturity and available-for-sale items have a minus difference as their fair values are less than the book value. It is noteworthy that, according to the disclosures in annual reports, available-for-sale items are accounted for using the fair value, however, there are some amounts that cannot be measured by their fair value which implies measuring them by the amortised cost.

With respect to the liabilities, the difference works inversely with the previous figure. In spite of that, the deposits frame the highest financial source: they generate only $3.959 million. In a different way, other debt such as monetary collaterals form a small portion of liabilities but generate a high difference with high standard deviation in the same area ($199.675 and $2,091.979 million respectively).

Indeed, some items do not generate any material fair-to-book value differences; this might owe to one or two facts according to some banks' disclosures. Firstly, in the market, there were no incremental differences between the observed interest rates for similar financial

instruments. Secondly, there was only a short period for banks' and financing institutions' deposits which made the financial instruments less sensitive to the interest rates.
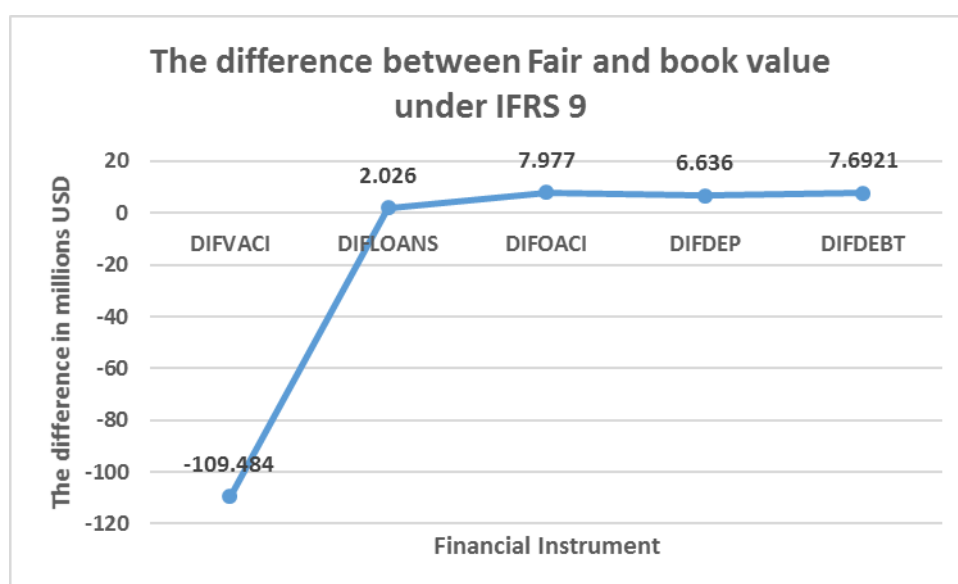
Figure 6-4: The Difference between Fair and Book Values under IFRS 9

Graph 6-4 outlines the fair book value difference for amortised cost assets under IFRS 9. It presents a dramatic difference of $109.484 million for instruments labelled as amortised cost items such as investment in public and private loans. The minus sign stands for less fair value owing to the decreasing interest trend, which is compatible with what was previously explained in the methodology chapter. The remaining net assets are roughly stabilised with a positive difference no larger than $8 million on average.

In short, the general trend is free from changes or fluctuation across the items under IFRS 9. This derives from the research's aim to support evidence that more fluctuation, or the steady difference trend, makes a significant change to a bank's market-book value.

Control Variables

Under IAS 39, for net assets not under the standard's scope (NONIAS39AS, NONIAS39LI), the descriptive statistics report a minimum value of $0 and $1.1million respectively with a relatively low standard deviation for both. This is compatible with the net assets not under the scope of IFRS 9 (NONIFRS9AS, NONIFRS9LI). This fact necessitates proper financial reporting for financial instruments where they resemble 100% of net assets in some cases. On average, non-financial assets' and liabilities' ratios out of total assets are 21% and 14% respectively. These percentages primarily consist of plants, property, equipment and goodwill. This could be attributed to the interest of commercial

banks to enter into many mergers and acquisitions, which causes their intangible assets to become very high.

With respect to the interest rate, sensitive net assets (IGAP) are almost on the positive side. Alternatively, the interest sensitive assets are always higher than interest sensitive liabilities where the mean equals $1,173 and $6,863 million in pre and post periods respectively. This supports the idea that commercial banks would have been exposed to losses only when the interest rates went down during the 2006-2015 period.

Non-performing loans (NPL) stood on average at just 2% and 3% out of total assets with lows of $272 and $459 million as a standard deviation for IAS39 and IFRS9 periods respectively. This indicates the strong and a solid prudential policy, which is followed the commercial banks in the Middle East during the research period where the sample faced relatively lower consequences during the financial crisis.

With regards to notional amounts, these represent the contractual amounts with percentages of 38% and 12% out of total assets. These percentages are derived from the contractual amounts of derivatives or the contractual cash flows that would be generated out of this contract. The percentages outline the significance that derivatives play, however, according to annual report readings, the majority of the banks do not heavily rely on derivatives to manage their risk because they manage risk by other methods such as net assets matching.

Notably, OFFFP also present relatively substantial percentages of 37% and 30% out of total assets under IAS 39 and IFRS 9 respectively.

Generally, the standard deviation for most variables is low as the deviation from the mean is less than 50%. Conversely, the standard deviations for the variables of differences between fair book values are high during the study period. For instance, under IAS 39, the mean of the fair and book value difference of other debt is just over $199 million and the maximum value is $21,737 million. This implies a high dispersion in the research sample and outliers. The existence of outliers is the most common problem, especially in Ordinary Least Squares (Wooldridge, 2016). However, dropping any of the study variables will cause a further decrease in the sample, which is already derived from a small population of the early adopters of IFRS 9. Avoiding any decrease will not affect the estimated coefficients; hence, the models were run without any outliers' action.

6.2.2 Results from the Primary Model (PRE)

This section reports the findings of the fair value disclosures during the period 2006-2010 where the financial instruments were reported under IAS 39. The results incorporated loans, held-to-maturity instruments, other amortised cost items, deposits and other debt. The following section presents the results from the primary model then discussing the results using alternative models.

Normality

Field (2013) stated that there is not a consensus about the normality definition. However, it stands among a compulsory test to fit the research model. Exceptionally, this study will follow the central limit theorem where the statement is that as the sample becomes large (usually defined as greater than 30 observations), the distribution would become normal. Chiefly, our sample ranged from between 108 and 107 observations in the pre and post period which is substantially higher than 30. For this, the remaining tests in this thesis will neglect the normality according to this theory.

Outliers

The outliers under this section are detected using the descriptive statistics in the SPSS option. The results show that the region of population accommodated the wide dispersion of variables' observations. However, it resulted in two observations of outliers. To guard the influence of these outliers on the results, the regression model was run with and without removing these two observations. The results show that there is no influence of these observations on the findings which is evidence that they are not extreme values. The validity of this decision is derived from the fact that there is no single firm rule for detecting the outliers, however, there is a variety of methods such as Q-Q plots, Grubbs test and Dixon Q test.

Multicollinearity

Multicollinearity is considered as one of the data validity tests to be analysed before running a multiple regression. This is owing to the fact that untrustworthy coefficients and the variance in the outcome variable that the model accounts for would existed in parallel with multicollinearity. This research has chosen collinearity diagnostics tests to obtain some statistics such as the Variance Inflation Factor (VIF) and tolerance, which enable the decision of the validity of our data in terms of its multicollinearity.

In terms of VIF, it enables decisions as to whether the variable is in a strong linear relationship with other predictors. The reciprocal of VIF (1/VIF) is the tolerance coefficient. Similarly, variance would be inflated when multicollinearity between the predictors and the outcome variable exists.

Table 6-4: Multicollinearity for Fair Value Disclosures Pre IFRS 9

Variable	Tolerance	VIF
DIFLOANS	.653	1.532
DIFA4S	.439	2.279
DIFHTM	.414	2.418
DIFOAC	.905	1.105
DIFDEP	.375	2.664
DIFOD	.294	3.403
NONIAS39ASSETS	.140	24.820
NONIAS39LI	.065	15.387
IGAP	.27	3.710
NPL	.173	5.782
CORE	.144	6.948
NOTIONAL	.182	5.492
OFFFP	.113	8.835
VIF average	6.49	
DURBIN-WATSON	2.003	
All variables are explained in table 6-2's footnotes in Section 6.2.1		

Field (2013) outlined some general guidelines to state whether the data has a multicollinearity problem. Similarly, Bowerman and O'Connell (1991) stated that the regression might be biased if the average of VIF is substantially greater than one. In addition, they stated that if the tolerance was lower than 10%, there would be a potential problem. According to these statements, the research data during the period of 2006 until 2010 did not face any serious multicollinearity problem.

Durbin Watson investigated the assumption that the model is tenable in terms of its independent errors (autocorrelation). According to Qasem and Abukhadijeh (2016), optimal values range between 1.5 and 2.5 which in place ensures the vacancy of the autocorrelation problem in the study model.

Regression Results

This research follows the American Psychological Association in reporting the regression model where non-essential information is skipped as follows (see the appendix for further details):

Table 6-5: Regression Results of Fair Value Disclosures Pre IFRS 9

Variables	Predicted sign	Coefficient	t-value	Sig.
Constant/intercept		118.278	1.213	.228
DIFLOANS	+	-.115	-1.355	.179
DIFA4S	+	.304	2.925	.004
DIFHTM	+	.379	3.540	.001
DIFOAC	+	.030	.416	.678
DIFDEP	-	.665	5.921	000
DIFOD	-	-.449	-3.537	.001
NONIAS39ASSETS	+	.279	.815	.417
NONIAS39LI	-	.274	1.015	.313
IGAP	-	-.453	-3.423	.001
NPL	-	-.015	-.091	.928
CORE	+	.577	3.184	.002
NOTIONAL	?	-.184	-1.139	.258
OFFFP	?	-.058	-.58	.778
R SQUARE		.560		
ADJUSTED R SQUARE		.499		
F-TEST MODEL		9.108		
Sig. F Change		.000		
All variables are explained in Table 6-2's footnotes in Section 6.2.1				

The table reports the regression results for the primary model during the reporting period under IAS 39 from 2006 to 2010. It contains two essential parts: the model summary plus analysis of variance (ANOVA) and its parameters. To begin with, the model summary illustrates how much variability in market-to-book value is accounted to the difference between the fair value disclosures and amortised costs. Adjusted R- square static in the table report that the model could interpret 49% of the market-to-book value difference. Carroll, Linsmeier and Petroni (2003) suggested that the remaining factors may rely on the intangible asset parts or managerial performance which are not financially reported. Adding to this point, Eccher, Ramesh and Thiagarajan (1996) suggested that the standard setters should think about goodwill as the most relevant part to explain the MBV. The difference between R-values (.499-.560=-.061) means that there is a simple variance if the

model were derived from all Middle Eastern commercial banks, even if they were not early adopters.

Secondly, ANOVA tests are represented by the Fisher test values. Simply, these statistics show whether the improvement due to model fitting is higher than model inaccuracy (residuals). In this respect, F-test equals 9.108 which is substantially greater than its table F-value. Additionally, sig. F-test is $< .05$ where this implies the significant ability for the model to interpret the market-to-book value. Briefly, the fair value disclosures of financial instruments under pre IFRS 9 are value relevant over their historical cost. Based on the statistical common rule, the primary alternative hypothesis would be accepted when the sig. of the constant $< .05$, so the results reject the following main null hypothesis against the alternative type:

H0: Fair value disclosures of financial instruments under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost).

This result is consistent with the majority of literature studies in financial and non-financial firms (Eccher, Ramesh and Thiagarajan, 1996; Barth, Beaver and Landsman, 1996; Simko, 1999). Conversely, this result was opposed only by Nelson (1996) where she claimed that fair value disclosures are not value relevant. Criticising the Nelson (1996)'s result holds the specification of her model. Indeed, she claimed that adding future profitability variables such as ROE would eliminate the errors of her peers. However, this faced high collinearity between ROE and the fair value of investment securities. In addition, the model did not consider some control variables which relate to unique institutional features for the banking industry. Overall, this suggests that fair value disclosures are relevant over their historical costs in developed and developing economies such as the USA and Middle East respectively. Furthermore, this implies the validity of cost of equity theory in our sample and the significant effect (the validity) of other theories on the anticipated economic benefits such as behavioural theory, counterfactual reasoning theory and cognitive costs theory.

Thirdly, the regression model provides a linear equation, which contains predictors or parameters. The last two columns on the right-hand side provide the individual contribution for each predictor (coefficients) and its significance enabling the acceptance or rejection of the study sub-hypothesis as to whether the fair value disclosures are value relevant under IAS 39 in the Middle Eastern commercial banks.

Equally, the results display an insignificant relationship between market-to-book value and the fair value disclosures for loans and advances in addition to other amortised cost items. This implies accepting the following null hypothesis against the alternative one:

H0: Fair value disclosures of loans and advances under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

H: Fair value disclosures of other amortised costs under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

This result is only consistent with two studies (Nelson, 1996; Eccher, Ramesh and Thiagarajan, 1996). There are many plausible explanations for this: firstly, from the descriptive analysis, in the Middle East, loans formed the incremental part of the banks' assets and obviously relied on deposits. This fact derives from the significant shifted role from loans to deposits in this type of operating bank. Secondly, the sample of this research (Middle East) with developing economies differs from those samples taken previously in developed countries by many different factors, such as the industrialisation level, macroeconomic factors and the role of the banking sector in addition to how the clients perceived the loans-deposits decisions. For example, Creane, et al. (2007) issued an IMF index to evaluate the development of the MENA's financial sector. They concluded that this sector has only reformed over the last three decades. This suggests that the investor will differently perceive the loans' fair value and other debt. Thirdly, they asserted a compatible statement by Ryan (1999) that fair value disclosure for low marketable and high maturity may lead to "greater incompleteness, noise and discretion". Lastly, but at the foremost, this study confirmed at least one reason for this, where it controlled the model by the difference between fair book values of deposits only for financially healthy banks where they domiciled in a peaceful environment.

Conversely, the results display a significant relationship between market-to-book value and the fair value disclosures for held-to-maturity, deposits and other debt. As a result, the following sub-null hypotheses would be rejected:

H0: Fair value disclosures of held-to-maturity investments under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

H0: Fair value disclosures of deposits under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

H0: Fair value disclosures of other debt under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

This result is consistent with the majority of previous studies (Eccher, Ramesh and Thiagarajan, 1996; Simko, 1999; Park, Park and Ro, 1999). Generally, under the pre IFRS 9 period, fair value disclosures for the liabilities as a financial source for the Middle Eastern banks are value relevant over their historical cost. However, this statement does not apply to all financial assets such as loans and other debt.

Accepting the results above, all significant relationships are compatible with their expected sign except for deposits. A plausible explanation for this is that the majority of the fair book value difference for deposits in the sample was in a positive sign except for BLOM bank in Lebanon. Higher fair value than the recognised historical one would encourage the investor and lead him to buy the shares at a higher price. Not to forget the upward trend for the market interest rates during this period which gave the decision privilege in deposits term.

With regards to the control variables, IGAP and CORE were found to be significant as well as consistent with their predicted signs (-, +) respectively. During this period, according to the descriptive statistics, the banks applied a high prudential policy, also confirmed by Creane, et al. (2007), which probably affected the impact of NPL. Similarly, low figures were assigned for notional amounts since banks reported their intentions to not enter the derivative market. With regards to OFFFP, the impact was insignificant where it asserted results by the majority.

Additional Result

This part pertains to the peace indicator and the financial health of banks. The following table displays the relevance of fair value disclosures pre IFRS 9 over their historical cost considering the peace indicator and financial health of the bank.

Table 6-6: Regression Results for the Relevance of Fair Value Disclosures Pre IFRS 9 Considering the Peace Indicator and Financial Health of the Bank

Variables	Predicted sign	Coefficient	t-value	Sig.	Tolerance	VIF
Constant/intercept		50.547	.677	.500		
DIFLOANS	+	-.139	-2.082	.040	.634	1.577
DIFA4S	+	11.848	3.313	.001	.434	2.306
DIFHTM	+	29.447	2.917	.004	.366	2.734
DIFOAC	+	.019	.025	.980	.903	1.108
DIFDEP	-	17.648	2.903	.005	.283	3.531
DIFDEP*CAR*PEACE	+	88.063	8.837	.000	.611	1.638
DIFOD	-	-.141	-3.194	.002	.307	3.260
NONIAS39ASSETS	+	.076	1.016	.312	.040	24.924
NONIAS39LI	-	.048	.702	.484	.067	14.851
IGAP	-	-.121	-2.799	.006	.252	3.966
NPL	-	.580	1.267	.208	.168	5.940
CORE	+	.136	4.804	.000	.127	7.885
NOTIONAL	?	-.058	-2.700	.008	.163	6.139
OFFFP	?	-.034	-1.563	.121	.115	8.667
R SQUARE	.759					
ADJUSTED R SQUARE	.722					
F-TEST MODEL	20.515					
Sig. F Change	.000					
Durbin-Watson	2.031					
VIF-Average	6.323					
All variables are explained in Table 6-2's footnotes in Section 6.2.1						

The table contains three essential parts: the collinearity and autocorrelation statistics, the model summary, and ANOVA and its parameters. Firstly, according to the previously explained collinearity statements by Field (2013), the data for this case during the period of

2006 until 2010 do not face any serious multicollinearity problem. Additionally, relying on a statement by Qasem and Abukhadijeh (2016), Durbin-Watson ensures the vacancy of the autocorrelation problem in this case's model.

Secondly, adjusted R-square static in the table reports that the model could interpret 72.2% of the market-to-book value. Notably, compared with the previous case, adding the interaction variable (DIFDEP*CAR*PEACE) considerably increases the interpretation power of the study model by .722-.499. The difference between the R-values (.759-.722=-.037) means that there is a lower variance if the model is derived from all Middle Eastern commercial banks, even if they were not early adopters. As the Fisher test values imply, the improvement due to model fitting is higher than model inaccuracy (residuals). In this respect, the F-test equals 20.515, which is substantially greater than the previous model by 20.515-9.108.

Finally, the table sets a zero value for the significant level for the interaction variable (DIFDEP*CAR*PEACE) which is less than .05. Consequently, the results reject the following null hypothesis:

H0: Fair value disclosures of deposits under pre IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator.

These results contribute to the literature by many lens and settings to justify the relevance of some fair value disclosures. Across the Middle East, peace and financial health play a role in the relationship between the market-book values for deposits and market-book value of equity.

As witnessed and according to the significance level, the results for the sub-hypothesis are similar to the previous case for all financial instruments except for loans.
This means that peace and financial health affect the depositors' decisions where the commercial banks rely heavily on them. Alternatively, peace and financial health provide indicative references for the investors to value the firms. This fact is in agreement with many studies in literature (Barth, Beaver and Landsman, 1996; Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996). Equally, peace and financial health of the banks strengthen the procyclicality of both deposits and loans. For instance, on average, the book value of deposits formed 84% of the total assets in the Middle Eastern commercial banks

during 2006-2010. Owing to this fact, the fair value disclosures for loans over their historical cost is relevant to the investors' decisions.

The following table summarises the results for the value relevance of fair value disclosures over their historical cost under pre IFRS 9 standards in the Middle Eastern commercial banks, which early adopted the IFRS 9 later in 2011.

Table 6-7: Results Summary of Pre IFRS 9 Period

Variables	Result
DIFLOANS	Value relevant only for banks with financial health and domiciled in a peaceful country
DIFA4S	Value-relevant
DIFHTM	Value-relevant
DIFOAC	Non-relevant
DIFDEP	Value-relevant
DIFOD	Value-relevant
All variables are explained in Table 6-2's footnotes in Section 6.2.1	

Robustness Tests:

This part checks the robustness of the results using alternative models. The justification for this part is that the confidence and validity concern the results' consistency under different specifications.

(A) The first test separates the dependent variable, the difference of market-to-book value of equity. Afterwards, the BVE is shifted onto the independent variable's side. According to the results in appendices (2) and (3), interestingly, the model can interpret 97.7% from the variations in the MVE with high Fisher value and validity. Additionally, the results are consistent with the analysis in both previous sections except for loans, only when adding the interaction term (DIFDEP*CAR*PEACE), and deposits in all cases. For instance, loans turned out to be significant after the interaction term such as in Section 3.1.2. That is to say, the DIFDEP significantly interpret MBV. However, the DIFDEP do not significantly explain variations in MVE in the case of either adding the interaction term or not. A plausible explanation for this is that as deposits are primarily recognised and subsequently measured using the historical cost method, it only affects the BVE but not the MVE. Under this model, the BVE is transferred as an independent variable where it diminishes the difference effect of 83% of total assets measured by historical cost.

Therefore, the absence of a significant impact for deposits gives the significance impact for loans.

The second robustness test controls for the primary model to the size of the commercial banks. The table in Appendix (4) presents the results for this model. The model is described by higher interpretation power compared with the primary model's higher adjusted R-square and F-value .549 and 10.139 respectively. The results were consistent with the primary model except for held-to-maturity items. A possible explanation could be derived from the descriptive statistics: this item, on average, forms only 4% of the total assets which implies the trivial difference between the fair and the book value as a result.

6.2.3 Results from the Primary Model (Post)

Outliers

The outliers under this section are detected using the descriptive statistics in the SPSS option. The results show that the region of population accommodated the wide dispersion of variables' observations under IFRS 9's early adoption period. The validity of this method is derived from the fact that there is no single firm rule for detecting the outliers, however, there is a variety of methods such as Q-Q plots, Grubbs test and Dixon Q test.

Multicollinearity

Table 6-8: Multicollinearity for Fair Value Disclosure Relevance Post IFRS 9

Variable	Tolerance	VIF
DIFACI	.460	2.175
DIFLOANS	.871	1.148
DIFOACI	.434	2.307
DIFDEP	.261	3.836
DIFDEBT	.484	2.067
NONIFRS9ASSETS	.100	10.054
NONIFRS9LI	.594	1.683
IGAP	.725	1.379
NPL	.374	2.673
CORE	.165	6.063
NOTIONAL	.974	1.027
OFFFP	.343	2.915

VIF average	3.11		
DURBIN-WATSON	1.847		
All variables are explained in Table 6-3's footnotes in Section 6.2.1			

According to the statements discussed in the multicollinearity section, the VIF average is not substantially greater than one or, alternatively, each VIF does not exceed 10. The tolerant statistic did not become less than 10%. As a result, the research variables during the period 2011 to 2015 do not face any multicollinearity. Based on the rule stated by Qasem and Abukhadijeh (2016), there is no autocorrelation problem in the study model.

Regression Results under IFRS 9

Table 6-9: Regression Results for the Fair Value Disclosure Relevance under IFRS 9

Variables	Predicted sign	Coefficient	t-value	Sig.
Constant/intercept		-5.309	-.094	.925
DIFACI	+	-.228	-2.461	.016
DIFLOANS	+	-.005	-.069	.945
DIFOACI	+	-.576	-6.031	.000
DIFDEP	-	-.799	-6.487	.000
DIFDEBT	-	-.197	-2.177	.032
NONIAS39ASSETS	+	.036	.179	.858
NONIAS39LI	-	.026	.314	.754
IGAP	-	.022	.298	.767
NPL	-	-.089	-.862	.391
CORE	+	.546	3.525	.001
NOTIONAL	?	-.022	-.350	.727
OFFFP	?	-.195	-1.814	.073
R SQUARE	.632			
ADJUSTED R SQUARE	.585			
F-TEST MODEL	13.321			
Sig. F Change	.000			
All variables are explained in Table 6-3's footnotes in Section 6.2.1				

Table (6-9) reports the regression results for the primary model during the reporting period under IFRS 9 from 2011 to 2015. The table contains two essential parts: the model summary plus ANOVA and its parameters. To begin with, the model summary illustrates how much variability in market-to-book value is accounted to fair value disclosures for amortised cost financial instruments. The adjusted R-square static in the table reports that the model could interpret 59% of the market-to-book value. The difference between R-

values indicated the results' variance if the model were derived from the whole population. The difference is trivial (.585-.632=.047) which indicates a robust coverage from the study sample. Comparatively, with the pre period, the model is stronger under IFRS 9.

Secondly, F-test equals 13.321 which is substantially greater than its table F-value. Additionally, sig. F-test is < .05 where this implies the significant ability for the model to interpret the market-to-book value. Briefly, the results support two statements. Firstly, fair value disclosures of financial instruments under the early adoption of IFRS 9 are value relevant over their historical cost. Based on the statistical common rule, the primary alternative hypothesis would be accepted when the sig. of the constant < .05, so the results reject the following null hypothesis against the alternative type:

H0: Fair value disclosures of financial instruments under IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost).

Notably, fair value disclosures under IFRS 9 have a stronger ability to affect the investors' decisions compared with the pre period. Interestingly, back to figures (6-3) and (6-4), the difference between fair book value pre and post IFRS 9 results confirms that the less fluctuations in these differences, the more relevance exists. Overall, this suggests that fair value disclosures are relevant over their historical costs in developed and developing economies such as the USA and Middle East respectively, even under IFRS 9. Furthermore, this implies more validity of the cost of equity theory in our sample under IFRS 9 compared with the previous standards set. Additionally, it implies a higher (compared with the previous standards set) significant effect (the validity) of other theories on the anticipated economic benefits such as behavioural theory, counterfactual reasoning theory and cognitive costs theory.

Thirdly, the last two columns on the right-hand side enable the acceptance or rejection of the study sub-hypotheses with regards to whether the fair value disclosures are value relevant over their historical cost under IFRS 9 in the Middle Eastern commercial banks. Consequently, the results accept the following null hypothesis against the alternative type:

H0: Fair value disclosures of loans and advances under IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

However, the results display a significant relationship between market-to-book value and the fair value disclosures for amortised cost items, other amortised cost items, deposits and other debt. As a result, the following sub-null hypotheses would be rejected:

H0: Fair value disclosures of amortised cost items under IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

H0: Fair value disclosures of other amortised cost items under IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

H0: Fair value disclosures of deposits under IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

H0: Fair value disclosures of other debt under IFRS 9 standards are not significantly value relevant over their recognised amortised cost.

Accepting the results above, all significant relationships are compatible with their expected sign except on the assets side. The explanation for this that the majority of the fair book value difference for assets in the sample was in the minus sign. This means that the fair value was lower than the book value of the assets, which affects the investor's decision negatively. Similar clarifications to the pre IFRS 9 results apply in the post period, especially for loans. The results were compatible with the studies' majority (Barth, Beaver and Landsman, 1996; Eccher, Ramesh and Thiagarajan, 1996; Simko, 1999), however, it is not compatible with Nelson (1996). This is derived from the fact that most of the studies controlled for variables that are controlled under this study such as the loan quality (Eccher et al., 1996) in addition to interest rate sensitive assets and NPL (Barth et al., 1996). Simko (1999), similarly to this study, controlled for all mentioned variables; also, he included only firms with assets greater than 150 million. With regards to the control variables, CORE was significant as well, as it was found to be consistent with its predicted positive sign.

6.2.4 Additional Result

This part pertains to the peace indicator and financial health of the banks. The following table displays the relevance of fair value disclosures over their historical costs under IFRS 9 considering the peace indicator and financial health of the bank.

Table 6-10: The Relevance of Fair Value Disclosures over their Historical Costs under IFRS 9 Considering the Peace Indicator and Financial Health of the Bank

Variables	Predicted sign	Coefficient	t-value	Sig.	Tolerance	VIF
Constant/intercept		-7.983	-.141	.889		
DIFACI	+	-.159	-2.447	.016	.460	2.175
DIFLOANS	+	-.086	-.086	.932	.869	1.150
DIFOACI	+	-6.655	-6.013	.000	.433	2.308
DIFDEP	-	-22.040	-6.471	.000	.260	3.848
DEPSCARPEACE	?	17.385	.417	.677	.979	1.022
DIFDEBT	-	-2.325	-2.161	.033	.484	2.068
NONIAS39ASSETS	+	.178	.194	.847	.099	10.068
NONIAS39LI	-	.004	.311	.756	.594	1.683
IGAP	-	.000	.300	.765	.725	1.379
NPL	-	-.120	-.858	.393	.374	2.673
CORE	+	.090	3.506	.001	.165	6.063
NOTIONAL	?	-.004	-.390	.697	.963	1.038
OFFFP	?	-.017	-1.795	.076	.343	2.917
R SQUARE	.633					
ADJUSTED R SQUARE	.581					
F-TEST MODEL	12.200					
Sig. F Change	.000					
VIF average	2.953					
DURBIN-WATSON	1.871					
All variables are explained in Table 6-3's footnotes in Section 6.2.1						

The table contains three essential parts: the collinearity and autocorrelation statistics, the model summary and its parameters. Firstly, according to the previous explained collinearity statements by Field (2013) and Bowerman and O'Connell (1991), the data for this case during the period of 2011 until 2015 does not face any serious multicollinearity problem. Additionally, relying on a statement by Qasem and Abukhadijeh (2016), Durbin-Watson ensures the vacancy of the autocorrelation problem in this case's model.

Secondly, adjusted R-square static in the table reports that the model could interpret 58% of the market-to-book value. Notably, compared with the previous case, adding the interaction variable (DIFDEP*CAR*PEACE) has no change on the model's power. However, the model's levels are similar to the interpretation power. Additionally, there is no difference in R-values which means that the model would still report a simple variance if the model were derived from all Middle Eastern commercial banks, even if they were not early adopters. The Fisher test values imply improvement as model fitting is higher than model inaccuracy (residuals). In this respect, the F-test equals 12.200, which is still substantially greater than its table F-value. Additionally, sig. F-test is < .05 where this implies the significant ability for the model to interpret the market-to-book value. Briefly, the fair value disclosures of financial instruments under the early adoption of IFRS 9 are value relevant over their historical cost after considering for the interaction term (DIFDEP*CAR*PEACE). Based on the statistical common rule, the primary null hypothesis would be accepted when the sig. of the constant < .05. Consequently, the results reject the following null hypothesis:

H0: the fair value disclosures of financial instruments under the early adoption of IFRS 9 are not value relevant over their historical cost after considering for the interaction term (DIFDEP*CAR*PEACE).

Finally, the table sets a value of .677 for the significance level for the interaction variable (DIFDEP*CAR*PEACE) which is more than .05. That suggests that investors don't receive any inferences out of the peace and the financial health indicators to value the firms. This result contradicts with the majority of studies only under IFRS 9 (Barth, Beaver and Landsman, 1996; Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996). Consequently, the results reject the following null hypothesis:

H0: Fair value disclosures of deposits under IFRS 9 standards are not significantly value relevant over their recognised amortised cost (historical cost) for healthy banks domiciled in a higher peace indicator.

A plausible explanation for this result is that IFRS 9 sets a comprehensive classification and measurement stage that governs and deals with more holistic circumstances for companies, such as different levels of financial health and peace. The sample did not encounter wars during the period and also witnessed improvements in Basel's requirements.

6.2.5 Robustness Tests:

This part checks the robustness of the results under IFRS 9 using alternative models. The justification for this part is that the confidence and validity concern the results' consistency under different specifications. Similar concepts are used to compare the results pre and post IFRS 9.

(A) The first test separates the dependent variable, the difference of market-to-book of equity. Afterwards, the BVE would be shifted to the independent side of the model. According to the results in appendices (6) and (7), interestingly, the model can interpret 93.2% from the variations in the MVE with high Fisher value and validity. Additionally, the results are consistent with the analysis in previous sections (under IFRS 9) except for debt in both cases of adding or leaving out the interaction term (DIFDEP*CAR*PEACE). That is to say, DIFDEBT significantly interprets MBV. However, DIFDEBT do not significantly explain variations in MVE, either in the case of adding or leaving out the interaction term. There are two plausible explanations for this: firstly, as debt is primarily recognised and subsequently measured using the historical cost method, it affects only the BVE but not the MVE. Secondly, on average, the book value of debt formed just .04 of the total assets during 2011-2015, which indicates an insignificant effect.

(B) The second robustness test controls for the primary model to the size of the commercial banks. The table in Appendix (8) presents the results for this model. The model is described by higher interpretation power compared with the primary model's higher adjusted R-square and F-value .597, 12.972 respectively. The results were consistent with the primary model except for debt. A possible explanation could be derived from the descriptive statistics: this item, on average, forms only 4% of the total assets which implies the trivial difference between the fair and the book value as a result.

6.2.6 Comparative Test

This section provides statistical comparative evidence of value relevance between two independent samples. The first and second samples are the commercial banks under the classification rules of IAS 39 and IFRS 9 respectively. Alternatively, there are significant differences in market-to-book value of equity due to a change in the classification and measurement rules after IFRS 9's early adoption. For this purpose, the study used an independent sample T-test which provides the results displayed in the table below.

Table 6-11: Levene's Comparative Test Fair Value Disclosures

	Number of observation	Mean	Levene's Test F				3.239	
			Levene's Test Sig.				.079	
PRE	107	-29.172	Equal variances assumed	Mean Difference	T	Df	Sig. (2-tailed)	
POST	108	333.374		-362.546	-3.210	213	.002	

According to Field (2013, P. 374), Levene's test will only deals with samples whith no significant change in their means. Consequently, Levene's Sig.079, which is > .05, implies the conformation of the homogeneity assumption. Establishing this assumption is followed by the decision rule of the sig. of equal variance assumed. The sig. equals .002 (where its <.05) confirms that there is a significant change in value relevance according to classification and measurement rules under IFRS 9. Accepting these results, the following null hypothesis would be rejected and the alternative accepted.

H: There is no significant statistical differences in value relevance between the classification rules pre and post IFRS 9

6.3 The Relevance of Derivatives' Fair Value Recognition

This part represents the findings for fair value recognition for derivatives. The first key section pertains to descriptive statistics. The second key section pertains to regression results for both cross-sectional (pre and post) and its robustness tests. Finally, regression results for the pooled data set include the effect of early adopting IFRS 9. The following table displays the individual hypotheses under examination in this section:

Table 6-12: Hypotheses Examined under the Relevance of Derivatives' Fair Value Recognition

Number	Hypothesis	Method of examination
H0-1	Fair value recognitions are not significantly value relevant by early adopting IFRS 9	Multivariate analysis (Comparative test)
H0-1.1	Fair value recognitions of derivatives under pre IFRS 9 standards are not value relevant	Multivariate analysis
H0-1.2	Fair value recognitions of derivatives under IFRS 9 are not value relevant	Multivariate analysis
H0-1.3	Fair value recognitions of derivatives under pre IFRS 9 standards are not significantly value relevant over their recognised amortised costs (notional amounts).	Multivariate analysis
H0-1.4	Fair value recognitions of derivatives under IFRS 9 standard are not significantly value relevant over their recognised amortised costs (notional amounts).	Multivariate analysis

6.3.1 Descriptive Statistics:

Table 6-13: Descriptive Statistics of Fair Value Recognition Variables

	Minimum		Maximum		Mean		Std. Deviation	
	Under IAS 39	Under IFRS 9	Under IAS 39	Under IFRS 9	Under IAS 39	Under IFRS 9	Under IAS 39	Under IFRS 9
DIFMBE	-492.5	-2074.10	7998.4	1961	374.31	-29.17	1075.94	618.19
BVE	13.3	21.92	7647.8	7886.6	676.04	914.71	1478.53	1667.88
Net Interest Income	-41.24	4.4	1090.97	1096.57	131.96	181.49	221.01	262.22
Trading Derivatives Income	-7928.99	-54317.32	26.01	49.79	-71.45	-507.12	756.07	5251.11
Hedging Derivatives Income	0	-210.46	233.55	50.74	6.35	-4.60	27.68	26.63
FITIS	-35	-52	87	158	4.1872	11.76	16.83	30.53
Net Income after tax	-5.95	-1.88	14634.34	579.37	211.52	88.69	1401.46	138.56

Notes to table:

- All amounts are in millions of US dollars.
- The number of observations are 107 and 110 during IAS 39 and IFRS 9 respectively.
- DIFMVE= Difference between Market-Book values, BVE= Book value of Equity, Net Interest Income= Interest revenues - Interest expenses, FITIS=Financial Instruments through Income Statement.
- DIFMBE and BVE are prescribed previously.

The table above reports the descriptive statistics for the fair value recognition variables. The information leads to an image of the contribution of each variable in generating the income. The following graphs simplify the significance of each component.
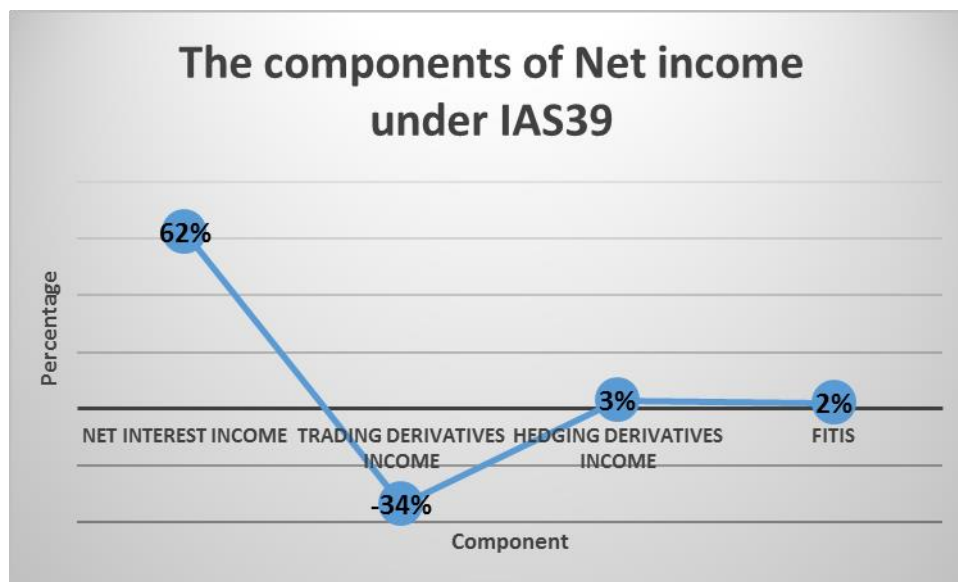
Figure 6-5: Net Income Components under IAS 39

According to the figure above, the commercial banks in the sample rely on the net interest income by 62% to generate their income. This is followed by a negative effect of -34% from the trading derivatives. However, hedging derivatives and financial instruments through the income statement were not more than 3% out of the net income.
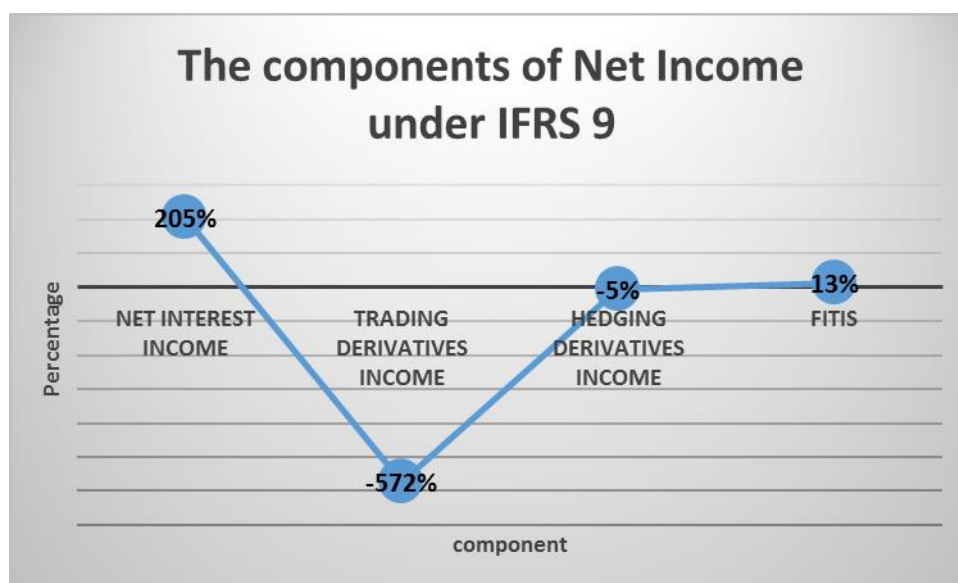
Figure 6-6: Net Income Components under IFRS 9

The line chart above displays a stronger percentage from the banks' core business deposit-loan activity by 205% out of the net income compared with the IAS 39 period. This derives an image of active markets with reciprocal money transactions. However, the trading derivatives reported a dramatic negative effect on the net income during this period and the standard deviation was in parallel with the mean percentage. Similarly, hedging derivatives registered a slight negative effect of just over -5%. Finally, financial Instruments through

the income contributed by 13% in generating net income, which stood as a significant contribution.

In brief, the general comparative attitude confirms higher activities in the market. Furthermore, the trend of the interest rate during IFRS 9 depicted a declined direction, which supports the existence of the interest rate as a control variable as well.

6.3.2 Results from the Primary Model

Outliers

The outliers under this section are detected using the descriptive statistics in the SPSS option. Therefore, the population region accommodated the wide dispersion of variables' observations. However, it resulted in three observations of outliers only in the pre period. Field (2013) stated that there is no single firm rule to detect outliers. Indeed, outliers could be detected using methods such as Q-Q plots, Grubbs test and Dixon Q test. Consequently, the regression model was run with and without removing these two observations. The results displayed that there is no influence for these observations on the findings which evidences that they are not extreme values.

Multicollinearity

As mentioned formerly, multicollinearity is considered as one of the data validity tests to be analysed before running a multiple regression.

In terms of VIF, it enables decisions as to whether the variable is in a strong linear relationship with other predictors. The reciprocal of VIF (1/VIF) is the tolerance coefficient. Similarly, variance would be inflated when multicollinearity between the predictors and the outcome variable exists.

Table 6-14: Multicollinearity for the Relevance of Fair Value Recognition

Variable	Tolerance		VIF	
	Under IAS 39	Under IFRS 9	Under IAS 39	Under IFRS 9
BVE	.022	.029	44.647	34.837
Net Interest Income	.029	.014	34.004	73.415
Trading Derivatives Income	.932	.717	1.073	1.394
Hedging Derivatives Income	.580	.620	1.723	1.614
FITIS	.582	.915	1.719	1.093
IGAP	.241	.688	4.146	1.453
NPL	.206	.462	4.863	2.164
CORE	.157	.061	6.350	16.298
NOTIONAL	.164	.969	6.096	1.032
OFFFP	.173	.244	5.779	4.100
	Under IAS 39		Under IFRS 9	
VIF average	11.04		13.74	
DURBIN-WATSON	1.822		1.553	
All variables are explained in Table 6-13's footnotes in Section 6.3.1				

According to the guidelines prescribed previously by Field (2013), the variables do not face any multicollinearity problems except for the BVE and net interest income. However, the study will run the model, ignoring the multicollinearity problem relying on two points. Firstly, it is not clear when the multicollinearity causes a problem in the dataset. The solution at the first stage is to drop the correlated variables. On the other hand, omitting any variable from the model misspecification leads to bias (Wooldridge, 2006). Secondly, Field (2013) stated that if there were two perfectly correlated predictors, then the values of β would be interchangeable. Under this assumption, the study will not rely on β estimations for BVE and net interest income.

With respect to Durbin Watson, Qasem and Abukhadijeh (2016), both models have optimal values as they ranged between 1.5 and 2.5 which in place ensured the vacancy of the autocorrelation problem in the models.

Regression Results

This research follows the American Psychological Association in reporting the regression model as follows:

Table 6-15: Regression Results for the Relevance of Fair Value Recognition

Variables	Predicted sign		Coefficient		t-value		Sig.	
	PRE	POST	PRE	POST	PRE	POST	PRE	POST
Constant/intercept	?	?	-7.913	-49.521	-.129	-867	.898	.388
BVE	+	+	1.595	.061	7.819	.439	.000	.662
Net Interest Income	+	+	4.874	7.695	4.092	6.011	.000	.000
Trading Derivatives Income (TDI)	+	+	-.057	.012	-.924	1.392	.358	.167
Hedging Derivatives Income (HDI)	+	+	-6.930	-1.391	-3.238	-.746	.002	.458
FITIS	-	-	2.532	-2.152	.720	-1.606	.473	.112
IGAP	-	-	-.275	-.001	-7.014	-1.438	.000	.154
NPL	+	+	-1.602	-.103	-4.375	-.815	.000	.417
CORE	-	-	.020	-.166	.941	-3.814	.349	.000
NOTIONAL	-	-	-.015	.001	-.782	.095	.436	.924
OFFFP	-	-	-.066	-.021	-4.199	-1.923	.000	.058
			PRE			POST		
R SQUARE			.964			.934		
ADJUSTED R SQUARE			.960			.927		
F-TEST MODEL			260.880			131.491		
Sig. F Change			.000			.000		
All variables are explained in Table 6-13's footnotes in Section 6.3.1								

Table (6-14) reports the regression results for the value relevance for the value recognition primary model during both pre and post periods. The table contains two essential parts: the model summary plus ANOVA and its parameters. To begin with, the model's summary illustrates how much variability in market value is accounted to fair value recognition for derivatives. Adjusted R-square static in the table reports that the model could interpret 81% of the market value. The difference between R-values (.960-.964=-.004) (.927-.934=-.007) for pre and post periods respectively means that there would be a simple variance if the model were derived from all Middle Eastern commercial banks, even if they were not early adopters.

Secondly, ANOVA tests are represented by the Fisher test values. Simply, these statistics show whether the improvement due to model fitting is higher than model inaccuracy

(residuals). In this respect, the F-test equals 260.880 and 131.491 for pre and post periods respectively which is substantially greater than its tabulated value. Additionally, sig. F-test is < .05 where this implies the significant ability for the model to interpret the market value. Briefly, the model has a solid ability to interpret the relationship between market-to-book value and derivatives' fair value recognition. Under both pre and post periods, this implies the validity of the cost of equity theory under the Ohlson (1995) model in addition to theories that affect the anticipated firm's economic benefits, such as behavioural theory, counterfactual reasoning theory and cognitive costs theory.

Thirdly, the regression models provide a linear equation, which contains predictors or parameters. The last two columns on the right-hand side provide the individual contribution (slope) for each predictor (coefficients) and its significance, enabling the acceptance or rejection of the study hypothesis as to whether the derivatives' fair value recognition is value relevant in Middle Eastern commercial banks in pre and post periods individually.

Based on the statistical common rule, the alternative hypothesis would be accepted when the sig. of the parameter < .05. The following are the results of testing derivatives' fair value recognition:

H0: Fair value recognitions of derivatives under IAS39 are not value relevant.

H0: Fair value recognitions of derivatives under IAS39 are not value relevant over their amortised cost.

The first hypothesis is accepted in terms of the trading derivatives as the sig. of this parameter is insignificant where it equals .358. However, this hypothesis is rejected in the hedging derivatives' case, as the significant value equals .002. This implies that the hedging derivatives' fair value recognition significantly contributes to interpreting the market value of the bank.

Furthermore, the hypothesis, which tests whether the fair value recognitions of derivatives under the pre IFRS 9 standards set are not significantly value relevant over their recognised amortised costs (notional amounts), is accepted. This rejection is owing to the fact that the coefficient sig. for NOTIONAL=.436 and the TDI and HDI are not significant concurrently. According to the statistical rule and under post IFRS 9, the results pertains to the following hypothesis:

H0: Fair value recognitions of derivatives under IFRS 9 are not value relevant.

H0: Fair value recognitions of derivatives under IFRS 9 are not value relevant over their amortised cost.

This hypothesis is accepted for both trading and hedging derivatives as the sig. of these parameters is insignificant where it equals .167 and .458. This leads to conclude that the derivatives' fair value recognition under IFRS 9 does not significantly regard the investors' decisions to value the bank's price.

Furthermore, the second hypothesis is rejected. This rejection is owing to the fact that the coefficient sig. for NOTIONAL=.924 and the TDI and HDI are not significant concurrently. However, notably, the significant level of the NOTIONAL amounts is not affecting the investor's decision. This presupposes that under pre and post IFRS 9, investors are not concerned with the volume of money that is controlled by entering derivatives' transactions in this sample. This result also supports results (Riffe, 1993; Seow and Tam, 2002) where they stated that derivatives' related fair value disclosures provide useful information, however, the contractual amounts do not. Conversely, the result opposes Wang, Alam and Makar (2005), who stated the significance of notional amounts. However, they classified them according to their holding purposes into trading and hedging. This gives another opportunity and suggestion to apply further.

In brief, the fair value recognition of derivatives does not display any value added to the banks. For instance, it decreases the market value if it is positive and vice versa. Conversely, the notional amounts inform about the magnitude of involvement rather than the benefit of entering derivatives' activity. Derivatives' fair value recognition was relevant to the investor's decision only for hedging activity under IAS 39. This result is consistent with studies under SFAS 107 (Simko, 1999) and under SFAS 133 (Ahmed, Takeda and Thomas, 1999; Seow and Tam, 2002). This fact has been changed by applying the new rules under IFRS9 where investors are not concerned by derivatives' fair values. This finding is consistent with the majority of earlier studies under SFAS 107 (Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996; Barth, Beaver and Landsman, 1996). Indeed, Ahmed, Takeda and Thomas (1999) could discuss this conflict. They found a significant association between derivatives' fair value recognition but not for its disclosures. This fact supports the claimed idea that recognitions and disclosures are not substitutable. This suggests bringing a comparative study between recognitions and disclosures that is related to derivatives' items.

Besides hypotheses testing, Table (6-14) supports the findings provided by Wang, Alam and Makar (2005) in both periods by significant and positive coefficients for both BVE and net interest income. Under IAS 39, all other control variables are found to meet the expected signs and significance except for CORE and NOTIONAL.

6.3.3 Robustness Tests:

This part checks the robustness of the results using alternative models. The justification for this part is that the confidence and validity concern the results' consistency under different specifications. All models mentioned under this section are confirmed by their ability to interpret the regressed relation, vacancy of autocorrelation.

A-   This model follows similar predictors to the primary model; however, it controls the association by banks that are financial healthy and domiciled in peaceful countries. Results support the previous results that there is no relationship between the market value and the derivatives' fair value recognition except for the hedging type only under the pre IFRS 9 period. In addition, investors are not concerned by the notional (contractual) amounts for derivatives in both periods.

B-   This model is built according to the BSM. The tables in appendices (10) and (11) present the results for both pre and post periods according to the BSM. Building on the statics from adjusted R-square and F-value in addition to the significance level of the model, the models report a strong ability to interpret the relationship through the assigned predictors. For instance, adjusted R-square indicated an interpretation power of 56% and 61% for pre and post respectively. Additionally, the model reports a vacancy of any collinearity or autocorrelation problem. Findings for this model support the findings in the previous section except for hedging derivatives in the pre period. Indeed, it stated that fair value recognition of derivatives does not concern the investor to evaluate the market value of the bank. Besides this, the results show that investors are not concerned by the notional amounts (contractual) of derivatives.

6.3.4 Comparative Test

According to the model provided by Ohlson (1995), the study tests the hypothesis of whether there would be any significant effect of adopting IFRS 9 on interpreting the difference between the market values by adding a dummy variable on a pooled data set. Indeed, the dummy variable took the value of 1 for the post period and 0 for the pre period. Simply, in addition to this dummy variable, the variables were pooled into a period of 10 years.

The following table provides comparative regression results between the models over 10 years with and without the dummy variables.

Table 6-16: The Effect of IFRS 9 Adoption using the Ohlson (1995) Model

Variables	Coefficient		Sig.	
	Without	**With**	**Without**	**With**
Constant/intercept	-21.056	172.798	.758	.029
BVE	1.034	.970	.000	.000
Net Interest Income	3.346	3.832	.001	.000
Trading Derivatives Income (TDI)	.055	.053	.000	.000
Hedging Derivatives Income (HDI)	-.765	-2.003	.701	.299
FITIS	-1.025	.544	.636	.795
NOTIONAL	.063	.064	.000	.000
Dummy variable	-----	-464.815	------	.000
	Without		**With**	
R SQUARE	.864		.876	
ADJUSTED R SQUARE	.857		.870	
F-TEST MODEL	128.540		129.568	
Sig. F Change	.000		.000	
All variables are explained in Table 6-13's footnotes in Section 6.3.1				

The table reports the most important statistical readings (for more information, see Appendix (13) after determining the effect of early adoption of IFRS 9 on interpreting the differences between market value and fair value recognition. Generally, adopting the IFRS 9 enhanced the model's power to interpret the prescribed relationship by .012 (.876-.864) According to the significant level of the dummy variable, the following null hypothesis is rejected:

H0-1: Derivatives' fair value recognition is not significantly value relevant by adopting IFRS 9.

Building on these results, according to the pooled data, adopting IFRS 9 significantly affected the investors' economic decisions by derivatives' fair value recognition and decreased the market value difference by $465 million using the model provided by Ohlson (1995). Additionally, under the pooled settings, the notional amounts are value relevant to the investors. This result is different from the previous results under the cross-sectional data set (pre and post). That is to say, derivatives' notional amounts need a longer period to be

tested under some specifications or the investor needs a longer period to consider or realise the fair value of derivatives and its notional amounts. As mentioned earlier, this result is consistent with studies under SFAS 107 (Simko, 1999) and under SFAS 133 (Ahmed, Takeda and Thomas, 1999).

6.4 Summary

This chapter presented the findings for the first key objective of this thesis. This objective was to investigate the fair value relevance of both disclosures and recognition comparatively between the pre and post IFRS 9 periods. The chapter presented disclosures and recognition in two separate sections. Each section contains descriptive statistics for the study data and regression results. Regression has been applied by many models, primary, additional and robustness. Finally, it presented a comparative test to confirm the effect of IFRS 9 on the specified model.

Fair value disclosures under both periods are found to be value relevant over their historical cost. This is compatible for all financial instruments except for loans. Disclosures of other amortised cost items are exempt from being value relevant under the pre period only. Additional results indicated the relevance of loans' fair value disclosures for banks that are financial healthy and domiciled in peaceful countries only under pre IFRS9. Conversely, CAR and PEACE did not change the results in the post period. Generally, robustness tests supported the results. Furthermore, adjusted R-square was found to be higher under IFRS 9 where it is consistent with the comparative tests. The comparative tests are provided by Levene's test. These tests confirmed that there is an effect which is generated from IFRS 9 and this decreases the market value of banks.

Fair value recognition is analysed using cross-sectional and pooled data set. Under cross-sectional models, fair value recognition is found to be relevant only for hedging derivatives in the pre period. Notional amounts are not value relevant under both periods. Three key results are made more robust by pooled data (10 years) models. Firstly, over a longer period, investors were affected by derivatives' fair value recognition only for the trading type, not the hedging one. Secondly, findings stated the significant relevance of IFRS 9. Finally, notional amounts affect investors' decisions.

Chapter 7: Findings on the Cost of Equity (CE)

7.1 Introduction

This chapter presents the empirical results of the economic consequences of the early adoption of IFRS 9. It provides a descriptive analysis in addition to results from the univariate and multivariate analysis. The univariate analysis incorporates a comparison of the CE during the 10-year study period and separately for pre and post periods. In addition, the comparison is provided by Levene's test to compare the means in each period under each individual method.

Considering the required caution for interpreting the results from the univariate analysis, the multivariate model is operated. The model is controlled for other risk factors that could be related to the equity investor's economic decision.

Primarily, this chapter provides empirical findings to test the following hypothesis:

Table 7-1: List of Hypotheses for the CE

Number	Hypotheses	Method of testing
H0-3	The early adoption of IFRS 9 did not have any statistical significant impact on the CE under GLS, CT, GM and average.	Univariate and Multivariate
H0-3.1	There is no statistical significant relationship between the Middle Eastern central banks' intervention to mandate IFRS 9 earlier and the cost of equity after controlling for risk factors under GLS, CT, GM and average.	Multivariate

The structure of this chapter is as follows: firstly, descriptive statistics; secondly, univariate analysis; thirdly, multivariate analysis; fourthly, results from the robustness tests; and finally, the conclusion.

7.2 Descriptive Analysis

The number of commercial banks that are subjected to CE tests differs to that for value relevance. This result is based on the data availability of analysts' forecasts for EPS for the first three years besides the long-term growth rate. Bloomberg provides these forecasts for 18 banks over the study period (10 years) with data deficiency for the remaining four banks (BLC, Jordan Ahli, Palestinian Commercial bank, Palestinian Investment Bank) where it resulted in 178 observations. The following table reports the continuous and independent variables for the CE. Avoiding repetition, this section provides descriptive statistics for the dependent variables only while a comprehensive descriptive discussion for CE will be listed under the univariate analysis section.

Table 7-2: The Descriptive Statistics of the Dependent Variables

	Minimum	Maximum	Mean	Std. Deviation
Capital Adequacy Ratio (CAR)	.11	.55	.1995	.07478
CAR-PRE	.12	.55	.2208	.09117
CAR-POST	.11	.37	.1776	.04378
Leverage (LEV)	.00	5.01	.3663	.70207
LEV-PRE	.00	5.01	.3029	.56157
LEV-POST	.00	4.44	.4311	.81962
Loans-to-deposits ratio (LD)	.00	1.25	.6730	.23171
LD-PRE	.00	1.25	.6641	.27445
LD-POST	.27	1.08	.6821	.17892
Beta Coefficient (BETA)	-.13	2.02	.4342	.28767
BETA-PRE	-.13	1.03	.3885	.20209
BETA-POST	.16	2.02	.4768	.34482
Risk-Free-Rate (RFR)	.02	.05	.0291	.01048
RFR-PRE	.02	.05	.0360	.01026
RFR-POST	.02	.03	.0220	.00406
Total Assets (SIZE)	43	50601	7531	11955
SIZE-PRE	42.71	50601	6349	10759
SIZE-POST	351	49045	8699	12987
Long-Term-Growth (LTG)	-.03	.34	.0883	.08364
Earnings-Variability (EARNDEV)	.01	.35	.0652	.07183
EARNDEV-PRE	.01	.35	.0733	.09210
EARNDEV-POST	.02	.15	.0568	.04098
Book-to-Market ratio (BMR)	.05	11.36	1.2827	.93761
BMR-PRE	.09	1.76	.7529	.30198
BMR-POST	.42	20.91	1.4875	2.56460

Table 7-3: The Descriptive Statistics of the Dummy Variables (Average Only)

Variable/ number of banks	One	Zero	Total
TIME	76	82	158
MANDA DOPT	38	120	158

Table 7-4: The Descriptive Statistics of the Dummy Variables (Average Only)

TIME* MAND ADOP	One	Zero	Total
One	60	22	82
Zero	60	16	76
Total	120	38	158

The CAR reports a safe territory with a mean of 20%, which is well above Basel's requirements of 8%. However, it has significantly changed during the two distinct study periods as the following figure shows:
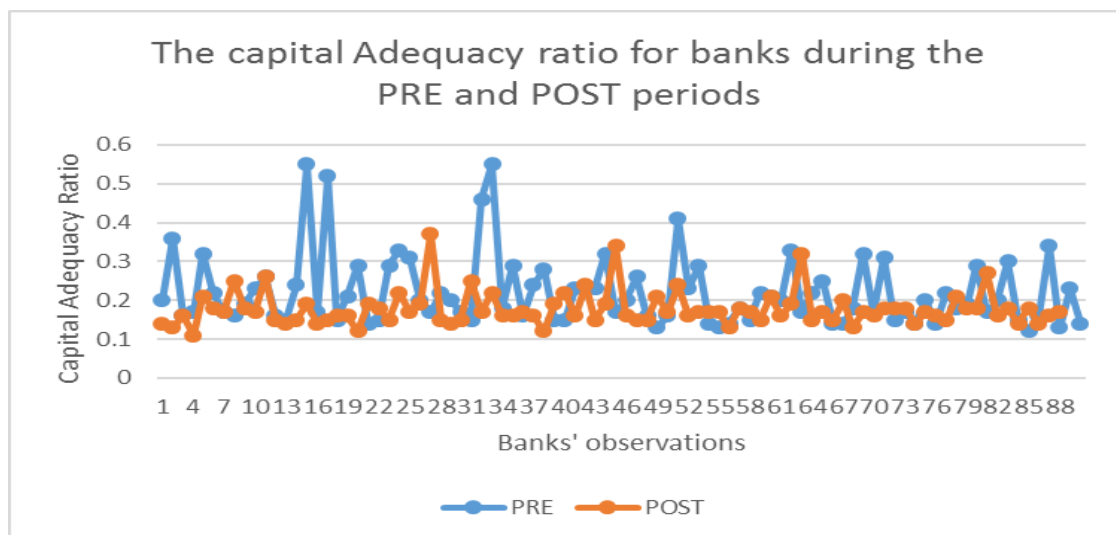
Figure 7-1: Capital Adequacy Ratio for the Sample pre and post IFRS 9

The mean leads to a decrease in this ratio in post where the BIS released the Basel Ш code in 2010. This code pertains to a higher capital ratio and additional buffers to be effective in 2019. The banks under the study sample are asked by their national regulators to firstly prepare a study with regards to the early adoption of Basel Ш as well as Basel Ц. This could result from many facts. Firstly, if the bank decided to improve the CAR, it would rely on the growth as a source for Tier 1 equity. Despite this, the growth depends on LD where the banks did not significantly improve this ratio from pre and post periods (.6641 and .6821 respectively). Secondly, during the study period, the leverage on average increased. This leads to more reliance on deposits to finance the activities more than equities (shares or growth). Thirdly, CAR is a ratio of the regulatory capital out of the risk-weighted assets. Assets' figures, on average, climbed by $2,350 million in the post period which indicates a higher dominator and risk-weighted asset regardless of some deductible amounts (according to Basel).

Additionally, beta displays a positive indicator with a mean of 43% less than 100%. Accordingly, the price of the sample fluctuates less than its benchmark as stated in Bloomberg. This fact is in par with earnings where the earnings of the sample fluctuate less

than their mean. Notably, especially in the post period, the banks were priced well above their BVE. Generally, the mean was 121% where it was positively skewed by larger amounts after the early adoption of IFRS 9, changing significantly from 75% to 140%. This fact could be justified by a positive trend of growth for all listed banks except for Byblos and Jordan-Kuwait banks. On average, RFR stays at 2.91% where it implies a risk premium of 66.05% (average of CE table below less RFR).

7.3 Univariate Analysis

The univariate analysis exemplifies the CE changes over a period. Despite the benefit of univariate analysis, it does not support an accurate decision towards the early adoption of IFRS 9 in our sample. It might incorporate other factors that affected the CE where the implication of maximising the caution during the interpretation should exist. This fact derives from the significance of the multivariate analysis using a regression model that controls for other potential variables, the early adoption of IFRS 9 being among them. The following table reports the mean of the CE according to the three adopted methods as well as the average during the pre and post periods.

Table 7-5: Descriptive Statistics for CE

	GLS Method			CT Method			GM Method			Average		
Number of Observations/Mean	N	r	Std-DEV.	N	r	Std-DEV.	N	r	Std-DEV.	N	r	Std-DEV.
Pre-IFRS 9	75	.408	.094	76	.013	.063	90	.034	.030	76	.156	.065
Post-IFRS9	75	.372	.078	81	.033	.114	90	.041	.029	82	.176	.126

According to the statistics above, two conclusions could be derived. Firstly, the lowest amounts are returned under the CT method where the opposite is witnessed under GLS. Secondly, the mean of the CE under the GLS method decreased after IFRS 9, however, this reflection does not exist according to the average and the rest of the methods. Notably, the observations rely on a high standard deviation with higher or equal amounts to their mean except for the average in the pre period. This fact implies either a big range of data under

each method or odd observations where it needs extra caution in interpreting the CE figures. The following graphs present the general trend over the study period and confirm the conservative idea about the redisplayed figures. Last but not least, mathematically and as witnessed, CE became larger when the earnings' forecasts were low with higher share prices in addition to low long-term growth.
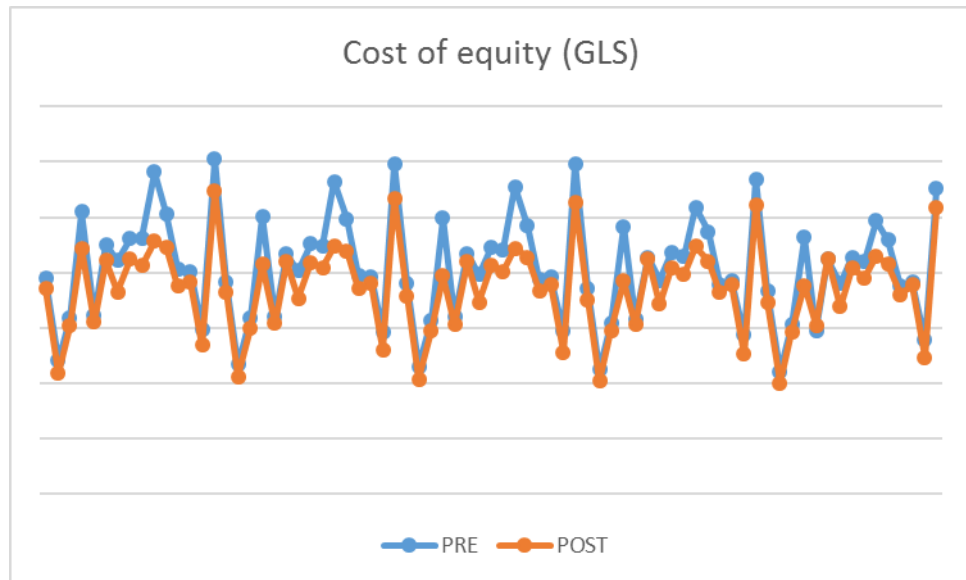
Figure 7-2: The Trend of the CE under GLS Method
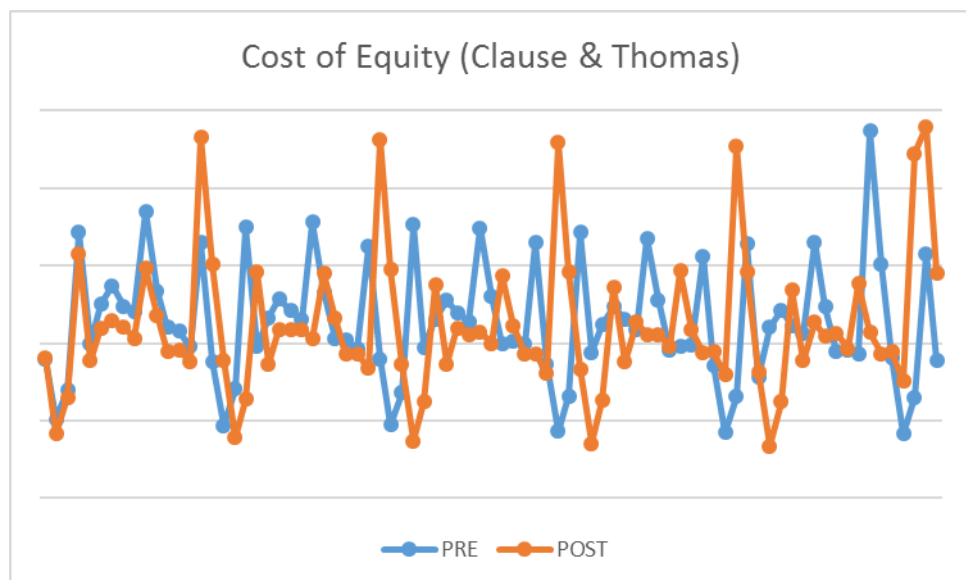
Figure 7-3: The Trend of the CE under CT Method
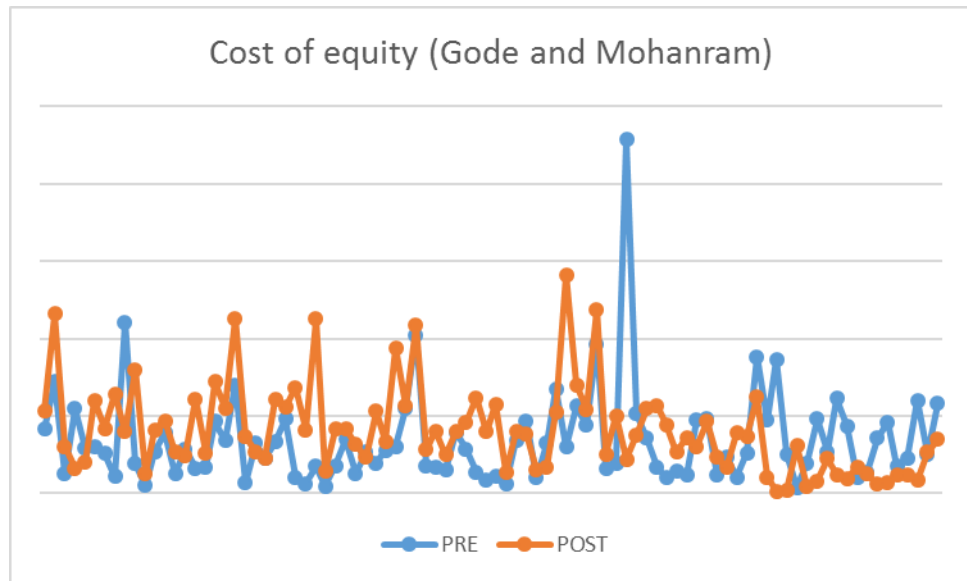
Figure 7-4: The Trend of the CE under GM Method
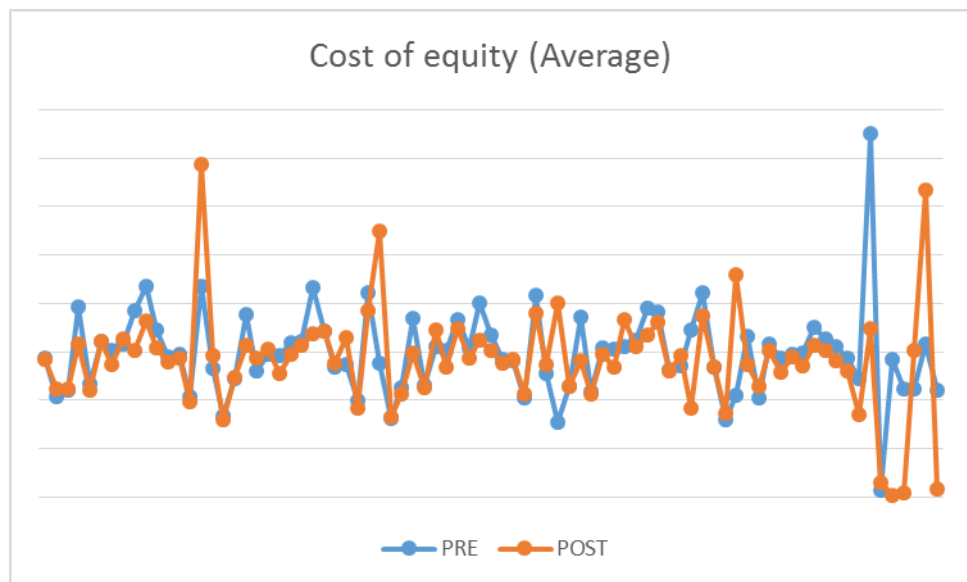
Figure 7-5: The Trend of the CE under the Average

Based on the graphs showing GLS, CT and the average, the CE became lower after the early adoption of IFRS9 with seven high variance observations. Conversely, this fact is not confirmed under the GM method.

The following table reports the results of independent sample T-test

Table 7-6: Levene's Test F for the CE under all Methods and the Average

GLS	Number of observation	Mean	Levene's Test F		2.756		
			Levene's Test Sig.		.099		
PRE	75	.4081	Equal variances assumed	Mean Difference	T	Df	Sig. (2-tailed)
POST	75	.3720		.03613	2.55	148	.012
CT	Number of observation	Mean	F		3.349		
			Levene's Test Sig.		.069		
PRE	76	.0134	Equal variances assumed	Mean Difference	T	Df	Sig. (2-tailed)
POST	76	.0333		-.01986	-.790	150	.431
GM	Number of observation	Mean	Levene's Test F		.078		
			Levene's Test Sig.		.780		
PRE	90	.0345	Equal variances assumed	Mean Difference	T	Df	Sig. (2-tailed)
POST	89	.0407		-.00617	-1.385	177	.168
Average	Number of observation	Mean	Levene's Test F		.086		
			Levene's Test Sig.		.769		
PRE	76	.1503	Equal variances assumed	Mean Difference	T	Df	Sig. (2-tailed)
POST	81	.1424		.00792	.997	155	.320

According to Field (2013, P.374), Levene's test will only deal with samples that have no significant change in their means (parametric data). Consequently, Levene's sig.s were all > .05, which implies the conformation of the homogeneity assumption under all methods. Establishing this assumption is followed by the decision rule of the significance of equal variance assumed; statistics confirm that there are significant changes in CE according to classification and measurement rules under IFRS 9 only under the GLS method but not in others and the average.

7.4 Multivariate Analysis Results from the Primary Models

The univariate analysis above evidenced that the CE has decreased only under the GLS method. Typically, results from this type of analysis need to be controlled with other variables that might affect the independent variable. Accordingly, this section reports the results of the following stated model:

$$CE_{it} = \beta + \beta_1 POST_{it} + \beta_2 ADOPT_{\cdot it} + \beta_3 POST * ADOPT_{it} + \beta_4 CAR_{it} + \beta_5 LEV_{\cdot it}$$
$$+ \beta_6 LD_{it} + \beta_7 BETA_{it} + \beta_8 RFR_{it} + \beta_9 SIZE_{it} + \beta_{10} LTG_{it}$$
$$+ \beta_{11} EARNDEV_{it} + \beta_{12} BMR_{it} + \varepsilon_{it}$$

Equation 7-1

7.4.1 Normality

This study will follow the central limit theorem where the statement is that as the sample became large (usually defined as greater than 30), the distribution would become normal. Chiefly, our sample consisted of 150, 157, 179 and 158 observations under GLS, CT, CM and the average respectively, all of which are substantially higher than 30.

Outliers

The outliers under this section are detected using the descriptive statistics in the SPSS option. The results show that the region of population accommodated the wide dispersion of variables' observations. However, it resulted in two observations on average under each method, except the average of outliers. To guard the influence of these outliers on the results, the regression model was run with and without removing these two observations. The results show that there is no influence of these observations on the findings which evidence that they are not extreme values. The validity of this decision is derived from the fact that there is no single firm rule for detecting the outliers, however, there is a variety of methods such as Q-Q plots, Grubbs test and Dixon Q test.

Multicollinearity

This section provides results regarding the multicollinearity. The following table displays collinearity statistics such as VIF and tolerance, which enable the decision of the validity of our data in terms of its multicollinearity. The data below pertains to the statistics by running four regression models: GLS, CT, GM and the average.

Table 7-7: Multicollinearity for the CE Variables

Variable/Model	GLS		CT		G&M		Average	
	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF	Tolerance	VIF
Time	.163	6.121	.183	5.465	.140	7.154	.182	5.492
ADOPT.	.459	2.177	.433	2.310	.368	2.715	.395	2.535
Time*ADOPT.	.153	6.538	.166	6.008	.127	7.889	.170	5.897
CAP	.895	1.117	.895	1.117	.888	1.126	.897	1.115
LEV.	.953	1.049	.953	1.049	.927	1.079	.931	1.074
LD	.821	1.218	.828	1.208	.787	1.271	.834	1.200
BETA	.919	1.088	.919	1.088	.878	1.139	.926	1.079
RFR	.615	1.626	.610	1.640	.546	1.830	.594	1.684
BMR	.883	1.132	.882	1.133	.834	1.199	.876	1.142
ASSETS	.856	1.169	.821	1.219	.758	1.320	.859	1.164
LTG	.888	1.127	.895	1.117	.871	1.148	.893	1.120
EARNDEV	.837	1.194	.839	1.192	.846	1.182	.852	1.174
VIF average	2.13		2.05		2.42		2.06	
DURBIN-WATSON	2.051		2.006		1.874		1.862	
All variables are explained in Table 7-2's footnotes in Section 7.2								

Field (2013) stated some general guidelines to state whether or not the data has a multicollinearity problem. In addition, Bowerman, and O'Connell (1991) stated that the

regression might be biased if the average of VIF is substantially greater than one. In addition, he stated that if the tolerance were lower than .1, there would be a potential problem. According to these statements, the research data for the CE variables during the study period do not face any serious multicollinearity problem.

Durbin Watson investigates the assumption that the model is tenable in terms of its independent errors (autocorrelation). According to Qasem and Abukhadijeh (2016), optimal values range between 1.5 and 2.5 which in place ensure the vacancy of the autocorrelation problem in the study model.

7.4.2 Regression Results

Regression Results from GLS Method

The primary results under this method are briefed in the following table.

Table 7-8: Regression Results for CE under GLS method

Variables	Predicted sign	Coefficient	t-value	Sig.
Constant/intercept		.554	7.544	.000
Time	-	-.057	-1.617	.108
MANDADOPT.	-	.009	.333	.739
Time*MANDADOPT.	?	.008	.216	.830
CAP	+	-.149	-1.151	.252
LEV.	-	.008	.749	.455
LD	+	-.025	-.751	.454
BETA	-	-.002	-.076	.939
RFR	+	.008	.009	.993
BMR	-	.006	.744	.458
ASSETS	+	-.030	-2.3	.023
LTG	+	.083	.971	.334
EARNDEV	-	-.159	-1.602	.112
R SQUARE		.155		
ADJUSTED R SQUARE		.076		
F-TEST MODEL		1.948		
Sig. F Change		.034		
All variables are explained in Table 7-2's footnotes in Section 7.2				

Obviously, the table reports the regression results for the CE model returned under the GLS method. As prescribed previously, the table contains two essential parts: the model summary plus ANOVA and its parameters. Adjusted R-square static in the table reports that the model could interpret 7.6% of the CE. The difference between R-values (.076-.155=.079) means that there would be a simple variance if the model were derived from all Middle Eastern commercial banks.

The F-test equals 1.948, which is greater than its table value. Additionally, sig. F-test is < .05 where this implies the significant ability for the model to interpret the CE under the GLS method. Briefly, the model has a solid ability to interpret the relationship between the risk factors and the CE.

Thirdly, the last two columns on the right-hand side provide the individual contribution for each predictor (coefficients) and its significance, enabling the acceptance or rejection of the study hypothesis that is related to the CE in Middle Eastern commercial banks.

Based on the statistical common rule, the primary alternative hypothesis would be accepted when the sig. of the coefficient < .05. According to the sig. of Time and Time*MANDADOPT., the results accept the following null hypothesis against the alternative type under the GLS method:

H0: The early adoption of IFRS 9 did not have any statistical significant relationship with CE under the GLS method.

H0: There is no statistical significant relationship between the Middle Eastern central banks' intervention to mandate IFRS 9 earlier and the CE after controlling for risk factors under the GLS method.

Regression Results from CT Method

Table 7-9: Regression Results for CE under CT Method

Variables	Predicted sign	Coefficient	t-value	Sig.
Constant/intercept		.071	1.089	.278
Time	-	.034	1.150	.252
MANDADOPT.	-	-.040	-1.715	.089
Time*MANDADOPT.	?	-.048	-1.496	.137
CAP	+	-.014	-.119	.906
LEV.	-	.018	1.798	.075
LD	+	.010	.315	.754
BETA	-	-.016	-.693	.490
RFR	+	-.799	-1.020	.310
BMR	-	-.002	-.214	.831
ASSETS	+	.004	.360	.719
LTG	+	-.119	-1.545	.125
EARNDEV	-	-.026	-.290	.772
R SQUARE		.187		
ADJUSTED R SQUARE		.111		
F-TEST MODEL		2.465		
Sig. F Change		.006		
All variables are explained in Table 7-2's footnotes in Section 7.2				

The table reports the regression results for the CE model returned under the CT method. Adjusted R-square static is better compared with the previous method where the model could interpret 11%. Additionally, sig. F-test is < .05 where this implies the significant ability for the model to interpret the CE under the CT method. Briefly, the model has a solid ability to interpret the relationship between the risk factors and the CE under the CT method.

Thirdly, according to the sig. of Time and Time*MANDADOPT., the results accept the following null hypothesis against the alternative type under the GLS method:

H0: The early adoption of IFRS 9 did not have any statistical significant relationship with CE under the CT method.

H0: There is no statistical significant relationship between the Middle Eastern central banks' intervention to mandate IFRS 9 earlier and the CE after controlling for risk factors under the CT method.

Regression Results from G&M Method

Table 7-10: Regression Results for CE under G&M Method

Variables	Predicted sign	Coefficient	t-value	Sig.
Constant/intercept		.057	2.356	.020
Time	-	.009	.743	.459
MANDADOPT.	-	-.026	-2.791	.006
Time*MANDADOPT.	?	-.004	-.350	.727
CAP	+	-.011	-.256	.798
LEV.	-	.000	.071	.943
LD	+	-.019	-1.749	.082
BETA	-	-.003	-.372	.710
RFR	+	.025	.089	.929
BMR	-	.004	1.802	.074
ASSETS	+	.003	.737	.462
LTG	+	.019	.709	.479
EARNDEV	-	.001	.029	.977
R SQUARE		.232		
ADJUSTED R SQUARE		.172		
F-TEST MODEL		3.834		
Sig. F Change		.000		
All variables are explained in Table 7-2's footnotes in Section 7.2				

The table justifies similar results to the previous methods with a strong interpretation power for the model. This implies accepting the following null hypothesis:

H0: The early adoption of IFRS 9 did not have any statistical significant relationship with CE under the GM method.

H0: There is no statistical significant relationship between the Middle Eastern central banks' intervention to mandate IFRS 9 earlier and the CE after controlling for risk factors under the GM method.

Regression from the Average

Table 7-11: Regression Results for CE under the Average

Variables	Predicted sign	Coefficient	t-value	Sig.
Constant/intercept		.255	3.362	.001
Time	-	.090	2.579	.011
MANDADOPT.	-	-.039	-1.401	.163
Time*MANDADOPT.	?	-.115	-3.126	.002
CAP	+	-.014	-.104	.917
LEV.	-	.023	2.145	.034
LD	+	.011	.317	.752
BETA	-	.061	2.281	.024
RFR	+	-.435	-.472	.638
BMR	-	-.016	-1.767	.080
ASSETS	+	-.018	-1.354	.178
LTG	+	-.076	-.834	.406
EARNDEV	-	-.046	-.444	.658
R SQUARE		.316		
ADJUSTED R SQUARE		.255		
F-TEST MODEL		5.195		
Sig. F Change		.000		
All variables are explained in Table 7-2's footnotes in Section 7.2				

The table displays the regression results for the CE model calculated by the average. Adjusted R-square static is at the best level compared with previous methods where the model could interpret 25.5%. Additionally, sig. F-test is < .05 where this implies the significant ability for the model to interpret the CE. Briefly, the model has an incremental ability to interpret the average of the CE.

Thirdly, according to the sig. of Time and Time*MANDADOPT., the results reject the following null hypothesis against the alternative type under the average method:

H0: The early adoption of IFRS 9 did not have any statistical significant relationship with CE.

H0: There is no statistical significant relationship between the Middle Eastern central banks' intervention to mandate IFRS 9 earlier and the CE after controlling for risk factors.

Interestingly, the sign of the Time*MANDADOPT. Coefficient is minus. This interprets the fact that the banks who early adopted IFRS 9 voluntarily and without their central banks' intervention significantly face a higher CE such as those domiciled in Lebanon and Bahrain.

This fact is justified by the table below, which displays the means' differences between banking groups according to TIME and MANDADOPT parameters under the average.

Table 7-12: Univariate Analysis Results under the Average

TIME*MANDADOP	One	Zero	Sig. Difference
One	.136	.282	.000
Zero	.149	.184	
Sig. Difference	.013		

Robustness Test

The results above indicate that IFRS 9's early adoption significantly lowers the CE on average. To justify the results for any potential model misspecification, this section provides a test by taking the risk premium instead of the CE as an independent variable. The following table briefs this model's findings:

Table 7-13: Robustness Regression Results by Taking the Risk Premium Instead of the CE

Variables	Predicted sign	Coefficient	t-value	Sig.	Tolerance	VIF
Constant/intercept		.255	3.362	.001	.182	5.492
Time	-	.090	2.579	.011	.395	2.535
MANDADOPT.	-	-.039	-1.401	.163	.170	5.897
Time*MANDADOPT.	?	-.115	-3.126	.002	.897	1.115
CAP	+	-.014	-.104	.917	.931	1.074
LEV.	-	.023	2.145	.034	.834	1.200
LD	+	.011	.317	.752	.926	1.079
BETA	-	.061	2.281	.024	.594	1.684
RFR	+	-1.435	-1.557	.122	.876	1.142
BMR	-	-.016	-1.767	.080	.859	1.164
ASSETS	+	-.018	-1.354	.178	.893	1.120
LTG	+	-.076	-.834	.406	.852	1.174
EARNDEV	-	-.046	-.444	.658	.182	5.492
R SQUARE		.336				
ADJUSTED R SQUARE		.276				
F-TEST MODEL		5.681				
Sig. F Change		.000				
Durbin-Watson		1.862				
All variables are explained in Table 7-2's footnotes in Section 7.2						

The statistics from the table above indicate the model has a slight increase in power and ability to interpret the required relationship than that in the primary model as well as the vacancy of any collinearity problems. Mainly, it completely confirms the previous results for the CE under the average, precisely, the significant minus relationship between the risk premium and IFRS 9's early adoption (Time) in addition to the impact of central banks' intervention to enforce the early adoption.

7.5 Discussion

The majority of the studies in the literature chapter used many methods to return the CE and did not rely on only one method. This fact is due to the shortcomings of each one individually. Accepting this, besides returning the average, the majority confirmed the significant association between the financial reporting system and the CE (Hail and Leuz, 2006; Christensen, Lee and Walker, 2007; Daske, et al., 2008; Daske, et al., 2013; Eliwa, Haslam and Abraham, 2016). The financial reporting encompasses both quality and disclosures under the IFRS and non-IFRS-GAAPs. All results, regardless of the measuring methods, confirmed the significant association, however, they were inconsistent regarding whether it was positive or negative. The results of this thesis regarding the CE, under the average measure, were consistent with the majority.

7.6 Summary

This chapter presents the results of the economic consequences of IFRS 9's early adoption as part of this thesis. Alternatively, this study investigates the impact of IFRS 9 on the CE in commercial banks in the Middle East. In addition, it differentiates itself among other studies (Daske, et al., 2008; Li, 2010) by holding one industry over the Middle Eastern region.

Briefly, the results indicate that there is no relationship between the early adoption of IFRS 9 or central banks' enforcement and the CE under each individual method. However, and most importantly, on average, there is a significant relationship between CE and the early adoption of IFRS 9 or between the CE and central banks' enforcement to early adopt IFRS 9. Furthermore, the central banks' intervention significantly decreases the CE by 115 basis points. The following table summarises the results under each method:

Table 7-14: Summary of CE Results

	GLS		CT		G&M		Average	
Null hypothesis	H1	H2	H1	H2	H1	H2	H1	H2
CE	A	A	A	A	A	A	R	R

Notes to table:

A: Accepted hypothesis

R: Rejected hypothesis

Overall, the findings support the idea that increasing disclosures and more transparent reporting standards (such as IFRS 9) reduces the CE. The early adoption of IFRS 9 reveals the economic benefit for the commercial banks in the Middle East by decreasing the required return by the equity investor.

Chapter 8: Synopsis and Conclusion

8.1 Introduction

This chapter represents the conclusion for this thesis. This research deals with two major areas in accounting: fair value relevance and economic consequences. Primarily, this research pertains to the IFRSs which are related to financial instruments: IFRS 9 (2011-2015) and IAS 39, IAS 32 and IFRS 7 (2006-2010). Basically, the IASB claims that IFRS 9 provides more relevant and useful information. Therefore, this thesis examines this claim for classification and measurement stage comparatively between IFRS 9 and its preceding standards set in Middle Eastern commercial banks. For disclosures' fair value relevance, evidence is supported that fair value disclosures are value relevant over their historical cost in both separate periods except for loans. In addition, IFRS 9 enhances the relevance of fair value disclosures compared with the previous standards set. For fair value recognition, there is evidence of the relevance of hedging derivatives only in the pre period but not after the early adoption of IFRS 9. On a pooled setting for the whole period, it was obvious that investors need a longer period to significantly be affected by only fair value recognition for trading derivatives over their notional amounts. Additionally, IFRS 9 decreased the difference between the market-book values, which, in turn, supports the IASB's claim.

For the second research objective, the study examines the economic consequences of the early adoption of IFRS 9, owing to the expectations of obtaining economic benefits by reducing the rate of return to be acquired by the investor. This is signified by the study sample, commercial banks, which play a vital role in countries' economies and rate structures. Therefore, the study covers similar periods of five years in both pre and post. Additionally, results by the CE support the IASB's claim under only the average method.

The structure of this chapter is as follows: Firstly, a summary of all chapters; secondly, a summary of the main findings; thirdly, a discussion about the study's limitations; fourthly, future research recommendations; and finally, a summary of the study's significance and rationale.

8.2 Conclusion of Thesis

Chapter One introduces the study's aims, methodology, significance and rationale and structure while the second chapter discusses the banking industry's institutional background.

Chapter Three presents a discussion for the literature review. It is separated into two main parts: value relevance and economic consequences. The value relevance part is subcategorised into banking and non-banking literature. The banking type was considerably based on the US-GAAP. However, value-relevant banking studies were a minority in non-US data. To date, there is no study which incorporates the financial instruments' fair value disclosures in Middle Eastern commercial banks. Under the second key objective, the second part presents empirical literature related to the CE. This part was separated into literature related to IFRSs and non-IFRSs. The majority of non-IFRS studies investigated the association between the disclosures' increase and the CE (Botosan and Plumlee, 2002; Botosan, 2006). For IFRS literature, studies were concerned by the voluntary (Daske, 2006) and mandatory (Daske, et al., 2008; Lee, Walker and Christensen, 2008) adoption of the IFRS as a high quality standard. This is owing to the fact that, in Europe, firms were imposed to apply the IFRSs.

The fourth chapter displays the theoretical foundation of the research objectives. Both value relevance and the economic consequences are based on the cost of equity theory. Value relevance research examines the association between market and accounting-based amounts. For fair value disclosures, the thesis applied the BSM and Ohlson (1995) model for fair value recognition. However, under the CE, the thesis was formed on three specifications which are based on two models to return the CE in addition to the average. It also presents a discussion regarding the association between the accounting standards and the key study's objectives in addition to the validity of the value relevance research. Finally, it provides the impetus beyond the thesis' hypothesis.

The fifth chapter presents the research design and methodology. This presentation incorporates the philosophical assumptions for this thesis as well as the methodology for each objective. For the fair value disclosures' relevance over their historical amounts, this thesis follows the empirical model applied by Barth, Beaver and Landsman (1996). This

implies regressing the difference between market and book values on differences between fair values and historical cost for all financial instruments accounted for historical cost. However, for fair value recognition relevance over their historical cost, the thesis applied the Ohlson (1995) model, similar to Wang, Alam and Makar (2005). This implies regressing the market value on BVE, net interest income, net income from financial instruments accounted for fair value through the income statement, and fair values of trading and hedging derivatives. All models under the fair value relevance are controlled by the similar variable to which they are classified as related and non-related to the financial instruments. Equally, this chapter provides building additional tests for further results and robustness.

For economic consequences, firstly, the CE methodology incorporated two lens: univariate and multivariate analyses. In order to operate them, CE returned using three specifications in addition to the average (Claus and Thomas, 2001; Gebhardt, Lee and Swaminathan, 2001; Gode and Mohanram, 2003). Under the multivariate analysis of the four models, it regresses the CE (according to each calculation method) on a dummy variable of time similar to event studies. This also holds a series of variables to control the factors that might affect the CE based on literature. Equally, it builds more tests for further results and robustness.

8.3   Conclusion of the Main Findings

Findings are reported in two separate chapters: Chapters 6 and 7 are each assigned to each objective. Accordingly, this section is allocated to each main finding as follows: 1) the relevance of fair value disclosures over their historical cost amounts for financial instruments as a comparative between pre and post periods, 2) the relevance of fair value recognition for derivatives over their contractual amounts as a comparative between pre and post periods, and 3) the economic consequences as a comparative between pre and post periods.

8.3.1 The Relevance of Fair Value Disclosures over their Historical Cost Amounts for Financial Instruments as a Comparative between Pre and Post Periods

Fair value disclosures under both periods are found to be value relevant over their historical cost. This is compatible for all financial instruments except for loans. Disclosures of other amortised cost items are exempt from being value relevant under the pre period only. Additional results indicated the relevance of loans' fair value disclosures only for banks that are financial healthy and domiciled in peaceful countries only under pre IFRS 9. Conversely, CAR and PEACE did not change their results in the post period. Generally, robustness tests supported the results. Furthermore, adjusted R-square was found to be higher under IFRS 9 where it is consistent with the comparative test (Levene's test).

8.3.2 The Relevance of Fair Value Recognition for Derivatives over their Contractual Amounts as a Comparative between Pre and Post Periods

Fair value recognition is analysed used cross-sectional and pooled data sets. Under cross-sectional models, fair value recognition was found to be relevant only for hedging derivatives in the pre period. Notional amounts are not value relevant under both periods. Three key results are made more robust by pooled data (10 years) models. Firstly, over a longer period, investors were affected by derivatives' fair value recognition for the trading type but not the hedging one. Secondly, findings stated the significant relevance of IFRS 9's early adoption. Finally, notional amounts affect the investors' decisions over a longer period with and without considering the effect of IFRS 9's early adoption.

8.3.3 The Economic Consequences as a Comparative between Pre and Post Periods.

The results indicate that there is no relationship between the early adoption of IFRS 9 or central banks' enforcement and the CE under each individual method. However, and most importantly, on average, there is a significant relationship between CE and the early adoption of IFRS 9 or between the CE and central banks' enforcement to early adopt IFRS 9. Furthermore, the central banks' intervention significantly decreases the CE by 115 basis points.

8.4 Research Contribution

This thesis contributes to the body of knowledge from different aspects, theoretically and empirically, as follows.

8.4.1 Theoretical Contribution

The review of the literature revealed that studies relied on many theories such as behavioural theory (Bischof, 2009; Bischof, 2014), counterfactual reasoning theory (Koonce, Lipe and Mcanally, 2005; Koonce, Nelson and Shakespeare, 2011) and cognitive costs theory (Maines and McDaniel, 2000) to investigate the effect of classification and measurement stage or labels on the value relevance. However, for the first time, this study implies using the cost of equity theory to investigate the effect of IFRS 9's first stage: classification and measurement on the investors' economic decisions.

Additionally, based on literature, studies relied on an individual valuation model, either the BSM or Ohlson (1995) model, to investigate the effect on the fair value disclosures and recognitions. However, this study implies covering the whole fair value reporting of both disclosures and recognitions. Furthermore, it applied different variables relating to different categories which were generated from the contextual aspect of pre and post standards related to financial instruments.

The results indicated the validity of the cost of equity theory to investigate the comparative objective for fair value reporting and economic consequences under both pre and post periods.

8.4.2 Empirical Contribution

Based on the literature review, this study contributes to the literature gaps by the following points:

1- Indeed, studies were classified into two types: before the IFRSs' adoption (voluntarily period) and after the IFRSs' adoption (mandatory period). In addition, the majority stands behind the most recent empirical evidence regarding the IFRS 9. This might be because the effective adoption date for this standard is 1-1-2018. However, this study exploits the existence of early adopter countries or banks for this standard, which ranks this study as the first empirical evidence for IFRS 9. This

is also beneficial to the IFRS standard setters to consider any necessity to amend the new version of IFRS 9.

2-   To the best of knowledge, no one study has comparatively examined the relevance and economic consequences for the two versions of release. However, IASB claims that the issuance of IFRS 9 that completely replaces the preceding standards will reflect more relevance and reliability. This claim carries higher relevance and positive signs on both relevance and CE. This research levels and marks the first step towards comparative and better trade-off.

3-   According to the previous literature and to the best of knowledge, no one study has covered the Middle East for cross-country empirical evidence. This study fills this gap while this area is featured by its cultural characteristics, the homogeneity for its capital markets' type in addition to the highest IFRS 9 early adopters.

4-   Most of the studies did not distinguish commercial banks as an outstanding sector in their analysis, while the majority of their financial position items are under the scope of IFRS 9 and the previous standards related set. This study contributes to the literature as specialised by commercial banks only.

5-   Most of the researchers in the literature review did not investigate or compare the two standards' releases to investigate the cognitive effect of categories or labels. However, this study underpins the significance of the comparative test to investigate the cognitive effect of classification and measurement through the cost of equity theory, especially under the early adoption stage where the compulsory affective date is not yet due.

6-   To the best of knowledge, no one study has tested the value relevance using BSM with the robustness test by the Ohlson (1995) model or vice versa for both fair value disclosure and recognition relevance with univariate and multivariate comparative tests.

7-   Furthermore, this study fills the literature with empirical evidence for the economic consequences of IFRS 9 and the previous standards set under three methods and the

average in the Middle East. This implies testing the CE considering all the drawbacks of only using an individual method.

8.5   Limitations of the Study

8.5.1   Data Availability

This study is limited by data availability. Indeed, commercial banks in the Middle East are featured for their higher discipline level of reporting and disclosing. All required data was available, even in high detailed depth, whether it was for derivatives, NPL or fair value related disclosures. On the other hand, for economic consequences, the thesis relied on Bloomberg to provide data related to analysts' earnings' forecasts up to three years in addition to the long-term earnings' growth rate. Bloomberg was a great support for many countries; however, it was not updated for Palestinian commercial banks. For this, the thesis deals with available observations for Palestinian banks and two banks in Jordan.

8.5.2   The Measurement of some Variables

The study is also limited by unobservable variables such as the CORE variable in the fair value relevance. For this, the proxy variable was any deposits without stated maturities. Similarly, NPL were a proxy for default risk. This might affect the relevance interpretations, making it a fairly difficult task.

8.5.3   No Accurate Measurement for CE

CE faces an argumental part in literature in terms of its calculation methods. Each method is proved to have advantages but also drawbacks in the same area, so there is no consensus on a method with accurate estimates. For instance, CE methods are differentiated by their earnings' assumptions for long or short terms. Notably, there would be two methods based on similar models, such as RIVM; however, according to different assumptions, it results in significant changes in its figures (Gebhardt, Lee and Swaminathan, 2001; Claus and Thomas, 2001). According to the statistics in this thesis, the lowest amounts are returned under the CT method, whereas the opposite is witnessed under GLS. Additionally, the mean of the CE under the GLS method decreased after IFRS 9, however, this reflection does not exist according to the average and the rest of the methods. This implies the necessity of extra caution in interpreting the CE figures.

8.5.4 Short Period

Results under the pre period might be affected by the financial crisis. However, five years was not enough to control for the financial crisis in 2008 as it started in 2007. According to the fact that the fair value of financial instruments is hand- collected, this procedure would be time consuming if it included more years in a comparative study.

8.6 Research Recommendations

8.6.1 Recommendations for Standards Setters and Financial Statements' Users

Relying on this essay, accounting figures should reflect the economic reality of reported transactions and items. Both financial statement users and financial reporting standards setters should be on a level of awareness and knowledge to bridge the gap between the reporting policy and the economic reality. This implies that standards setters are not in charge of meeting the investors' expectations, equally like investors are not in charge of understanding any rationale beyond the financial reporting rules. One way to achieve this target is by shifting the standards towards a more principle base and give the managers room to decide on reporting policies to reflect their business model needs. IFRS 9 has successfully achieved this by setting the business model as criteria to classify and measure the financial instruments.

Some governments have adopted the IFRSs; however, they restrict the use of the fair value method except for financial instruments. For instance, Hashemite Kingdom of Jordan restricted the use of fair value for plants, property and equipment. In turn, this eliminates the room for managers to reflect on the economic reality of some reported items according to their business model. This might be the result of being in a developing economy with no efficient financial market. Consequently, this issue stands as an outstanding open research area, which considerably contributes to bridging the gap between the standards setters and the users. Furthermore, this is the role of international organisations, especially in the banking sector, such as the Financial Stability Board, to allow firms around the globe to apply for all accounting options and practices to better reflect reality.

8.6.2 Recommendations for Future Research

1) This thesis deals with the banking industry in the Middle East over a 10- year period, separated between pre and post IFRS 9. However, there would be higher generalisability if incorporating a larger period to include more banks under the early adoption of IFRS 9.

2) This thesis compared two different releases related to financial instruments. However, researchers can compare the Middle East as a developing economy region with a region that has a developed economy.

3) Researchers can find out whether or not the results are different considering the existence of other industries.

4) Bahrain was the only country in the study sample belonging to the GCC. Researchers can look forward to including more Gulf countries and investigating whether or not this membership affects the results.

5) After the effective adoption of IFRS 9, researchers can examine the mandatory vis-à-vis voluntary adoption in different regions and contexts.

6) Researchers can use different models that return the CE such as CAPM, especially in the Middle East.

7) The design of this thesis relied on the quantitative side. On the other hand, one could generate research built on both the quantitative and qualitative approach. For instance, researchers can generate an interview with professional or knowledgeable investors to examine the economic consequences and their economic decisions for investments.

8) Under fair value recognition, researchers can split the variables into more detailed levels to hold different types of hedging derivatives such as fair value hedging.

9) Researchers can apply both analyses to examine the direct and indirect relationship between earnings' quality and CE under IFRS 9 in the Middle East.

10) Researchers can examine whether or not the results may differ considering other factors such as earnings' volatility (Landsman, 1986; Barton, Hill and Sundaram, 1989) or

pension plans (Barth, Beaver and Landsman, 1996) for the relevance of derivatives' fair value recognition.

11) Researchers can examine whether or not the results may differ considering other factors such as the analyst following numbers (Richardson and Welker, 2001) on the CE.

12) Researchers can investigate the impact of subsequent changes in new standards on early adopters (for example, the impact of changes in classification of financial instruments in IFRS 9, which were issued in 2014).

13) The study incorporated commercial banks as a comparative study between the previous standards set and under the early adoption of IFRS 9. However, research could be conducted to investigate the relevance of fair value reporting between commercial banks under IFRS and Islamic banks under AAIOFI.

8.7 Summary

This thesis aimed at investigating the fair value relevance and economic consequences of IFRS 9's early adoption as a comparative study between pre and post periods. For value relevance, the majority of studies were inclusive of the US context, especially the banking industry. Furthermore, the majority of findings support the relevance of most financial instruments with some exceptions in limited settings (Barth, 1994; Eccher, Ramesh and Thiagarajan, 1996; Nelson, 1996). In addition, there were rare studies on the international context or they were comparative in their nature. Holding similar results to the Middle East might face bias or false surmises. For instance, the US context is identified as an efficient market, whereas the Middle East or some European markets (Portuguese) stand as inefficient, domiciled in developing countries with conflicts and wars. This study moved to expand the literature with evidence from different regions. In this respect, findings supported the relevance of disclosed fair values for the financial instruments over their historical cost amounts under IFRS 9 and its preceding standards set with preference for the IFRS 9. Similarly, derivatives' fair value recognition used both cross-sectional and pooled data sets. They were found to be significant over their notional amounts only for hedging derivatives in the pre period. This result is matched by the pooled findings that investors need a longer period to be affected by derivatives' fair value recognition. Under

this test, trading derivatives were found to be significant over their notional amounts in both periods.

With the respect to the CE, after viewing the previous literature, according to the best of knowledge, this thesis expands the literature in many ways: 1) there is no study or evidence about the economic consequences from the emerging economies such as the Middle East, 2) No evidence has yet derived under the early adoption for the first stage of IFRS 9, and 3) CE of financial instruments in banking samples are considerably lacking. For example there is evidence regarding European, (Li, 2010), UK and German firms (Christensen, Lee and Walker, 2007) as well as global evidence (Daske, et al., 2008). In contrast, this thesis focuses on the most important sector in any economy as well as a district region, the Middle Eastern commercial banking industry. Additionally, the majority of studies highlighted the voluntary and mandatory adoption nature. During their studies' time, periods of voluntarily adoption were not equal to mandatory ones. Conversely, this thesis covers equal periods before and after IFRS 9's early adoption. This fact strengthens the results in both cross-sectional and pooled data sets.

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211

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Appendix (1): Regression Results for the relevance of Fair Value Disclosures PRE IFRS 9 with CARPEACE control variable

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.871[a]	.759	.722	527.73180	.759	20.515	14	91	.000	2.031

b. Dependent Variable: difMB

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	79986499.368	14	5713321.383	20.515	.000[b]
	Residual	25343577.637	91	278500.853		
	Total	105330077.005	105			

a. Dependent Variable: difMB

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	50.547	74.610		.677	.500		
	difFVBVLOANS	-.139	.067	-.134	-2.082	.040	.634	1.577
	difFVBVA4S	11.848	3.577	.259	3.313	.001	.434	2.306
	difFVBVHTM	29.447	10.094	.248	2.917	.004	.366	2.734
	difFVBVOAC	.019	.750	.001	.025	.980	.903	1.108

difFVBVDEP	17.648	6.079	.281	2.903	.005	.283	3.531
difFVBVOD	-.141	.044	-.297	-3.194	.002	.307	3.260
NONIAS39ASSETS	.076	.075	.261	1.016	.312	.040	24.924
NONIAS39LI	.048	.069	.139	.702	.484	.067	14.851
IGAP	-.121	.043	-.287	-2.799	.006	.252	3.966
NPL	.580	.457	.159	1.267	.208	.168	5.940
CORE	.136	.028	.694	4.804	.000	.127	7.885
NOTIONAL	-.058	.022	-.344	-2.700	.008	.163	6.139
OFFFP	-.034	.022	-.237	-1.563	.121	.115	8.667
DEPOSITCARPEACE	88.063	9.965	.582	8.837	.000	.611	1.638

a. Dependent Variable: difMB

Appendix (2): Robustness A-Regression for the relevance of Fair Value Disclosures PRE IFRS 9 with CARPEACE control variable and separating the MBV.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.990[a]	.980	.977	335.79247	.980	292.229	15	90	.000	1.608

b. Dependent Variable: MV

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	494260536.037	15	32950702.402	292.229	.000[b]
	Residual	10148092.551	90	112756.584		
	Total	504408628.589	105			

a. Dependent Variable: MV

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-47.406	48.218		-.983	.328		
	BV	2.164	.100	1.398	21.582	.000	.053	18.774
	difFVBVLOANS	-.121	.043	-.053	-2.844	.006	.633	1.579
	difFVBVA4S	4.411	2.364	.044	1.866	.065	.402	2.488
	difFVBVHTM	19.670	6.478	.076	3.037	.003	.360	2.781
	difFVBVOAC	.027	.477	.001	.056	.955	.903	1.108
	difFVBVDEP	-1.200	4.195	-.009	-.286	.775	.241	4.153
	difFVBVOD	.075	.034	.072	2.229	.028	.213	4.692
	NONIAS39ASSETS	-.235	.055	-.366	-4.282	.000	.031	32.749
	NONIAS39LI	.202	.046	.266	4.424	.000	.062	16.216
	IGAP	-.170	.028	-.184	-6.115	.000	.246	4.060
	NPL	-.537	.307	-.067	-1.753	.083	.152	6.589
	CORE	.150	.018	.350	8.327	.000	.126	7.922
	NOTIONAL	-.104	.014	-.282	-7.309	.000	.150	6.655
	OFFFP	-.096	.015	-.306	-6.487	.000	.100	9.970
	DEPOSITCARPEACE	51.168	7.092	.154	7.214	.000	.488	2.049

Appendix (3): Robustness A - Regression Results for the relevance of Fair Value Disclosures PRE IFRS 9 and separating the MBV.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.984[a]	.968	.963	419.53419	.968	198.201	14	91	.000	1.655

b. Dependent Variable: MV

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	488391815.086	14	34885129.649	198.201	.000[b]
	Residual	16016813.503	91	176008.940		
	Total	504408628.589	105			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-42.422	60.236		-.704	.483		
	BV	2.488	.112	1.608	22.217	.000	.067	15.004
	difFVBVLOANS	-.104	.053	-.046	-1.956	.054	.635	1.574
	difFVBVA4S	3.342	2.948	.033	1.134	.260	.403	2.479
	difFVBVHTM	25.599	8.028	.099	3.189	.002	.365	2.737
	difFVBVOAC	.194	.595	.006	.327	.745	.905	1.105
	difFVBVDEP	5.679	5.104	.041	1.113	.269	.254	3.939
	difFVBVOD	.119	.041	.115	2.878	.005	.220	4.538
	NONIAS39ASSETS	-.325	.067	-.507	-4.876	.000	.032	31.037
	NONIAS39LI	.250	.057	.329	4.426	.000	.063	15.874
	IGAP	-.219	.034	-.237	-6.503	.000	.262	3.818
	NPL	-1.133	.369	-.142	-3.072	.003	.164	6.111
	CORE	.141	.022	.328	6.257	.000	.127	7.879
	NOTIONAL	-.101	.018	-.274	-5.695	.000	.150	6.650
	OFFFP	-.095	.019	-.303	-5.145	.000	.100	9.969

a. Dependent Variable: MV

Appendix (4): Regression Results for the relevance of Fair Value Disclosures PRE IFRS 9 controlled by the size

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.781a	.609	.549	672.42809	.609	10.139	14	91	.000	1.910

b. Dependent Variable: difMB

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	64183559.424	14	4584539.959	10.139	.000b
1	Residual	41146517.581	91	452159.534		
	Total	105330077.005	105			

a. Dependent Variable: difMB

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-1552.285	470.673		-3.298	.001					
	difFVBVLOANS	-.030	.088	-.029	-.343	.733	-.036	-.036	-.022	.593	1.687
	difFVBVA4S	10.375	4.656	.226	2.228	.028	.066	.227	.146	.416	2.406
	difFVBVHTM	23.787	14.250	.200	1.669	.099	.067	.172	.109	.298	3.356
	difFVBVOAC	-.231	.968	-.017	-.239	.812	.020	-.025	-.016	.879	1.138
	difFVBVDEP	45.617	6.789	.725	6.720	.000	.527	.576	.440	.369	2.712
	difFVBVOD	-.172	.056	-.362	-3.071	.003	-.026	-.306	-.201	.309	3.235
	NONIAS39ASSETS	.002	.098	.008	.023	.982	.358	.002	.001	.039	25.820
	NONIAS39LI	.101	.088	.292	1.146	.255	.323	.119	.075	.066	15.108
	IGAP	-.298	.061	-.708	-4.913	.000	.259	-.458	-.322	.207	4.834

	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
NPL	-.548	.593	-.150	-.923	.358	.287	-.096	-.060	.162	6.156
CORE	.034	.041	.171	.816	.417	.243	.085	.053	.098	10.246
NOTIONAL	.009	.029	.052	.308	.759	.228	.032	.020	.151	6.631
OFFFP	.036	.028	.248	1.255	.213	.298	.130	.082	.110	9.096
ASSETS_log	604.485	166.666	.422	3.627	.000	.453	.355	.238	.317	3.152

a. Dependent Variable: difMB

Appendix (5): Regression Results Fair Value Relevance

POST IFRS 9 with CARPEACE control variable

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.796[a]	.633	.581	402.02879	.633	12.200	13	92	.000	1.871

a. Predictors: (Constant), DEPSCARPEACE, difFVBVDEP, NOTIONAL, difFVBVOACI, difFVBVACI, difFVBVLOANS, NONIFRS9LIAB, IGAP, NPL, difFVBVDEBT, OFFFPI, CORE, NONIFRS9ASSETS
b. Dependent Variable: difMVBV

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	25634343.833	13	1971872.603	12.200	.000[b]
	Residual	14869697.656	92	161627.148		
	Total	40504041.490	105			

a. Dependent Variable: difMVBV
b. Predictors: (Constant), DEPSCARPEACE, difFVBVDEP, NOTIONAL, difFVBVOACI, difFVBVACI, difFVBVLOANS, NONIFRS9LIAB, IGAP, NPL, difFVBVDEBT, OFFFPI, CORE, NONIFRS9ASSETS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-7.983	56.801		-.141	.889		
	difFVBVACI	-.159	.065	-.228	-2.447	.016	.460	2.175
	difFVBVLOANS	-.086	1.003	-.006	-.086	.932	.869	1.150
	difFVBVOACI	-6.655	1.107	-.577	-6.013	.000	.433	2.308
	difFVBVDEP	-22.040	3.406	-.802	-6.471	.000	.260	3.848
	difFVBVDEBT	-2.325	1.076	-.196	-2.161	.033	.484	2.068
	NONIFRS9ASSETS	.178	.917	.039	.194	.847	.099	10.068
	NONIFRS9LIAB	.004	.011	.026	.311	.756	.594	1.683
	IGAP	.000	.001	.022	.300	.765	.725	1.379
	NPL	-.120	.140	-.089	-.858	.393	.374	2.673
	CORE	.090	.026	.545	3.506	.001	.165	6.063
	NOTIONAL	-.004	.011	-.025	-.390	.697	.963	1.038
	OFFFPI	-.017	.009	-.194	-1.795	.076	.343	2.917

DEPSCARPEACE	17.385	41.646	.027	.417	.677	.979	1.022

a. Dependent Variable: difMVBV

Appendix (6): Robustness A - Regression Results for the relevance of Fair Value Disclosures POST IFRS 9 and separating the MBV.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.970ª	.940	.932	384.29925	.940	111.862	13	92	.000	1.848

b. Dependent Variable: MV

ANOVAª

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	214766530.772	13	16520502.367	111.862	.000ᵇ
1	Residual	13587103.807	92	147685.911		
	Total	228353634.579	105			

a. Dependent Variable: MV

Coefficientsª

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-34.586	54.837		-.631	.530
	BV	.690	.104	.784	6.642	.000
	difFVBVACI	-.179	.062	-.108	-2.861	.005
	difFVBVLOANS	-.254	.960	-.007	-.265	.792
	difFVBVOACI	-6.666	1.058	-.243	-6.303	.000
	difFVBVDEP	-18.335	3.471	-.281	-5.283	.000
	difFVBVDEBT	-1.849	1.041	-.066	-1.775	.079
	NONIFRS9ASSETS	2.180	1.107	.201	1.969	.052

NONIFRS9LIAB	.024	.013	.073	1.869	.065
IGAP	.001	.001	.034	1.111	.269
NPL	-.164	.134	-.051	-1.219	.226
CORE	.092	.024	.237	3.784	.000
NOTIONAL	-.002	.010	-.005	-.183	.855
OFFFPI	.001	.011	.007	.127	.899

a. Dependent Variable: MV

Appendix (7): Robustness A - Regression Results for the relevance of Fair Value Disclosures POST IFRS 9 and separating the MBV and CARPEACE control Variable.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.970ᵃ	.941	.932	385.65024	.941	103.171	14	91	.000	1.881

b. Dependent Variable: MV

ANOVAᵃ

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	214819558.511	14	15344254.179	103.171	.000ᵇ
	Residual	13534076.067	91	148726.111		
	Total	228353634.579	105			

a. Dependent Variable: MV

Coefficientsᵃ

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-38.580	55.435		-.696	.488
	BV	.687	.104	.780	6.577	.000
	difFVBVACI	-.179	.063	-.108	-2.850	.005
	difFVBVLOANS	-.279	.964	-.008	-.289	.773
	difFVBVOACI	-6.683	1.062	-.244	-6.295	.000
	difFVBVDEP	-18.405	3.485	-.282	-5.281	.000
	difFVBVDEBT	-1.834	1.045	-.065	-1.754	.083
	NONIFRS9ASSETS	2.221	1.113	.204	1.995	.049

NONIFRS9LIAB	.024	.013	.074	1.878	.064
IGAP	.001	.001	.035	1.121	.265
NPL	-.164	.135	-.051	-1.217	.227
CORE	.092	.025	.237	3.768	.000
NOTIONAL	-.002	.010	-.006	-.242	.809
OFFFPI	.002	.011	.008	.157	.876
DEPSCARPEACE	23.889	40.008	.015	.597	.552

a. Dependent Variable: MV

Appendix (8): Robustness A - Regression Results for the relevance of Fair Value Disclosures POST IFRS 9 controlled by the size

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.804[a]	.647	.597	394.21633	.647	12.972	13	92	.000	1.896

b. Dependent Variable: difMVBV

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	26206642.424	13	2015895.571	12.972	.000[b]
1	Residual	14297399.065	92	155406.512		
	Total	40504041.490	105			

a. Dependent Variable: difMVBV

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	-766.240	391.047		-1.959	.053
	difFVBVACI	-.153	.064	-.219	-2.393	.019
	difFVBVLOANS	.207	.993	.014	.209	.835
1	difFVBVOACI	-6.216	1.106	-.539	-5.619	.000
	difFVBVDEP	-21.827	3.335	-.794	-6.545	.000
	difFVBVDEBT	-2.081	1.063	-.176	-1.958	.053
	NONIFRS9ASSETS	-.100	.909	-.022	-.110	.913

224

	B	Std. Error	Beta	t	Sig.
NONIFRS9LIAB	.005	.011	.039	.488	.627
IGAP	.000	.001	.033	.453	.651
NPL	-.232	.148	-.171	-1.562	.122
CORE	.062	.029	.378	2.159	.033
NOTIONAL	-.002	.010	-.012	-.183	.855
OFFFPI	-.015	.009	-.177	-1.672	.098
TASSETS_LOG	253.038	128.729	.258	1.966	.052

a. Dependent Variable: difMVBV

Appendix (9): Robustness A - Regression Results for the relevance of Fair Value Recognition PRE IFRS9 controlled by the CARPEACE

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.984^a	.968	.965	447.82773	.968	60.645	11	94	.000	1.853

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	74994991.470	11	2272271.952	60.645	.000^b
	Residual	8851669.829	94	200549.679		
	Total	93846661.298	105			

Dependent Variable: MVE

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF

225

	B	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-23.229	66.233		-.351	.727					
BVE	1.792	.222	1.133	8.076	.000	.948	.640	.148	.017	8.295
NETINTEREST_income	2.908	1.380	.274	2.106	.038	.923	.212	.039	.020	10.114
RADINGDERIVATIVES_income	-.052	.060	-.017	-.868	.388	-.077	-.089	-.016	.901	1.110
EDGINGDERIVATIVES_income	-5.819	2.057	-.069	-2.829	.006	.184	-.280	-.052	.569	.757
FITIS	2.468	3.408	.018	.724	.471	.128	.074	.013	.578	.731
IGAP	-.182	.046	-.182	-3.947	.000	.537	-.377	-.073	.159	.275
NPL	-1.492	.358	-.173	-4.168	.000	.654	-.395	-.077	.195	.117
CORE	-.015	.022	-.032	-.657	.513	.270	-.068	-.012	.139	.171
NOTIONAL	.002	.019	.006	.122	.903	.300	.013	.002	.158	.335
OFFFP	-.067	.015	-.199	-4.443	.000	.685	-.417	-.082	.168	.964
PEACECAR	291.192	120.333	.049	2.420	.017	.091	.242	.044	.822	.216

. Dependent Variable: MVE

Appendix (10): Robustness B - Regression Results for the relevance of Fair Value Recognition PRE IFRS9 according to BSM model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.792a	.628	.563	673.436 17	.628	9.676	15	86	.000	2.049

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	65824589.349	15	4388305.957	9.676	.000b
	Residual	39002399.339	86	453516.271		
	Total	104826988.688	101			

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-398.318	245.978		-1.619	.109					
	difFVBVLOANS	-.156	.244	-.052	-.638	.525	-.011	-.069	-.042	.662	1.510
	difFVBVA4S	38.637	12.797	.571	3.019	.003	.047	.310	.199	.121	8.262
	difFVBVHTM	40.870	13.789	.345	2.964	.004	.069	.304	.195	.319	3.133

difFVBVOAC	-.358	.996	-.026	-.359	.720	.016	-.039	-.024	.837	1.195
difFVBVDEP	38.459	8.876	.612	4.333	.000	.525	.423	.285	.217	4.610
difFVBVOD	-.050	.045	-.105	-1.119	.266	-.027	-.120	-.074	.488	2.049
IGAP	-.254	.067	-.603	-3.773	.000	.254	-.377	-.248	.170	5.896
NPL	-.076	.572	-.021	-.134	.894	.283	-.014	-.009	.177	5.665
CORE	.050	.042	.235	1.191	.237	.279	.127	.078	.111	8.991
NOTIONAL	-.030	.031	-.172	-.984	.328	.251	-.105	-.065	.142	7.043
OFFFP	.105	.039	.728	2.708	.008	.295	.280	.178	.060	16.722
NONIAS39AS_log	12.540	172.127	.011	.073	.942	.408	.008	.005	.187	5.358
NONIAS39LI_log	347.233	177.671	.303	1.954	.054	.453	.206	.129	.180	5.558
TRADINGDERIVATIVES_income	-.156	.090	-.120	-1.731	.087	-.134	-.183	-.114	.896	1.116
HEDGINGDERIVATIVES_income	4.640	3.326	.130	1.395	.167	.126	.149	.092	.496	2.015

a. Dependent Variable: difMB

Appendix (11): Robustness B - Regression Results for the relevance of Fair Value Recognition POST IFRS9 according to BSM model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.815[a]	.664	.611	387.09017	.664	12.429	14	88	.000	1.781

ANOVA[a]

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	26073258.684	14	1862375.620	12.429	.000[b]
Residual	13185814.613	88	149838.802		
Total	39259073.297	102			

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-291.635	178.897		-1.630	.107					
difFVBVACI	-.147	.062	-.214	-2.376	.020	.096	-.246	-.147	.472	2.118
difFVBVLOANS	.108	.975	.007	.111	.912	-.175	.012	.007	.853	1.172
difFVBVOACI	-6.504	1.242	-.573	-5.236	.000	-.136	-.487	-.323	.319	3.135
difFVBVDEP	-21.516	3.665	-.784	-5.870	.000	-.601	-.530	-.363	.214	4.672
difFVBVDEBT	-2.284	1.042	-.196	-2.192	.031	-.262	-.228	-.135	.478	2.091
IGAP	.005	.001	.004	.060	.952	-.266	.006	.004	.703	1.422
NPL	-.089	.129	-.067	-.689	.493	-.398	-.073	-.043	.407	2.455
CORE	.076	.026	.450	2.936	.004	-.195	.299	.181	.162	6.160
NOTIONAL	-.002	.010	-.010	-.158	.875	-.009	-.017	-.010	.969	1.032
OFFFPI	-.015	.010	-.176	-1.617	.109	-.573	-.170	-.100	.321	3.112
NONIAS39AS_LG	236.180	143.149	.202	1.650	.103	-.133	.173	.102	.254	3.937
NONIAS39LI_LOG	-41.892	76.503	-.065	-.548	.585	-.175	-.058	-.034	.270	3.710
TRADINGDERIVATIVES_income	.014	.008	.124	1.783	.078	.326	.187	.110	.788	1.269
HEDGINGDERIVATIVES_income	-3.037	3.779	-.071	-.804	.424	-.311	-.085	-.050	.492	2.033

Appendix (12): Robustness A - Regression Results for the relevance of Fair Value Recognition POST IFRS9 controlled by the CARPEACE

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.971[a]	.942	.934	400.81105	.942	115.979	11	78	.000	1.492

b. Dependent Variable: MVE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	204950834.425	11	18631894.039	115.979	.000[b]
	Residual	12530660.663	78	160649.496		
	Total	217481495.088	89			

a. Dependent Variable: MVE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-204.368	75.803		-2.696	.009		
	BVE	-.137	.177	-.157	-.773	.442	.018	55.642
	INTEREST_income	6.630	1.402	1.178	4.729	.000	.012	84.009
	TRADINGDERIVATIVES_income	.018	.009	.065	1.919	.059	.640	1.562
	HEDGINGDERIVATIVES_income	-3.403	2.003	-.063	-1.699	.093	.536	1.866
	FITIS	-1.730	1.398	-.036	-1.238	.220	.858	1.165
	IGAP	-.001	.001	-.045	-1.369	.175	.687	1.456
	NPL	1.162	.629	.271	1.848	.068	.034	29.218
	CORE	-.103	.051	-.254	-2.020	.047	.047	21.326
	NOTIONAL	.002	.011	.006	.232	.817	.953	1.049
	OFF	-.014	.011	-.071	-1.264	.210	.236	4.239
	CARPEACE	282.300	97.198	.086	2.904	.005	.850	1.176

a. Dependent Variable: MVE

Appendix (13): Regression Results for the relevance of Fair Value Recognition- comparative test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.936[a]	.876	.870	714.04732	.876	129.568	11	201	.000	1.932

a. Predictors: (Constant), OFFFP, Dummy, NOTIONAL, TDI, IGAP, FITIS, HDI, CORE, NPL, NII, BVE

b. Dependent Variable: MVE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	726681109.193	11	66061919.018	129.568	.000[b]
	Residual	102482577.599	201	509863.570		
	Total	829163686.792	212			

a. Dependent Variable: MVE

b. Predictors: (Constant), OFFFP, Dummy, NOTIONAL, TDI, IGAP, FITIS, HDI, CORE, NPL, NII, BVE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	172.798	78.374		2.205	.029					
	Dummy	-464.815	104.312	-.118	-4.456	.000	-.040	-.300	-.110	.880	1.136
	BVE	.970	.163	.779	5.965	.000	.893	.388	.148	.036	27.756
	NII	3.832	.919	.474	4.169	.000	.881	.282	.103	.048	21.042
	TDI	.053	.014	.100	3.707	.000	-.164	.253	.092	.838	1.194
	HDI	-2.003	1.923	-.028	-1.041	.299	-.008	-.073	-.026	.835	1.198
	FITIS	.544	2.096	.007	.260	.795	.021	.018	.006	.876	1.142
	IGAP	-.005	.001	-.106	-3.911	.000	.195	-.266	-.097	.838	1.193
	NPL	-.323	.195	-.062	-1.660	.098	.541	-.116	-.041	.434	2.302
	CORE	-.099	.019	-.231	-5.345	.000	.437	-.353	-.133	.330	3.032
	NOTIONAL	.064	.013	.162	4.729	.000	.194	.316	.117	.522	1.915
	OFFFP	-.043	.014	-.154	-3.092	.002	.663	-.213	-.077	.249	4.023

a. Dependent Variable: MVE

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.930[a]	.864	.857	746.63058	.864	128.540	10	202	.000	1.808

a. Predictors: (Constant), OFFFP, HDI, FITIS, TDI, IGAP, NOTIONAL, CORE, NPL, NII, BVE
b. Dependent Variable: MVE

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	716557326.356	10	71655732.636	128.540	.000[b]
	Residual	112606360.436	202	557457.230		
	Total	829163686.792	212			

a. Dependent Variable: MVE
b. Predictors: (Constant), OFFFP, HDI, FITIS, TDI, IGAP, NOTIONAL, CORE, NPL, NII, BVE

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	-21.056	68.166		-.309	.758					
	BVE	1.034	.169	.831	6.105	.000	.893	.395	.158	.036	27.540
	NII	3.346	.954	.414	3.505	.001	.881	.239	.091	.048	20.746
	TDI	.055	.015	.104	3.690	.000	-.164	.251	.096	.839	1.193
	HDI	-.765	1.990	-.011	-.384	.701	-.008	-.027	-.010	.852	1.173
	FITIS	-1.025	2.160	-.013	-.474	.636	.021	-.033	-.012	.901	1.110
	IGAP	-.005	.001	-.110	-3.883	.000	.195	-.264	-.101	.839	1.192
	NPL	-.455	.201	-.088	-2.262	.025	.541	-.157	-.059	.445	2.248
	CORE	-.090	.019	-.208	-4.635	.000	.437	-.310	-.120	.335	2.989
	NOTIONAL	.063	.014	.161	4.487	.000	.194	.301	.116	.522	1.915
	OFFFP	-.041	.015	-.145	-2.795	.006	.663	-.193	-.072	.249	4.017

a. Dependent Variable: MVE

Appendix (14): Study Sample

Lebanon	
BLC	BLCPB LB
Byblos Bank	BYB LB
BLOM	BLOM LB
Jordan	
Jordan kuwait bank	JOKB JR
Jordan commercial	JCBK JR
Housing bank	THBK JR
Arab Jordan investment bank	AJIB JR
Alitihad	UBSI JR
Arab banking Corporation ABC	ABCO JR
invest bank	INVB JR
Capital bank	EXFB JR
Socitie general	SGBJ JR
Cairo amman	CABK JR
Bank of Jordan	BOJX JR
Jordan ahli bank	AHLI JR
Arab bank	ARBK JR
Palestine	
ALRAFAH BANK/ national bank	TNB PS
Palestanian commercial bank	PCB PS
Bank of Palestine	BOP
Palestanian Investment bank	PIBC
Alquds bank	QUDS
Bahrain	
Al-Ahli United Bank	AUB

Appendix (15): The Global Peace Index's Main Categories

Well-Functioning Government
A well-functioning government delivers high-quality public and civil services, engenders trust and participation, demonstrates political stability, and upholds the rule of law.

Sound Business Environment
The strength of economic conditions as well as the formal institutions that support the operation of the private sector and determine the soundness of the business environment. Business competitiveness and economic productivity are both associated with the most peaceful countries, as is the presence of regulatory systems that are conducive to business operations.

Equitable Distribution of Resources
Peaceful countries tend to ensure equity in access to resources such as education and health, as well as, although to a lesser extent, equity in income distribution.

Acceptance of the Rights of Others
Formal laws guaranteeing basic human rights and freedoms and the informal social and cultural norms that relate to behaviours of citizens serve as proxies for the level of tolerance between different ethnic, linguistic, religious, and socio-economic groups within the country. Similarly, gender equality and worker's rights are important components of societies that uphold acceptance of the rights of others.

Good Relations with Neighbours
Peaceful relations with other countries are as important as good relations between groups within a country. Countries with positive external relations are more peaceful and tend to be more politically stable, have better functioning governments, are regionally integrated and have lower levels of organised internal conflict. This factor is also beneficial for business and supports foreign direct investment, tourism and human capital inflows.

Free Flow of Information
Free and independent media disseminates information in a way that leads to greater openness and helps individuals and civil society work together. This is reflected in the extent to which citizens can gain access to information, whether the media is free and independent, and how well-informed citizens are. This leads to better decision-making and more rational responses in times of crisis.

High levels of Human Capital
A skilled human capital base reflects the extent to which societies educate citizens and promote the development of knowledge, thereby improving economic productivity, care for the young, enabling political participation and increasing social capital. Education is a fundamental building block through which societies can build resilience and develop mechanisms to learn and adapt.

Low levels of Corruption
In societies with high corruption, resources are inefficiently allocated, often leading to a lack of funding for essential services. The resulting inequities can lead to civil unrest and in extreme situations can be the catalyst for more serious violence. Low corruption can enhance confidence and trust in institutions.