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THE IMPACT OF FAIR VALUE ACCOUNTING ON EARNINGS PREDICTABILITY: EVIDENCE FROM JORDAN

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ABSTRACT

The main aim of this research paper is to examine the impact of fair value measurements on earnings predictability. This study focuses on analyzing the relationship between fair value measurements and predictability as a measure of earnings quality. The primary data needed to achieve the study objectives were collected through the annual reports of Jordanian commercial banks. Data from ten commercial banks representing the study sample were collected and analyzed using a time series method covering a period of eight years, from 2011 to 2018. The resolution data were analyzed using the statistical program SSPS. The study concluded that the unrealized gains or losses of fair value forecasted through comprehensive income have a high predictive power of earnings quality. The results also prove that the unrealized gains or losses of fair value forecasted through net income have a high predictive power of earnings quality in the Jordanian commercial banks. The regression and correlation coefficient analyses also refer to a strong magnitude between the two variables, the dependent variable (fair value accounting) and the independent variable (earnings predictability).

Contribution/Originality: This study contributes to the existing literature on fair value accounting to improve the predictability and quality of earnings and also improves the accuracy of financial statements in order to help users make better decisions.

1. INTRODUCTION

Since economic conditions are constantly developing and changing, so is the purchasing power of the monetary unit according to surrounding developments and circumstances. All these factors prompted discussions on finding a new approach to accounting measurement, which is referred to as fair value accounting.

The fair value recognition and measurement approach is the most appropriate for decision-making. Financial statements reporting are based on initially reliable information, which is the historical cost approach. However, this approach becomes less reliable over time and does not have the ability to make reliable decisions once a certain period after the occurrence of the event has passed. This is because the financial reports depend on historical records of assets and liabilities, lack up-to-date information on current values, and the historical cost includes a set of assessments, assumptions and different postulates with which it is not possible to make highly accurate comparisons (McDonough & Shakespeare, 2015).

The fair value approach is also one of the approaches that has recently emerged to cover the shortcomings resulting from the application of the historical cost approach. This approach provides users of financial statements with appropriate information to make the right decisions, as this information becomes more relevant with the application of fair value (Sodan, 2015).

The research gap is embodied in the fact that there is still no definite answer regarding specific accounting procedures that can lead to higher earnings quality as research cannot adequately evaluate the portion resulting from the fundamental earnings process. Also, there is no specific accounting process that can promote higher quality earnings.

The importance of earnings quality stems from the importance of general earnings, and these earnings are the generators of decision-making for all users. Users of financial statements and investors view earnings as a future vision. It helps them to predict the continuity of corporate earnings in future periods, while financial analysts consider financial statements as the primary source on which they rely for analyzing information and making rational decisions (Schipper & Vincent, 2003). Earnings quality can be used as an indicator of dividends, as these dividends are important matters that are taken into account when making investment decisions (Chen, Lo, Tsang & Zhang, 2013). Earnings are also considered indirect indicators for evaluating the quality of accounting standards, as there is a direct relationship between earnings quality and the quality of accounting information (Barth., Beaver & Landsman, 2001). There are various measures of earnings quality, but the most well-known measures are persistence, predictability, accruals quality, earnings smoothing and value relevance.

Predictability refers to the idea that earnings are of higher quality and are more beneficial for predicting future earnings. It is noted that the predictive power of profits is affected by the time series of earnings and the fluctuation of business operations, the economic environment and the accounting system used by companies. Sodan (2015) noted that the basic assumption of value relevance of fair value research is that fair value information can predict future cash flows. Therefore, instead of measuring the correlation between fair value estimates and market prices or returns, the usefulness of fair value information can also be examined directly by analyzing its predictive power with respect to future cash flows and future earnings. In other words, fair value estimates represent the present value of expected future cash flows, so if fair values are reliable measures of asset values, changes in the fair values (i.e., unrealized fair value gains and losses) should be reflected in changes of future performance (Barth, 1994). Conversely, if fair value estimates are not reliable, then the correlation with future performance measures will not be significant.

Following Sodan (2015), we adopted his concept of measurement, as he noted that exposure to fair value accounting is measured using comprehensive or net income approaches. That is, changes in fair values can be reported as gains and losses through net income or other comprehensive income. Therefore, we analyzed the effect of fair value gains (losses) through other comprehensive income and net income on predictability as an earnings quality measure.

The main aim of this research paper is to examine the impact of, and the relationship between, fair value measurements on earnings predictability. In order to achieve the objectives of this research, the annual reports of Jordanian commercial banks were collected and analyzed using a time series method covering the period from 2011 to 2018.

2. LITERATURE REVIEW

The historical cost approach represents the actual and the reality of an event when it occurred at the moment of exchange, i.e., this value was formulated in the past and may not represent the real value at the present time and may cause deviation from the present value. This drew criticism of the principle of historical cost, which forced us to search for a new accounting alternative to keep pace with the economic conditions that are characterized by

ongoing fluctuations, which cause changes in purchasing power, create instability and may lead to inflation or depression (Muller, Riedl & Sellhorn, 2008).

It is indisputable that the concept of fair value has transferred the traditional accounting theory to new horizons and has brought about a comprehensive change in the structure of financial statements and their implications. This was a result of developments in accounting theory during recent years that have matured and were implemented in international accounting standards related to fair value and it was put into practice at the beginning of the third millennium, since 2001 (Sodan, 2015). When a company uses the fair value method, it may generate a larger income due to the difference between fair value and book value, which is recognized as part of gain and loss from the application of fair value. Meanwhile, by using the cost model, the amount of net income or loss is only affected by depreciation expense (Wahyuni, Soepriyanto, Avianti & Naulibasa, 2019).

One of the most important accounting tasks is choosing the correct evaluation method for assessing assets and liabilities. This has been confirmed by many scientists, such as McDonough & Shakespeare, 2015, who are convinced that the financial position and results of economic activities represented in balance sheets and income statements depend not only on the current reality, but also on the methods for estimating and calculating the reported indicators.

The concept of fair value appeared in the nineteenth century and the beginning of the twentieth century, but recent times have witnessed a lot of research and controversy among researchers calling for its discontinuation due to misuse and manipulation of accounting numbers when preparing financial reports. Abuse of fair value reached a peak during the twenties of the last century in many industrialized countries where prosperity and inflation have encouraged the development of optimistic repercussions of values, and many of them have returned to a significant decline due to the global recession (Thomason, 2017).

Between 2006 and 2007, new accounting statements were issued that expanded the scope of fair value accounting, which led to a discussion that extended beyond the accounting profession to the rest of the business community. Although fair value accounting is not a new concept or a new accounting practice, new data requirements coupled with the recent credit crunch that started in 2007 have caused many companies and users of financial data to question whether current fair value accounting practices should continue.

Therefore, it is important to make a decision to resolve this difference because many companies that use fair value accounting have to record their assets and liabilities in difficult circumstances, such as the market crash, which makes the financial statements of these companies appear much worse than they really are. Since the purpose of financial statements is to clarify the financial condition of the company and its activities during the financial year and allow users of financial data to forecast future cash flows of the company, when the market collapses and the values of assets and liabilities appear below their actual value, this leads to distortion of the financial position of the company and it appears unable to achieve its intended goals (McDonough & Shakespeare, 2015).

When searching for the concept of fair value, it was noted that it has several definitions. It was defined as a value that is reached at a specific time according to certain assumptions and by using an appropriate accounting method consistent with the purpose of determining that value, and at the end it is accepted by the parties concerned (Muller et al., 2008).

The International Financial Reporting Standards (IFRS) has defined fair value as the book amount that can be exchanged for an asset or liability settlement or equity instrument. The International Accounting Standards Board (IASB) has defined fair value as the value by which an asset can be exchanged or a liability settled between the parties who each have a willingness to exchange, are aware of the facts, and execute the deal with free will. IAS 40 defines fair value as the amount for which an asset can be exchanged between knowledgeable willing parties in a transaction (IFRS, 2015).

Fair value accounting is also called mark-to-market accounting. This is an accurate description because the assets and liabilities are evaluated on the basis of the financial statements based on the market prices and

information available for the asset or liability. The fair value is used to reflect market participants' assumptions regarding future flows associated with an asset (future economic benefits) and future external flows associated with liabilities (future sacrifices of economic benefits (FASB, 2018).

Moving towards the step of applying the fair value scale could improve appreciation of fair values. Fair value estimates become more appropriate, reliable and closer to the accurate disclosure of financial statements, and accordingly, the American Financial Accounting Standards Advisory Board related to relevance and reliability encouraged the use of fair value measures in financial statements. It believes that fair value is more appropriate for both investors and lenders compared to historical cost information, and institutions that implement and publish their financial statements measured at fair value show realistic and non-overstated results (Muller et al., 2008).

The importance of accounting measurement and disclosure is one of the most important factors that affect financial statements and make them more appropriate for investment decisions. In order to evaluate financial investments in a way that reflects the market value more accurately, the fair value approach is recommended over the historical cost approach. Adoption of fair value increases the quality of accounting information and helps both management and investors to assess the efficiency of maintaining a company's assets (Sodan, 2015).

Also, the introduction of fair value leads to achieving a set of advantages that can be summed up in the following (Sing & Meng, 2005):

- The fair value is consistent with the fair expression of the financial statements represented by the financial position, cash flows and changes in the equity of the company.
- The fair value method is characterized by the fact that assets and liabilities are valued on the basis of economic income where market prices are taken into account.
- The application of the fair value is consistent with the concept of preserving capital, especially when it moves away from the historical cost approach.

Nellessen and Zuelch (2011) believe that one of the important advantages that fair value may provide is adequate data for investors and shareholders to be able to make effective predictions.

There are many factors that a financial reporting entity must consider when determining the fair value of an asset or a liability. It is important to first identify the asset or obligation being measured because the characteristics of the asset or liability will affect the measurement process. Among the specific features that affect the fair value are the condition or location of the asset, or restrictions imposed on the sale or use of the asset at the date of measurement, if any. As there is a difference in whether the measured asset or liability is independent or under restrictions, such as an operating asset or a financial instrument, the fair value of a group of assets or liabilities may be different from the fair value of the individual items because the group value may be greater than the sum of the fair values of individual items (Bowers, 2011).

Bowers (2011) indicated that the application of fair value has a set of components, such as the transaction price, or the price of the business transaction, where the price used to determine the value of an asset or a liability is the focus of fair value measurements. The price is determined as the amount received to sell an asset or the price paid to transfer a liability in a hypothetical transaction. This hypothetical transaction must also be considered as structured if the transaction has already taken place, and in order to be considered a structured transaction it must be presented on the market for a period of time to allow the usual marketing activities to take place. Another component is the transaction market. This is the market in which theoretical transactions take place and is one of the important assumptions that the reporting entity must make regarding where the transaction is supposed to occur in the main market for that asset or liability, or the most advantageous market. The market is considered to be the one in which the notifying entity sells or transfers the obligation to the largest volume or level of activity of that asset or liability (FASB, 2018). The market in which the reporting entity usually disposes of the asset or liability is considered to be the most knowledgeable and most beneficial market for the item to be reported in the

financial statements. Usually the main market includes buyers who are looking to buy this item and have a thorough knowledge of it.

The third component is the market participants. In addition to the price and the transaction market, the financial reporting entity must make assumptions regarding market participants and those involved in the transaction. Market participants are defined as buyers and sellers in the market and are considered as one of the main tools for determining prices. Also, market participants are the people or entities present in the market independently from the entity preparing the financial reports and who have reasonable knowledge (i.e., they have a reasonable understanding of the underlying or the obligations and the treatment based on all available information), and who are able to fulfill the original obligation and are fully prepared to complete the deal.

The fair value measurement is also affected by whether the item being measured is an asset or a liability. If the element is an asset, it should be assumed that the financial reporting entity will make the best use of the asset by market participants (FASB, 2018). This assumption is intended to mean that market participants will use the asset in a way that increases the value of the asset or group of assets. In order to determine a higher and better value for use, the entity preparing the financial reports must consider how market participants use the asset, not as the company itself considers using the asset. Financial assets, such as securities, are examples that provide the maximum value on an independent basis.

The fifth component is the continued commitment (assessment of obligations). There are factors that affect the measurement of fair value of the obligations. Here, the entity preparing the financial reports must assume that the obligation continues to exist after the hypothetical transfer. As the liability remains, the risk of non-performance of the obligation continues, and this is known as the risk of non-performance. Usually, the default risk includes the credit risk of the reporting entity. Other risks of non-performance must also be reflected in the fair value of the obligation because it will affect the price that will be paid to transfer the obligation. In addition, the overall credit position of the entity preparing the financial reports must be considered when measuring the fair value of an obligation.

The Financial Accounting Standard Board (FASB) and the International Accounting Standards Board (IASB) have been discussing whether fair value measurement should be extended to a more complete set of financial instruments, or whether it should be valued using the current mixed attribute model (Fontes, Panaretou & Peasnell, 2018). Recently, there have been standards issued by the International Accounting Standards with regard to fair value. Financial Reporting Standard No. 9 for financial instruments states that the standard aims to establish principles for preparing financial reports for financial assets and liabilities so that they display their information appropriately and are of value to users of financial statements. This standard came to replace IAS 39 as it divided financial assets into two groups:

- Measuring financial assets at amortized cost by extinguishing the premium or discount and recognizing profits or losses from the asset measured at amortized cost in the income statement.
- Measuring financial assets at fair value, but financial assets intended for hedging and investing in equity instruments are excluded.

International Accounting Standard No. 13 is also one of the standards that measures fair value. This standard adopts the fair value approach in measuring assets and liabilities instead of the historical cost approach. This standard defines fair value as the amount received in exchange for selling an asset or money paid to transfer a commitment between the seller and the buyer at the same time. The standard is based on methods for measuring fair value (Penman, 2007).

- Market method: where the asset or liability in question is measured with appropriate prices and information.
- Cost method: the amount that is paid to replace the original measurement, which is called the current replacement cost.

- Income method: this converts future cash flows into a single amount of money, which reflects the current market expectations for future flows.

Finally, there is widespread debate around fair value accounting since it was first used in the framework of generally accepted accounting principles (GAAP) in the United States, but it has become a hot topic in recent years. With the release of SFAS 157 and SFAS 159, fair value accounting has become more prominent in financial statements and has thus attracted more attention than before. In addition, in late 2007, the major markets collapsed due to the credit crunch that arose in the mortgage markets, and when the markets collapsed in late 2007 and 2008 the value of the asset-backed securities, especially those associated with high-risk mortgages, decreased. As soon as that happened, financial institutions had to reduce many of their assets, which caused the market value of those institutions to decrease and this led to current discussions about fair value (Fornelli, 2009). The discussions on fair value accounting focused on whether or not the practice should be maintained and included businesspeople from all over the world, not just accountants. Since financial institutions, such as banks, credit unions and insurance companies, were the hardest hit by the credit crunch and had to devalue many of their assets, they were at the forefront of those who opposed fair value accounting. In addition, many of the companies that were initially opposed to fair value accounting applied fair value measurements to all assets and liabilities because they required a large number of estimates, which can lead to large fluctuations in the income statements. There was also widespread support for fair value accounting from many financial analysts (Jensen, 2007).

In addition, the SEC has indicated that most investors and other users of financial statements support fair value accounting because it gives an additional insight into the risks of a company and the potential liquidity issues that it may face if it needs to sell securities. There are many people who are either for or against fair value accounting for various reasons. Those who oppose fair value accounting have many arguments that point to weaknesses that have arisen during the credit crisis, especially weaknesses related to third level entries in the fair value hierarchy defined in Statement No. SFAS 157, when the credit crunch began in late 2007 (Ball & Shivakumar, 2005). The crisis intensified during 2008 and 2009 and caused the collapse of many markets, which led to major problems for many companies, and this collapse caused a decrease in the liquidity ratio in global markets. As a result of the credit crunch and the lack of liquidity in the markets, this led many financial institutions to reduce more than $350 billion of assets. The operations of reducing these assets have led to the emergence of losses in many of these institutions in their financial statements and have also led the institutions to stop using fair value accounting (Moyer, 2008).

Pro-cyclicality is one of the weaknesses in fair value accounting. It is defined as an amplifier of the fluctuations of regular periodic business, whether during booms or recessions, which creates prerequisites for increased instability and weak financial systems. It is well known that fair value accounting leads to recognition of the gains or losses that follow economic cycles, which can lead to cycles being overrated and can exacerbate periodic movements in the values of assets and liabilities (Lefebvre, Simonova & Mihaela, 2009). In boom times, the fair values of the assets increase allowing companies to record the values of those assets above their actual values and maximize profits by recognizing the gains from those assets. These increases in profits and asset values allow financial institutions to increase their leverage, which is the amount of borrowed money used by the company, because the amount that the company can borrow often relates to the value of a company's assets. The problem with increasing leverage is that the company may be unable to repay its debts. In addition to the increase in leverage, increases in profits and asset values held by the company limit the incentives provided by the company to create reserves that can be used in times of financial crisis (Gaio & Raposo, 2011).

On the other hand, during periods of recession, fair value accounting leads companies to reduce the value of assets to new, reduced market values, and it can also reduce pressure on prices in already weak markets, which leads to further falls in market prices. This occurs because financial institutions may attempt to write off their assets by selling securities in illicit markets even though the securities would have been held until maturity. Holding them until the maturity date means that the company plans to preserve the securities until the date the securities are paid

by the issuing company and selling these securities will result in a lower exit price than if the companies had held the securities as planned. These forced sales become observable inputs that other companies use to value their assets at fair value. By using information from forced sales, other companies must reduce the value of their assets more than they otherwise would in order to reverse the low exit price that will be received in the current market. In addition, non-performing companies may want to wait to sell securities in this market until the market price recovers from the decrease due to forced sales (Laux & Leuz, 2009).

In addition to normal market fluctuations, there are situations that may cause unrealized gains and losses to be reversed if a company maintains assets or liabilities. This occurs when market prices are bubble prices, that is, they are unrealistic. Bubble prices are prices that have been amplified by market optimism and excess liquidity, or decreased by market pessimism and lack of liquidity, and do not reflect the underlying values of assets or liabilities (Ryan, 2008).

The dependent variable, earnings quality, has been the subject of many empirical studies analyzing trends and accounting trends on this topic over time and across countries. Most of this research evaluated the effects of changes in accounting standards, auditing and corporate governance and studied their relationship to the cost of capital. Experimental literature has also been developed for several measures of earnings quality, including earnings continuity, predictive power, preliminary earnings, quality of receivables, appropriate value and discretion and tightness. Despite the widespread use of these standards, the theoretical literature provides a limited view of whether these measures have the same or different structures. Theoretical literature also provides limited guidance on whether these methods are alternatives or complementary to each other. These issues are of fundamental importance for the interpretation of empirical studies using earnings quality. For example, some studies used a single measure or multiple measures of earnings quality or grouped several measures at certain points without a theoretical direction, nor did they show how to interpret the results of these studies.

There is also controversy over whether an increase in measurement methods leads to an increase or decrease in earnings quality. For example, many studies have used discretionary receivables as an alternative to earnings management, which has been translated as reducing earnings quality; other studies say that estimated receivables carry important information and should be positively related to earnings quality. Empirical studies acknowledge the difficulties in using these metrics and translating the results, and some authors use the term "earnings characteristics" rather than earnings quality, which is the most neutral term (Ewert & Wagenhofer, 2015).

A number of researchers, including Kazemi, Hemmati and Faridvand (2011) and Demrjian (2007), in the field of accounting dealt with earnings quality and its concept with several meanings according to different users of the financial statements and what they aimed to achieve from their use. Regarding what the earnings contain in terms of quality properties, financial researchers believe that the inclusion of the earnings disclosed on extraordinary items needs more attention regarding the quality that these earnings contain, even if they are in line with the generally accepted accounting principles. Legislators and auditors believe that earnings of high quality should be disclosed in a manner consistent with generally accepted accounting principles, but there are those who consider them to be used in the event that they have a greater ability to be converted into cash flows (Demrjian, 2007).

Kazemi et al. (2011) defined earnings quality as continuous and expected earnings that are closer to cash and of a higher quality. DeFond (2010) also stressed that earnings quality is the ability of current earnings that a company has to provide as a true picture of the company's current financial situation as possible and its ability to continue in the future. According to data users, creditors believe that earnings are used to make credit decisions and shareholders consider earnings to be used as a measure of the efficiency of the management.

Demrjian (2007) noted that the concept of earnings quality is related to the extent of earnings continuity. Where the earnings quality is related to cash flows, the higher the quality of earnings, the greater the cash flow. Jenkins (2006) expressed that earnings quality is the extent to which earnings are free from earnings management

practices based on the concept of total receivables and the percentage of voluntary entitlements and that the earnings quality is high whenever the practices of earnings management are fewer.

Among the first set of profit quality measures based on accounting are persistence and predictability. Persistence represents the continuity of accounting earnings. It also represents how the current accounting earnings relate to future earnings, and permanent earnings are described as high-quality earnings. Persistence measures the extent to which current earnings are currently, or will be, repeated. It is generally estimated using the regression coefficient due to the decline of current earnings on arrears or on components of arrears, for example, cash flows and accruals. It is worth noting that continuity is positively related to the high quality of earnings because it refers to the process of generating stable, sustainable and less volatile earnings; this is usually evaluated by investors. Yao, Percy, Stewart and Hu (2018) predicted that fair value exposure can either increase or decrease earnings persistence. Fair values summarize the present values of expected future cash flows and therefore should be an indicator of future performance. Fiechter and Meyer (2010), Jaspar (2012) and Chen et al. (2013) noted that if managers are able to use fair value accounting to smooth earnings, then cross-sectional earnings will be more persistent.

Predictability refers to the idea that earnings are of higher quality and are more beneficial for predicting future earnings. Similar to persistence, predictability is seen as a desirable feature of earnings because it increases the accuracy of earnings expectations. A common statistical scale to measure the predictive power of accounting earnings using a regression coefficient (R2: R-squared) is a statistical measure that represents the ratio of variance to a dependent variable, which is explained by an independent variable or variables in the regression model. It is worth noting that the predictive power of profits is affected by the time series of profits and the fluctuation of business operations, the economic environment and the accounting systems used by companies. Given the interest of analysts and users of financial statements in the accounting system that measure profits, we must control other elements that affect the results of this analysis, and for this reason, we assumed that measures of the time series of earnings quality (after controlling other factors) led to better results than the others measures (Perotti & Wagenhofer, 2011). Earnings predictability is primarily driven by the assumption that cash flow forecasting is useful as an input into equity valuation models (Dechow, Ge & Schrand, 2010). Also, one of the stated purposes of financial reporting by the International Accounting Standards Board and the Financial Accounting Standards Board is to provide useful information for assessing future financial performance that can be operated through future cash flows. Therefore, profits can be considered more beneficial if we accurately forecast future cash flows.

Earnings from financial reports are the main profitability indicator as well as the main source of financial information in the capital markets, i.e., earnings are a good indicator of future cash flows and provide more useful information about a company's economic performance. Therefore, since the earnings include information of great importance about the value of a company, they are used as a primary means of informing external users of the financial and accounting aspects of a company (Schipper & Vincent, 2003).

The issue of earnings quality is of great importance to market participants and the financial reporting process. Investors also pay close attention to earnings in order to better assess a company's value and performance and to make the right investment decisions (Gaio & Raposo, 2011). Financial analysts also use earnings to prepare forecasts on the future results of securities. It is worth noting that investors in corporations and companies' boards of directors are concerned with earnings in order to estimate the quality of management and a company's general performance. Standards also view the quality of financial reports as an indicator and an indirect comment in the assessment of the quality of financial reporting standards (Schipper & Vincent, 2003). Shareholders also use earnings as a direct basis for awarding bonuses and indirectly as reference points to stimulate the granting of executive stock options to senior managers (Peasnell, Pope & Young, 2000).

Table 1. The predictive power of fair value gains through other comprehensive income.

Bank	Year	CFO	CI (Comprehensive Income)	Bank	Year	CFO	CI (Comprehensive Income)
Arab Bank PLC	2018	1,370,303,000	880,221,000	Jordan Kuwait Bank	2018	58,178,243	38,360,573
	2017	1,047,030,000	535,054,000		2017	58,033,579	28,718,600
	2016	969,871,000	397,409,000		2016	63,276,025	31,319,644
	2015	752,219,000	234,031,000		2015	77,446,056	37,297,542
	2014	847,741,000	390,185,000		2014	108,956,779	67,167,227
	2013	764,818,000	326,255,000		2013	116,481,781	71,205,307
	2012	417,436,000	153,127,000		2012	114,804,148	66,839,628
	2011	443,528,000	111,639,000		2011	107,811,900	55,626,451
Jordan Bank	2018	70,601,066	21,701,134	Jordan Ahli Bank PLC	2018	34,226,832	17,495,384
	2017	67,583,363	62,720,116		2017	31,965,213	12,270,857
	2016	68,004,742	76,511,280		2016	32,212,367	6,646,618
	2015	66,037,368	59,355,385		2015	34,793,605	22,195,965
	2014	69,396,739	41,635,466		2014	34,793,605	34,437,490
	2013	63,950,205	48,096,843		2013	34,793,605	15,957,073
	2012	64,384,923	36,733,677		2012	49,100,436	23,415,419
	2011	64,096,020	31,648,717		2011	49,263,325	24,709,158
Cairo Amman Bank	2018	50,963,957	28,929,117	The Housing Bank for Trade & Finance	2018	194,694,406	83,715,119
	2017	45,687,750	31,363,033		2017	180,883,084	132,826,087
	2016	53,137,037	34,722,082		2016	203,211,403	102,190,869
	2015	63,043,843	32,240,991		2015	197,196,317	86,484,538
	2014	67,952,581	44,809,341		2014	200,164,974	97,018,065
	2013	65,533,574	39,940,890		2013	224,860,734	72,639,387
	2012	53,725,782	34,666,404		2012	207,017,392	64,067,288
	2011	52,631,668	34,508,432		2011	182,049,276	90,884,655
Capital Bank of Jordan	2018	38,200,000	37,400,000	Arab Jordan Investment Bank	2018	25,821,095	15,257,757
	2017	55,500,000	31,400,000		2017	27,582,424	18,539,334
	2016	35,800,000	27,100,000		2016	35,542,951	18,641,927
	2015	19,900,000	11,100,000		2015	38,224,649	22,554,797
	2014	57,800,000	50,100,000		2014	35,315,296	23,639,300
	2013	49,600,000	48,700,000		2013	23,526,019	17,594,544
	2012	57,600,000	29,700,000		2012	26,582,224	14,557,257
	2011	17,800,000	2000,000		2011	33,542,751	16,739,134
Jordan Commercial Bank	2018	11,730,407	4,475,414	Societe Generale Jordan	2018	14,284,493	7,651,208
	2017	14,979,159	3,725,808		2017	10,861,355	8,276,791
	2016	18,176,686	11,978,279		2016	15,911,006	10,853,785
	2015	36,442,238	24,114,060		2015	14,070,051	10,069,226
	2014	19,052,187	13,840,892		2014	11,981,417	9,204,742
	2013	14,514,726	4,149,256		2013	10,231,257	7,001,701
	2012	3,263,158	3,036,278		2012	5,680,113	4,738,310
	2011	-935,283	-992,003		2011	4,382,691	3,242,354

3. METHOD

The primary data needed to achieve the study objectives were collected through the annual reports of Jordanian commercial banks. The study population was formulated from 13 commercial banks. Data from ten commercial banks representing the study sample were collected and analyzed using a time series method from 2011 to 2018. The effect of unrealized fair value gains (losses) through other comprehensive income was separately examined in each sub-model. Also, the relationship between unrealized fair value gains (losses) was tested through net income from the sampled banks.

We applied the following regression model to examine the predictive power of comprehensive income and thus the predictive power of fair value gains through other comprehensive income:

$$CFO_{i,t} = \beta_0 + \beta_1 CI_{i,t} - 1 + \varepsilon_{i,t} \quad (1)$$

where,

CFOi,t is defined as the net income before tax plus loan loss provisions for bank i in year t scaled by total assets.

CIi,t-1 is the comprehensive income for bank i in year t- 1 scaled by total assets.

When analyzing the predictive ability of net income and predictive ability of fair value gains and losses through net income for banks, we applied following model:

$$CFO_{i,t} = \beta_0 + \beta_1 NI_{i,t} - 1 + \varepsilon_{i,t} \quad (2)$$

where,

CFOi,t is defined as the net income before tax plus loan loss provisions for bank i in year t scaled by total assets.

NIi,t-1 is the net income for bank i in year t-1 scaled by total assets.

Table 2. The predictive power of fair value gains through net income.

Bank	Year	CFO	NI (Net Income)	Bank	Year	CFO	NI (Net Income)
Arab Bank PLC	2018	1,370,303,000	820,544,000	Jordan Kuwait Bank	2018	58,178,243	42,143,508
	2017	1,047,030,000	532,963,000		2017	58,033,579	26,955,793
	2016	969,871,000	532,666,000		2016	63,276,025	30,005,810
	2015	752,219,000	442,123,000		2015	77,446,056	39,411,676
	2014	847,741,000	577,153,000		2014	108,956,779	65,954,437
	2013	764,818,000	326,255,000		2013	116,481,781	66,879,880
	2012	417,436,000	263,001,000		2012	114,804,148	65,737,527
	2011	443,528,000	145,085,000		2011	107,811,900	55,989,712
Jordan Bank	2018	70,601,066	41,244,423	Jordan Ahli Bank PLC	2018	34,226,832	21,277,280
	2017	67,583,363	45,609,461		2017	31,965,213	13,318,885
	2016	68,004,742	42,202,024		2016	32,212,367	6,274,933
	2015	66,037,368	40,062,793		2015	34,793,605	22,823,724
	2014	69,396,739	44,824,589		2014	34,793,605	34,160,812
	2013	63,950,205	36,393,178		2013	34,793,605	16,003,889
	2012	64,384,923	33,189,566		2012	49,100,436	23,895,696
	2011	64,096,020	36,570,701		2011	49,263,325	23,241,924
Cairo Amman Bank	2018	50,963,957	29,706,735	The Housing Bank for Trade & Finance	2018	194,694,406	94,526,738
	2017	45,687,750	29,967,780		2017	180,883,084	125,204,267
	2016	53,137,037	34,733,879		2016	203,211,403	131,012,613
	2015	63,043,843	41,168,254		2015	197,196,317	124,728,034
	2014	67,952,581	44,533,367		2014	200,164,974	123,917,229
	2013	65,533,574	40,795,896		2013	224,860,734	106,926,629
	2012	53,725,782	35,286,174		2012	207,017,392	104,488,612
	2011	52,631,668	36,596,414		2011	182,049,276	100,002,298
Capital Bank of Jordan	2018	38,200,000	30,300,000	Arab Jordan Investment Bank	2018	25,821,095	16,816,327
	2017	55,500,000	27,300,000		2017	27,582,424	17,174,949
	2016	35,800,000	16,100,000		2016	35,542,951	22,638,300
	2015	19,900,000	1,100,000		2015	38,224,649	23,185,030
	2014	57,800,000	36,300,000		2014	35,315,296	24,363,372
	2013	49,600,000	37,000,000		2013	23,526,019	16,662,117
	2012	57,600,000	22,000,000		2012	26,582,224	16,274,749
	2011	17,800,000	1,400,000		2011	33,542,751	20,238,302
Jordan Commercial Bank	2018	11,730,407	5,029,366	Societe Generale Jordan	2018	14,284,493	8,284,945
	2017	14,979,159	3,788,813		2017	10,861,355	7,810,209
	2016	18,176,686	9,325,406		2016	15,911,006	10,908,035
	2015	36,442,238	15,756,877		2015	14,070,051	10,009,226
	2014	19,052,187	10,002,131		2014	11,981,417	9,200,992
	2013	14,514,726	3,199,256		2013	10,231,257	7,001,620
	2012	3,263,158	2,062,878		2012	5,680,113	4,734,560
	2011	-935,283	-1,329,749		2011	4,382,691	3,259,854

Previous research by Sodan (2015), Francis, LaFond, Olsson and Schipper (2004) and Gaio (2010), earnings predictability measurement is based on the variance of earnings shocks, where higher variance implies lower predictability. Thus, predictive ability is measured as a standard deviation of estimated errors from Equations 1 or 2. Large values of standard deviations correspond to less predictable earnings, and vice versa.

Table 1 and Table 2 include the components of formula *(1)*, the predictive power of comprehensive income, and formula *(2)*, the predictive power of net income.

3.1. Research Design

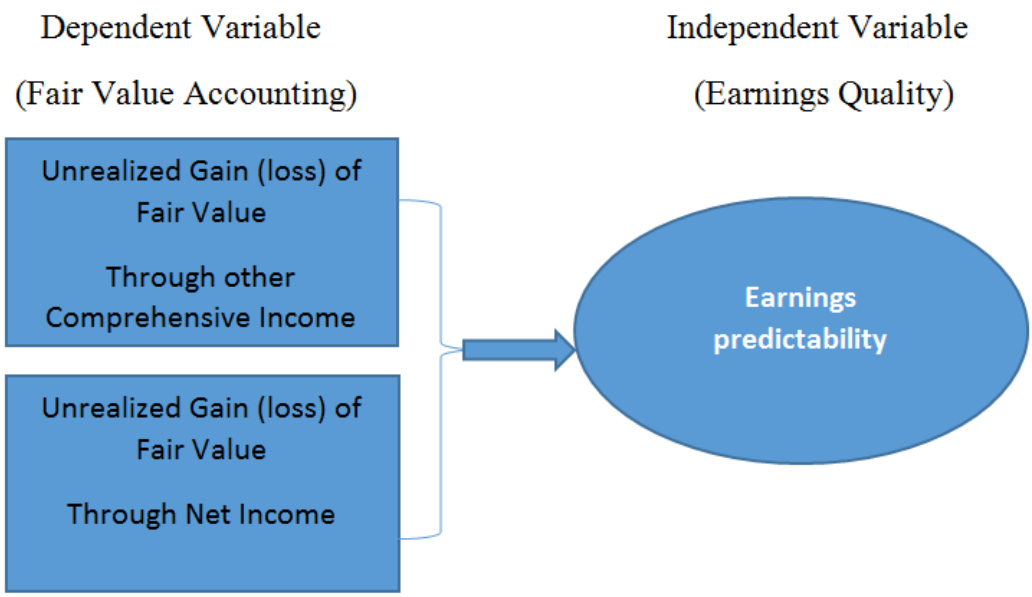

Figure 1. Research design.

Source: Sodan (2015).

Figure 1 illustrates the research design, which examines the impact of fair value accounting on earnings predictability as a measure of earnings quality. It is formed from the dependent variable's fair value accounting through gains and losses from comprehensive and net incomes.

3.2. Research Hypotheses

H01: Fair value accounting through other comprehensive income is positively related to earnings predictability.

H02: Fair value accounting through net income is positively related to earnings predictability.

3.3. Empirical Results

Table 3. Empirical results.

The predictive power of fair value gains through comprehensive income	
Standard error deviation	0.06
Correlation	0.963
R square	0.927
No. of observations	80
The predictive power of fair value gains through net income	
Standard error deviation	0.032
Correlation	0.987
R square	0.975
No. of observations	80

A descriptive analysis was conducted to find out the standard error deviation for the first formula—the predictive power of fair value gains through comprehensive income. The results show that the standard error deviation of the predictive power of fair value gains through comprehensive income is 0.06, or 6%, which indicates a high reliance on comprehensive income or high predictable earnings of fair value through comprehensive income.

The results also show that the standard error deviation of the predictive power of fair value gains through net income is 0.032, or 3.2%, which refers to high predictable earnings of fair value through net income, or a high reliance on net income.

To test the first hypothesis, regression and correlation analyses were conducted for the variables included in formula (1), CFO and comprehensive income. The results shows that regression between the two variables is 92.7%, which refers to a high percentage of variance between the dependent variable (fair value accounting) and the independent variable (earnings predictability) through comprehensive income, in other words, there is a strong relationship between the two variables. The correlation coefficient was also conducted in order to measure the statistical relationship or the magnitude between the two variables. The results of the correlation show that there is a strong magnitude between the two variables reaching 96.3%. In other words, we can say that the dependent variable can predict 96.3% of the value of the independent variable.

To test the second hypothesis, regression and correlation analyses were also conducted for the variables included in formula (2), CFO and net income. The results show that regression between the two variables is 97.5%, which refers to a high percentage of variance between the dependent variable (fair value accounting) and the independent variable (earnings predictability) through net income. The results of the correlation show that there is a strong magnitude between the two variables reaching 98.7%. In other words, we can say that the dependent variable can predict 98.7% of the value of the independent variable.

4. CONCLUSIONS & RECOMMENDATIONS

The main results from the preliminary research conducted are in favor of our hypotheses, which generally supports our expectations. The results show that the unrealized gains or loss of fair value forecasted through comprehensive income has a high predictive power of earnings quality. Also, the results prove that the unrealized gains or loss of fair value forecasted through net income has also a high predictive power of earnings quality in the Jordanian commercial banks.

The results of the regression analysis show a high percentage of variance between the dependent variable (fair value accounting) and independent variable (earnings predictability) through comprehensive income, and the correlation coefficient also refers to a strong magnitude between the two variables.

Based on previous results, we recommend that further research is carried out on earnings quality measures collectively (persistence, accruals, smoothness and earnings predictability) in order to have aggregate results between fair value accounting and earnings quality.

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REFERENCES

Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: Comparative loss recognition timeliness. *Journal of Accounting and Economics*, *39*(1), 83-128.Available at: https://doi.org/10.1016/j.jacceco.2004.04.001.

Barth, M. E. (1994). Fair value accounting: Evidence from investment securities and the market valuation of banks. *Accounting Review*, *69*(1), 1-25.

Barth., M. E., Beaver, W. H., & Landsman, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics*, *31*(1-3), 77-104.Available at: https://doi.org/10.1016/s0165-4101(01)00019-2.

Bowers, K. A. (2011). Fair value accounting debate and the future of the profession. Honors Program Theses. 7. Retrieved from: https://scholarworks.uni.edu/hpt/7.

Chen, C., Lo, K., Tsang, D., & Zhang, J. (2013). *Earnings management, firm location, and financial reporting choice: An analysis of fair value reporting for investment properties in an emerging market*: Working Paper, The University of British Columbia.

Dechow, P., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants and their consequences. *Journal of Accounting and Economics*, *50*(2-3), 344-401.Available at: https://doi.org/10.1016/j.jacceco.2010.09.001.

DeFond, M. L. (2010). Earnings quality research: Advances, challenges and future research. *Journal of Accounting and Economics*, *50*(2-3), 402-409.Available at: https://doi.org/10.1016/j.jacceco.2010.10.004.

Demrjian, S. (2007). Accounting conservatism and auditing quality: An applied study on Egyptian corporations. *European Journal of Business and Management*, *4*(21), 108-116.

Ewert, R., & Wagenhofer, A. (2015). Economic relations among earnings quality measures. *Abacus*, *51*(3), 311-355.Available at: https://doi.org/10.1111/abac.12054.

FASB. (2018). Fair value measurements (topic 820). Disclosure Framework—Changes to the Disclosure Requirements for Fair Value Measurement, Retrieved from: https://asc.fasb.org/ [Accessed Jan 20th 2020].

Fiechter, P., & Meyer, C. (2010). Big bath accounting using fair value measurement discretion during the financial crisis. Working Paper: University of Zurich.

Fontes, J. C., Panaretou, A., & Peasnell, K. V. (2018). The impact of fair value measurement for bank assets on information asymmetry and the moderating effect of own credit risk gains and losses. *The Accounting Review*, *93*(6), 127-147.Available at: https://doi.org/10.2308/accr-52070.

Fornelli, C. (2009). The great fair-value debate. Forbes. Retrieved from: http://www.forbes.com. [Accessed Jan 19th 2020].

Francis, J., LaFond, R., Olsson, P. M., & Schipper, K. (2004). Costs of equity and earnings attributes. *The Accounting Review*, *79*(4), 967-1010.Available at: https://doi.org/10.2308/accr.2004.79.4.967.

Gaio, C. (2010). The relative importance of firm and country characteristics for earnings quality around the world. *European Accounting Review*, *19*(4), 693-738.Available at: https://doi.org/10.1080/09638180903384643.

Gaio, C., & Raposo, C. (2011). Earnings quality and firm valuation: International evidence. *Accounting & Finance*, *51*(2), 467-499.Available at: https://doi.org/10.1111/j.1467-629x.2010.00362.x.

IFRS. (2015). International financial reporting standards' Annual report, statement of financial position. Retrieved from: https://asc.fasb.org/ [Accessed Jan 20th 2020].

Jaspar, R. (2012). Incentives for earnings management with fair value in the 2008 financial crisis. Working Paper, Master thesis Department Accountancy, Faculty of Economics and Business Studies, Tilburg University.

Jenkins, W. (2006). Accounting conservatism and firm value: evidence from the global financial crisis. MIT Sloan Research Paper No 4946-11.

Jensen, R. E. (2007). Fair value accounting in the USA. Retrieved from http://citeseerx.ist.psu.edu. [Accessed Jan 20th 2020].

Kazemi, H., Hemmati, H., & Faridvand, R. (2011). Investigating the relationship between conservatism and earnings attribute. *World Applied Science Journal*, *12*(9), 1385-1396.

Laux, C., & Leuz, C. (2009). The crisis of fair value accounting: Making sense of the recent debate. Booth School of Business, The University of Chicago, Chicago, IL, Working Paper No. 33.

Lefebvre, R., Simonova, E., & Mihaela, S. (2009). Fair value accounting: The road to be most travelled. Retrieved from http://www.cga-canada.org. [Accessed 20th Jan 2020].

McDonough, R. P., & Shakespeare, C. M. (2015). Fair value measurement capabilities, disclosure, and the perceived reliability of fair value estimates: A discussion of Bhat and Ryan (2015). *Accounting, Organizations and Society*, *46*(C), 96-99.

Moyer, L. (2008). How fair is fair value accounting? Forbes. Retrieved from http://www.forbes.com. [Accessed Jan 28th 2020].

Muller, K. A., Riedl, E. J., & Sellhorn, T. (2008). Consequences of voluntary and mandatory fair value accounting: Evidence surrounding IFRS adoption in the EU real estate industry. Boston, MA: Harvard Business School.

Nellessen, T., & Zuelch, H. (2011). The reliability of investment property fair values under IFRS. *Journal of Property Investment & Finance*, *29*(1), 59-73.Available at: https://doi.org/10.1108/14635781111100209.

Peasnell, K. V., Pope, P., & Young, S. (2000). Accrual management to meet earnings targets: UK evidence pre-and post-Cadbury. *The British Accounting Review*, *32*(4), 415-445.Available at: https://doi.org/10.1006/bare.2000.0134.

Penman, S. H. (2007). Financial reporting quality: Is fair value a plus or a minus? *Accounting and Business Research*, *37*(sup1), 33-44.Available at: https://doi.org/10.1080/00014788.2007.9730083.

Perotti, P., & Wagenhofer, A. (2011). Earnings quality measures and excess returns. *Journal of Business Finance & Accounting*, *41*(5), 545–571.Available at: 10.1111/jbfa.12071.

Ryan, S. (2008). Fair value accounting: Understanding issues raised by the credit crunch. Retrieved from http://www.uic.edu. [Accessed Jan 22th 2020].

Schipper, K., & Vincent, L. (2003). Earnings quality. *Accounting Horizons*, *17*(sup1), 97-110.

Sing, T. Y., & Meng, S. C. (2005). Fair value accounting–relevance, reliability and progress in Malaysia. University College Sedeya International. Working Paper: 1 – 16.

Sodan, S. (2015). The impact of fair value accounting on earnings quality in eastern European countries. *Procedia Economics and Finance*, *32*, 1769-1786.Available at: https://doi.org/10.1016/s2212-5671(15)01481-1.

Thomason, K. (2017). The disadvantages of fair value accounting. Retrieved from https://bizfluent.com. [Accessed 20th Jan 2020].

Wahyuni, E. T., Soepriyanto, G., Avianti, I., & Naulibasa, W. P. (2019). Why companies choose the cost model over fair value for investment property? Exploratory study on Indonesian listed companies. *International Journal of Business and Society*, *20*(1), 161-176.

Yao, D., Percy, M., Stewart, J., & Hu, F. (2018). Fair value accounting and earnings persistence: Evidence from international banks. *Journal of International Accounting Research*, *17*(1), 47-68.Available at: https://doi.org/10.2308/jiar-51983.