The Relevance of Fair Value Revaluation in Measurement of Jordanian Firms Future Performance (An Empirical Study on Jordanian Listed Commercial Banks and Real Estate Companies)

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ABSTRACT

The main objective of this study is to investigate whether developments in financial reporting following the international financial reporting standards adoption resulted in financial statement information being more value relevant over time. This study focuses solely on quantitative methods and employs secondary data in addressing the research questions. The relevance of fair value revaluation has been investigated by studying its association with firm's future performance, measured by its operating income and operating cash flow. The theoretical framework of (Aboody et al., 1999) have been used to examine this relationship. A sample of Jordanian firms (consisting of commercial banks and real estate companies) listed in the Amman stock exchange during the 2008–2011 times period has been used. Our findings, based on multiple regression analysis showed that, firm's future performance measured by operating income or operating cash flow is significantly positively associated with current fair value revaluations. This study revealed that fair value revaluation measurements for Jordanian commercial banks and real estate companies have been value relevant during the entire period of this study.

Keywords: Fair value relevance, future performance, operating income, operating cash flow, Jordan commercial banks, Jordan real estate companies.

INTRODUCTION

The main objective of financial reporting is to provide users with financial statements information that are useful for rational decision making. According to international accounting standard board (IASB), financial statements should provide information that is useful to potential investors, creditors, and all expected users in making rational investment, credit, and similar decisions. A useful accounting system should produce information that is relevant for decision making.

The work of Ball and Brown (1968) was the starting point for many scholars whom investigated the association between accounting information (earnings, cash flows, and book values of equity) and capital market values (stock prices and returns). In many developing countries and Jordan is no exception, fair value accounting (FVA) recognized as a measurement that is superior to historical cost accounting, but there is still a reason to question whether fair value accounting is superior to historical cost accounting in emerging environments with less-developed financial markets? And whether the International Financial Reporting Standards (IFRS) fair value accounting requirements can

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and should be adopted and implemented in these economies.

It is argued that implementing fair value accounting in emerging countries faced a set of problems: for example, the lack of active markets for most assets and liabilities, which means that most fair value measurements are estimates and are highly subjective and potentially unreliable, another problem is the costly information, especially for smaller companies and finally the recognition of profits based on fair values, which mean that unrealized profits or losses from changes in fair value are recognized, which will result in greater volatility and unpredictability (Barth, 2006).

With the absence of active markets for assets, such as financial instruments and investment properties, management must estimate fair value; this estimation can be subject to discretion or manipulation. Driven by the need to increase comparability among the global business community, the International Accounting Standard Board (IASB) has been working hardly in harmonizing accounting standards globally. These efforts resulted in a single set of International Financial Reporting Standards (IFRS) which has been adopted by many countries globally. Interestingly, many developed countries have been conversing to IFRS since 2011, however, (Olesen and Cheng, 2011) concluded that, it is early to provide evidence on the consequences of such convergence for our region as there are many doubts to whether such convergence can really make a difference.

This study aimed to provide an additional insight for the applicability of IFRS in emerging economy as it is conducted in the Jordanian environment whose regulators have made a commitment to fully converge with IFRS. Academic research pointed out that, motivations and effects of revaluation decisions by firms should not be derived from results found in one country to those where cultural, economic and legal environment differ in significant manner (Barlev and Haddad, 2007). Prior studies on the value relevance of IFRS standards or fair value tend to concentrate on Continental European countries, Australia, United States and United Kingdom. Hence, a study an emerging economy would provide input to a successful implementation of international accounting standards harmonization.

Based on above this study seeks to extend the accounting literature of value relevance of fair value in a developing country (Jordan) by studying the relevance of implementing fair value revaluations in Jordan after the new regulations of fair value measurements which were enacted at the end of 2007 and amended at the end of 2011 concerning the fair value measurement and disclosures.

THEORETICAL BACKGROUND

The aim of this section is to discuss and analyze the mean of fair value and its relevance according to the International Accounting Standard Board, and comparing this meaning to other various definitions of fair value from other accounting standard setting bodies such as the USA Financial Accounting Standard Board (FASB). This part also highlights the debate about fair value implementation.

Definition of Value Relevance and Fair Value

Value relevance is known as "the ability of financial statements information to capture or summarize information that affects share values, future dividends, future cash flows, future earnings, or future book values" (IASC, 1989). Empirically, an accounting amount is considered value relevant if it has an association with equity market values and, if the accounting number increases the power of estimating market values, then an accounting number is considered value relevant with reliability (Barth, 2000).

This definition of "value relevance" complies with the statement importance of the value relevance of accounting information in the Framework for the Preparation and Presentation of Financial Statements (IASC, 1989). Relevant information is that information which influences the economic decisions of users by helping them to evaluate past, present and future events on timely basis. Based on this definition, value relevance represents one of the most important attributes of information quality (Francis and Schipper, 1999). Barth et al. (2001) further claimed that under this definition disclosing value relevance of information had provided insights not only for investors, but also for accounting standard setters. Accordingly, value relevance is needed for all accounting environments, even for emerging markets that are in the process of developing their accounting environment.

Academic researchers always relate "Value relevance" to "fair values". According to IASB/IFRS fair value is defined as: "the amount for which an asset could be exchanged or a liability settled, between knowledgeable, willing parties in an arm's length transaction". The most recent IFRS 13 standard defined fair value as: "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". According to IFRS 13, this new definition of fair value emphasizes on both the entry price at the initial recognition and the exit price when asset is sold or a liability settled (IFRS, 2012). Under this new accounting standard IFRS 13: fair value measurement, fair value accounting application follows a three level hierarchy, where first market prices are applied as a best estimate of fair value. If market prices are not available or do not exhibit sufficient quality, quoted market prices of comparable items are considered. If this also does not work, fair value is applied by internal estimation.

Similar to IFRS, AAOIFI (Accounting and Auditing Organization for Islamic Financial Institution) recognized fair value although it doesn't put aside historical cost. In fact, asset recognition in Murabaha is still using historical cost. From Islamic point of view, especially for the computation of zakat, current valuation is obligatory. Therefore, a well-regulated Islamic financial service would meet the requirements of sharia then will be relevant to be practiced. The Islamic accounting regulations also adopted the modern accounting regulatory in order to make it relevant and contribute towards harmonization of accounting practices for Islamic financial institutions similar to non Islamic institutions in order to provide transparent, truth and clear information, because giving full and true information is a must in Islam values (Latifah et al., 2012).

The AAOIFI followed a hierarchy that reflects the significance of the input used in measuring fair values: fair value measurement using quoted princes in active markets for identical instrument, fair value measurement using directly or indirectly observable inputs, fair value measure using inputs that are not based on observable market data and if information are not available in market data, disclosure shall be made for significant estimates and judgments used in determination of fair value including effect on the valuation due to possible changes in key variables used for valuation (Latifah et al., 2012).

Currently under IFRS, fair value recognition, measurement and disclosure of transactions and events is required under several accounting standards including: International Accounting Standard 39 (replaced recently by IFRS 9) on financial instruments, IAS 40 on investment property (where entities can choose between the cost model or the fair value model), IAS 38 on

intangible assets and IFRS 3 on goodwill (where entities measure the fair value of intangible assets and goodwill acquired in a business combination), IAS 16 on property, plant and equipment (where entities can choose between the cost model and fair value model), biological assets under IAS 41, "Agriculture", impaired tangible and intangible assets under IAS 36, Impairment of Assets, and IFRS 13 on fair value measurement.

It is argued that the value relevance studies are joint tests of relevance and reliability (faithful presentation), which are the two important qualitative characteristics of accounting information stated in the conceptual frameworks for choosing among accounting alternatives (Barth et al., 2001). The importance of the relevance criterion for choosing among accounting alternatives is derived from the information perspectives that focuses on providing useful information to financial statements users (Barth, 2000).

Arguments for the application of fair value

The accounting literature is full of arguments by accounting scholars claiming that historical cost accounting is useless and irrelevant for financial decision-making, and therefore has to be replaced by another valuing method. According to its opponents, main weaknesses associated with historical cost accounting include its irrelevance during the inflation periods (Deegan and Unerman, 2006), its deficiency to recognize unrealized increases in values of assets, and its lack of comparability (Riahi-Belkaoui, 2004).

The use of fair values was introduced as an alternative to historical cost measures. For some assets fair value has generally been considered more relevant than historical cost, as in case of financial instruments, and in many cases not much less reliable, especially if current market prices are readily available. Fair value measures of financial instruments have been seen as reflecting the market's assessment of the effects of current economic conditions on the financial instrument, not being affected by the past history of the financial instrument or the specific enterprise that holds it (Carroll et al., 2003), and allowing adequate financial statement reflection of asset liability management activities when fair value accounting is applied to all financial instruments (Gebhardt et al., 2004).

Accordingly, fair values can arguably be seen as reflecting up-to-date values and true economic substance (Penman, 2007). It was also argued that fair value accounting measures, when compared to historical cost accounting, provides better international accounting harmonization in terms of comparability and faithful representation (Barlev and Haddad, 2007).

Arguments against the Application of fair value

Although the concept of fair value measurement in accounting has been viewed as relevant for investment decisions, it has been criticized on several grounds. These include the arguments that fair value measurements may lead to distortion of net income through recognition of unrealized holding gains and losses, and that fair value measurements are not exact, costly to generate, subject to manipulation, and lead to breaking the historical cost model which is seen as well working and well understood (Evans, 2003).

Another issue raised by the opponents of fair value measurement is the emphasis of both the IASB and the FASB on exit prices for measuring fair value. The use of exit prices has been criticized on several grounds. (Penman, 2007) argued that when a firm holds net assets whose values came from executing a business plan rather than fluctuations in market prices, a direct relationship between exit prices and fair value to shareholders does not exist. Similarly, Benston (2008) also criticized the use of exit values as fair value measurements for assets like work-in-process inventories and special purpose machines since exit prices offer little or even no value to investors in ongoing

firms. Ronen (2008) also stated that fair value accounting measures are not relevant, since they do not reflect the value-in-use of the asset, and thus are not useful in predicting future cash flows generated by the firm from these assets. He also argued that fair value accounting measures are not reliable, given the high level of subjectivity involved in their estimation, and the possibility of moral hazard by managers in misusing them.

Fair Value and the Financial Crises

It has been argued that under FVA, the market prices obtained from inactive asset markets were not reliable and irrelevant to measure financial instruments, because they are distorted and do not reflect true fundamental values (American Banks Association, 2008). FVA assumed to work well only in the theoretically efficient market, which is assumed to have a high degree of liquidity and stability. However, in a more realistic setting, neither the balance sheet nor the income statement based on fair value measurements can reflect all value relevant information (Barth and Landsman, 1995).

In the last financial crises fair value accounting was accused to be the main cause of bankruptcy and failure for many international financial institutions (Ryan, 2008). Many worldwide professionals and scholars defended this accusation on the ground that FVA is just like a messenger carrying the value of financial assets and liabilities and, therefore, obviously did not cause the financial crisis. They also emphasize that the function of fair value financial reporting is like that of the thermometer, it only mirrors reality, it does not create it and the suspension of FVA and returning back to historical cost accounting instead would not end these crises. Proponents of FVA even certify that the financial crisis would be worse in the absence of FVA, because it can provide an early warning signal of problems to the market, which helps financial institutions and regulatory agencies to take carefulness actions to deal with these problems quickly and efficiently (Laux and Leuz, 2009).

Jordanian economy suffered from a small impact after the World Financial Crisis as a result of its relations with other economies in other countries of the world. However, the impact that was generated from the World Financial Crisis required the support of several areas that were related to Jordan to study what is happening around it, to reduce the impact to the lowest possible and to avoid what can be avoided, in which the country had tried hardly to protect the price of Jordanian Dinar and the Financial, Investment, and Banking sectors. They also aimed to contain all the inflationary pressures to fund the deficit in the current account for the balance of payments. To overcome these potential problems, the central bank of Jordan made an increase for local liquidity in 2009 by approximately about 1.25 billion, with an increase of 6.8% in comparison with 2008; the Jordanian bank's deposits are also increased by 8.9% to reach 19.66 billion. In order to support the local Jordanian investments CBJ encouraged Jordanian banks to increase total local credit by about 9% (119.6 million). Furthermore, interest rates for credit facilities were decreased by 30 points (CBJ, 2009; World Bank, 2012).

The Central Bank of Jordan (CBJ) has published out a set of instructions several times since the occurrence of the World Financial Crisis. CBJ has worked on reporting a wide group of financial and nonfinancial instructions, which requires dramatic changes in banks structure and activities, to become more convenient, less complicated, and more concentrated in order to emphasize the role of financial markets, and to provide sufficient reports with credibility, and high quality aimed to protect the public interest.

The Jordanian government also reacted to the crises issue by proposing some solutions to the problem of the volatility in the stock market which in turn result in poor investment, irrational decision making by naïve investors, given that Jordan stock market is emerged

one, in February 2008, a governmental regulation was enacted; it required the following accounting treatments for financial statements of the years ended 31/12/2007. Gains from fair value adjustments of trading securities must be disclosed as unrealized profits in the retained earnings section. These gains cannot be distributed as dividends, the historical cost alternative must be used for investment property under IAS 40, with fair values of these investments disclosed in the notes to the financial statements, and the historical cost alternative must be used for property, plant, and equipment under IAS 16 (JSC, 2007; JSC, 2011).

International, regional and local empirical evidence on the application of fair value accounting

Many empirical studies were undertaken on issues related to FVA. These issues include the value relevance of fair value measures on earnings' changes and volatility in market values, and the effect of adopting fair value accounting as part of IFRS on capital markets. These studies vary from international to regional to local studies; a discussion of some of these studies and their results is presented below.

Barth (1994) investigated how the disclosed fair value estimates of banks' investment securities and securities gains and losses are reflected in share prices in comparison with historical costs. Barth reported that i) fair value estimates of investment securities provide significant explanatory power beyond that provided by historical costs, ii) historical costs provide no significant explanatory power incremental to fair value, iii) fair values of investment securities are found to have less measurement error than historical costs compared with the amount reflected in share prices and iv) fair values securities gains or losses have no significant incremental explanatory power.

Aboody et al. (1999) Showed that assets revaluations by UK firms were significantly positively related to changes in future performance measured by operating income and cash flow from operations. The results of the study showed that revaluations of assets are significantly associated with future performance as well as prices and returns. Similarly, **(**Zhai, 2007; Jaggi and Tsui, 2001; lopes, 2011) examined revaluation of assets and whether they were related to changes in future performance, measured by its operating income and operating cash flow. Their results showed that revaluations are significantly positively related to future performance.

Laurenco and Curto (2008) analyzed the impact of IAS 40 for all listed real estate firms in four countries, France, Germany, Sweden and United Kingdom. Their results showed that there was significant difference in value relevance between fair value and historical cost. Further, their results also showed that investors perceive recognized and disclosed fair value differently. Their empirical results suggested that investors distinguish the recognized cost, the recognized fair value and the disclosed fair value of investment property.

Another global studies: for example, (Benston, 2005; Landsman, 2007) argued that although the concept of using market values of assets and liabilities is theoretically applicable fair values are subject discretion, these fair values may in many cases be calculated with substantial discretion by managers This carries the risk of being misleading due to being based on expectations that may turn out to be false. They found that fair value is generally relevant but that the level of informativeness was affected by the amount of measurement error and source of estimates of managers or external appraiser. Similarly, Nellessen and Zuelch (2011) when examined fair value accounting for investment properties under IFRS for Danish real estate companies found that, net asset value usually departs from the market capitalization of European property companies. It is also found that those deviations were a result of insufficient

reliability of fair value estimates of investment properties due to its appraisal limitations.

Many empirical regional and local studies of value relevance of fair value accounting have found that, fair value estimates of financial performance have more significant explanatory power beyond that of historical cost measures. El-Shamy and Kayed (2005) whom examined Kuwaiti firm's stock prices found that, fair values are value relevant. The incremental information content of earnings found to be greater than that of book values. Similarly, Albarrak (2011) investigated whether developments in financial reporting resulted in relevant financial statement information for firms listed in the Saudi Stock Market. His findings from the predictive ability of future cash flows showed that earnings provide incremental explanatory power beyond that provided by current cash flows in all three pooled cross sections. Khanagha (2011) also reached the same conclusion of fair value relevance for United Arab Emirates market. However, his results showed that, the incremental information content of cash flows' was increased post-IFRS period.

As for Jordan, AlKhateeb and Alqashi (2004) questioned the effects of implementing fair value standards on Jordanian economy. The descriptive analysis of their study showed that, due to absence of efficient market for many assets, Jordanian companies might apply discretion accounting for evaluating such assets, which results in manipulation of accounting information. Al-Zouby (2005) in his survey, examined the usefulness of applying fair value accounting for Jordanian industrial companies. He investigated this issue through criticizing the historical cost practices. He argued that the replacement of historical cost measurement with fair values is ambiguous and not clear enough to achieve the qualities of financial information. On the contrary, Al-Saeed (2008) revealed inconsistent results for fair value disclosures of Jordanian insurance companies. His results showed that fair value disclosures have a positive effect on financial information qualities namely relevant, reliable, comparable and understandable.

However, the results of other studies also have shown positive effects of applying fair value accounting measures. Alkhadash and Abdullatif (2009) examined the consequences of fair value accounting of Jordanian commercial and investment banks for period of 2002-2006. The results of the study showed that, financial performance of a bank is generally very significantly affected by valuing financial instruments at fair values. They also found that there is a positive and extremely high value of Earnings per Share (EPS) when implementing the fair values in evaluating the financial instruments. Siam and Abdullatif (2011) with a recent Jordanian study viewed the Jordanian bankers to examine the usefulness of fair value accounting and its major implementation obstacles. Their results showed that while there were general approval for the use of fair values in financial reporting, some reservations came into surface about relevance in terms of predictive value and, more importantly, feedback value.

Nevertheless**,** a study of AlYaseen and Alkhadash (2011) showed that, Income based on fair values reflects income volatility more than historical cost-based income. They also found that income was (not) more volatile with the recognition of unrealized fair value gains/losses on financial instruments (investment property). Their results when assessing the relative explanatory power of income volatility measures suggest that not all fair value income volatility measures can be a good proxy of the total risk. On the contrary, none of income volatility measures provided significant incremental risk-relevant information for total risk. Another recent study by Alkhadash (2012) examined the effect of implementing fair value accounting under IAS 40. His study revealed that, market value of share prices was associated with fair value disclosures. Furthermore,

unrealized gains and losses affect the net income. Furthermore, the net income and book values jointly and individually are positively and significantly related to stock prices, and fair value disclosures are value relevant for Jordan.

To summarize, many studies have found that fair value accounting is value relevant and affects share prices and future performance. However, another studies reported some concerns about the application of fair value accounting especially when there are no readily determined market values and active markets for trading.

The Research Design

The Study population

Commercial banks and real estate companies listed in Amman Stock Exchange (ASE) for the years (2008-2011) were chosen; including banks and real estate companies that applied asset revaluations and those that did not. The year 2008 was selected as the starting year for the study because it was the first year after the new fair value regulations enacted by Jordan Securities Commission at the end of 2007. The community of the study consists of 55 firms (15 banks and 40 real estate companies); firms that have missing data or values were removed from the sample. The final sample consists of 51 firms.

Data Sources

The primary data of the study gathered from the Jordanian companies guide (2008-2012) and from annual reports of the respective banks and companies. The secondary data are obtained from accounting literature through journal papers, conferences, thesis, accounting text books and any other related sources.

Methodology

Fair value revaluations provide a mechanism for communicating the manager's private information about asset values. Studies revealed that an association exists between fair value revaluations and firm's future performance (Aboody et al., 1999). This association reflected in company's future operating income and operating cash flows. Fair value revaluations tend to maximize companies total assets which in turn attract more investments and increase its ability to acquire more debt. This increase in total investments will result to an increase in companies share prices. It is more likely that an effect in firm's operating performance will be observed when applying fair value revaluation.

It is also argued that future profitability of a firm depends on its value generating assets; the revalued amounts would provide the basis for predicting the future performance of a firm if these amounts reflect fair value (Jaggi and Tsui, 2001). Asset fair value represents the present value of expected future cash flows, if fair values are reliable measures of asset values, the changes in fair values should be reflected in changes of future performance.

The operating performance in our study is defined as operating income and operating cash flow. Our tests will control three variables, current year changes in operating performance, risk and size (Aboody et al., 1999; Jaggi and Tsui, 2001; lopes, 2011). This part of the study investigates applying revaluation using fair value accounting and examines for any potential effects at Jordanian firm's performance which is mainly reflected in its operating income and operating cash flows.

The following two hypotheses are developed to investigate this effect:

$H0_1$: Jordanian firms operating income is not associated with assets revaluation using fair value model.

That is, there is no relationship between Jordanian firm's current year asset revaluations and its future operating income, subsequent to the revaluations.

$H0_2$: Jordanian firms operating cash flow is not associated with assets revaluation using fair value model.

That is, there is no relationship between Jordanian firm's current year asset revaluations and its future operating cash flow, subsequent to the revaluations.

For testing these two hypotheses the researcher used the following models developed by (Aboody et al., 1999) and modified by (Lopes, 2011) , Equation 1 for testing the first hypothesis and equation 2 for testing the second hypothesis.

$$\Delta OPINC_{t+\tau 1} = \alpha_o + \alpha_1 REV_{it} + \alpha_2 \Delta OPINC_{it} + \alpha_3 MB_{it} + \alpha_4 \log ASSET_{it} + E_{it} \quad \text{.....(1)}$$

Where:

Δ OPINC $_{t+\tau\ 1}$: *Change* in operating income, $\Delta OPINC_{t+\tau}$ is measured as $OPINC_{t+\tau} - OPINC_{t}$ .where $\tau = 1, 2, 3$. $\Delta OPINC_{t+\tau\ deflated}$ by total assets.

REV_{it}: The net increment to the revaluation balance from revaluations to assets in year t, current year revaluations. **REV_{it}** deflated by total assets.

$\Delta OPINC_{it}$: Operating income before depreciation, interest, taxes and gains on assets in year t, minus operating income in year t-1 for firm i in year t deflated by total assets.

MB_{it}: Market to book ratio of equity (market capitalization / total shareholders' equity) at the end of year t, where book value of equity excludes the revaluation balance.

Log $ASSET_{it}$: The log of book value for total assets, excluding the revaluation balance, at end of year t.

The revaluation surplus account balance of Jordanian firm's income statements, however, does not show all changes in revaluation amounts (REVt). Therefore, the researchers calculated the amounts (REVt) from revaluation surplus balances in the balance sheet and from disclosed notes about fair value changes. The year-end balances could be affected by upward or downward revaluations or by adjustments resulting from disposal of revaluated assets during the year. The end balances of revaluation surplus accounts would have been affected by additions as a result of upward revaluations during the year, or by subtractions as a result of disposal of revaluated assets during the year. The upward revaluation amount for the year t is calculated by subtracting the year (t-1) balance from the year (t) balance of the revaluation reserve account. If the difference is positive, it is considered an upward revaluation for year t; if the difference is negative, it is classified as a downward revaluation. If the difference is zero, it is considered as a non revaluation for period t. The notes to the financial statements were reviewed, to verify the amount and any adjustments made to the revaluation surplus accounts.

The association between the change in operating income ($\Delta OPINC_{t+\tau}$) and current year asset revaluation (REV_{it}) is tested over three horizons, (because companies tend to revalue their assets every three years) (Aboody et al., 1999). Change from year $_t$ to year $_{t+\tau}$, where τ =1, 2, 3. The change in operating income $\Delta OPINC_{t+\tau}$ is defined as $OPINC_{t+\tau} - OPINC_{t}$. The operating income represents income from continuing operations before taxes, interest, and depreciation and amortization expenses. Interest and income tax expenses are excluded, because operating performance is the focus. Depreciation and amortization expenses and net gains on asset dispositions are excluded because asset revaluations affect these amounts (Aboody et al., 1999; Lopes, 2011). Thus, excluding them reduces any effect of revaluations on the performance measure. REV_{it} is asset revaluation for firm *i* in year *t*.

If revaluation reflects changes in the values of assets associated with operations, then revaluation will be positively associated with future changes in performance. Therefore, it is predicted that **α_1** will be

positive. However, there are other factors which influence the change in operating income. These other factors are controlled by the following variables:

1. Change in operating income ($\Delta OPINC_{it}$).
2. Market to book value of equity (MB_{it}).
3. Logarithm of asset at the end of year $_t$ (log $ASSET_{it}$), which controls for potential effects of size (Aboody et al., 1999; Jaggi and Tsui, 2001; Lopes, 2011).

The change in operating income from year t-1 to year t, ΔOPINC, is deflated by total assets for the beginning of period t, controls for the time-series properties of earnings that can affect the future operating income. The market to book value of equity (MB it) based on the book value of equity excluding the revaluation balance, controls for the potential risk and growth effects on future operating income. Asset revaluations help to avoid violations of debt covenants and improve the firm's borrowing capacity by reporting a lower leverage ratio. The logarithm of total assets (log $ASSET_{it}$), excluding revaluation balance, controls the size effect, it's argued that large firms tend to have greater incentives to apply asset revaluation than small ones.

To test the second hypothesis, the following model will be employed:

$$\Delta OCF_{t+\tau 1}=\alpha_o+\alpha_1 REV_{it}+\alpha_2 \Delta OCF_{it}+\alpha_3 \Delta WC_{it}+\alpha_4 MB_{it}+\alpha_5 log ASSET_{it}+E_{it} \quad (2)$$

Where**:**

$\Delta OCF_{t+\tau 1}$: Change in operating cash flow $\Delta OCF_{t+\tau}$ is measured as $OCF_{t+\tau} - OCF_{t}$ where τ = 1, 2, 3.

ΔOCF_{it}: operating cash flow in year t minus operating cash flow in year *t-1*. One, two, and three years ahead operating cash flow in year *t+1*, *t+2*, and *t+3* minus operating cash flow in year t.

ΔWC_{it}: Working capital in year t minus working capital in year t-1 Working capital = Current Assets – Current Liabilities.

Regression for both equations 1 & 2 will be deflated by total assets to neutralize the effect of market volatility on deflator (Barth and Kallapur, 1996).

RESULTS OF THE STUDY

The researchers classified the Jordanian firms for two groups' revaluers and non-revaluers. The observations of both banks and real estate companies for revaluers and non-revaluers are provided in Table 1.

Table 1. Revaluations of commercial banks & real estate companies for the years 2008-2011

	2008		2009		2010		2011	
	N	**%**	***N***	**%**	***N***	**%**	***N***	**%**
Firms with complete data	51	93%	51	93%	51	93%	51	93%
Non-Revaluers	23	45%	18	35%	21	41%	21	41%
Revaluers	28	55%	33	65%	30	59%	30	59%
Upwards	11	39%	19	58%	19	63%	12	40%
Downwards	17	61%	14	42%	11	37%	18	60%
Firm without complete data	4	7%	4	7%	4	7%	4	7%
TOTAL	55	**100**	55	**100**	55	**100**	55	**100**

Table 1 shows that the number of non revaluers for the year 2008 and three years ahead are 23, 18, 21, and 21 respectively, with percentages of 45%, 35%, 41%, and 41%, while the number of revaluers for year 2008 and three year ahead are 28, 33, 30, and 30 with percentages of 55%, 65%, 59%, and 59%. The table also shows that the numbers of upward revaluations for the four years are 11, 19, 19, and 12 with percentages of 39%, 58%, 63%, and 40%. On the other hand the numbers of downward revaluations are 17, 14, 11, and 18 with percentages 61%, 42%, 37%, and 60%.

Table 1 contents indicate that fair value accounting seem to be a preferred option for Jordanian firms, this can be justified by companies number of revaluers for 2008 and three years ahead which is greater for revaluers than non-revaluers. An observation can be concluded that, fair value disclosures by Jordanian firms are greater than those of traditional disclosures (historical cost) for the entire period of the study.

Table 2 provides statistics of both banks and real estate companies for the different variables of the study for current year revaluers and non revaluer's observations. Most of revaluer's observations values are lower than those of non revaluers. For example market-to-book value ratio of revaluers is 1.096 but for non-revaluers is 1.633 and ΔOCF for Revaluers is -0.151 but for Non-revaluers is -0.111. These findings are consistent with Cotter and Zimmer (1995) that companies which revalued their assets were those that experienced declining operating cash flows. On the other hand, the mean of the non revaluers is slightly lower than those of revaluers on assets size (Non revaluers 7.025 vs. revaluers 8.096). This result agrees with Brown et al. (1999) who found that the larger the company the greater the frequency of revaluing its assets.

Table 2. Variables for Revaluers & Non Revaluers for banks and real estate companies.

	Non Revaluers (N=23)		**Revaluers (N=28)**	
Variables	**Mean**	**Std. Dev.**	**Mean**	**Std. Dev.**
ΔOPINC t	0.021	0.047	-0.062	0.426
ΔOPINC t+1	0.026	0.084	0.110	0.447
ΔOPINC t+2	0.198	0.529	0.005	0.149
ΔOPINC t+3	0.213	0.524	-0.011	0.153
ΔOCFt	-0.111	0.348	-0.151	0.322
ΔOCFt+1	0.121	0.237	0.114	0.190
ΔOCFt+2	-0.073	0.438	-0.113	0.249
ΔOCFt+3	0.048	1.044	0.026	0.500
MV	75974	104747	428232	1497763
LOG ASSETS	7.025	0.756	8.096	1.152
WC	0.100	0.560	1.933	10.221
MB	1.633	0.505	1.096	1.260

Regression Results

Multiple regression was applied twice, once with operating income data and the other with operating cash flow data. Table 3 presents the regression results for equation 1 (ΔOPINC) and table 4 for equation 2 (ΔOCF), which relates current year fair value revaluations to changes in future performance for Jordanian commercial banks and real estate Company's, represented by its operating income and operating cash flow.

Table 3 results shows that current year fair value revaluations (REV) coefficients of operating income are positive and significant for all period (coefficients = 0.104; 0.106; and 0.199 respectively) with a t-stat

(2.778; 2.105 and 3.104 respectively). The results are statistically significant for all years (Rev-Sig < 5%). This indicates that revaluation reserves keep a strong relation to future performance as previous research suggests (Aboody et al., 1999; Zhai, 2007; Lopes, 2011).

Change in operating income each year as assumed was unpredictable, as shown in table 3, the results revealed that it was positively significantly associated with future performance for two years ahead, this result fully agrees with Zhai (2007) and partially agrees with Aboody et al. (1999) where their results show a positive association for operating income in the first year only. The coefficient estimates on REV indicate that approximately 20% of revaluations are realized in operating income by the third year.

These findings are consistent with our three year estimation horizon being too short to capture all of the increase in future operating performance associated with assets revaluations (Aboody et al., 1999). The one-year horizon REV coefficient is less than both the two-year horizon coefficient, and the three-year horizon REV coefficient.

Table 3. Regression results on Future Performance and Changes in Operating Income as Dependent Variable.

Model 1: $\Delta\ OPINC_{(t+1),\ i} = \alpha_o + \alpha_1 REV_{it} + \alpha_2 \Delta OPINC_{it} + \alpha_3 MB_{it} + \alpha_4 log\ ASSET_{it} + E_{it}$							
		One year ahead (2009)		**Two year ahead (2010)**		**Three year ahead (2011)**	
Independent Variable	**Prediction**	**Coefficient**	***t* -Stat.**	**Coefficient**	***t* -Stat.**	**Coefficient**	***t* -Stat.**
REV	+	0.104	2.778 **	0.106	2.105 *	0.199	3.104 **
ΔOPINC	?	0.101	5.977**	0.061	2.957*	-0.310	-4.956**
MB	?	0.004	0.042	-0.024	-0.691	-0.158	-2.386*
Log ASSETS	?	0.024	2.159*	0.023	1.545	0.017	0.772
N		51		51		51	
Adj. R^2		0.574		0.244		0.311	
F- stat		16.140		4.630		6.197	
Sig.		0.000		0.000		0.000	
REV- Sig.		0.008		0.041		0.003	
Multicollinearity diagnostic							
Independent variable	**REV**	**ΔOPINC**		**MB**		**log ASSETS**	
VIF	1.019	2.274		1.086		1.305	

* Sig at 5% ** sig at 1%

The results of the unpredictable control variables, market-to-book ratios are positively associated with one-year only, negatively associated with two year ahead and negatively significantly associated with three year ahead. The size variable (log ASSETS) is positively associated with future operating income for all year (coefficients = 0.024, 0.023, and 0.017 respectively), significantly only one year ahead.

Table 4 results shows that current year fair value revaluations (REV) coefficients of operating cash flow are positive and significant for all period (coefficients = 0.156; 0.074; and 0.069 respectively) with a t-stat (2.928; 3.274 and 2.923 respectively). The results are statistically significant for all years (Rev-Sig < 5%). The results of the

unpredictable control variables, change in operating cash flow are significantly negatively associated with two and three-year ahead (coefficients = -0.313 and -2.216 respectively) with a t-stat (-4.677 and -3.832 respectively). Change in working capital was insignificantly negatively associated with all three-year ahead. Market-to-book ratios are significantly negatively associated with one-year only coefficient was -0.094 with a t-stat of -4.121. The size variable (log ASSETS) is positively associated with future operating cash flow for all year (coefficients = 0.003; 0.004, and 0.034 respectively) with a t-stat (1.125, 1.481 and 2.374 respectively). Similarly to operating income, these results proves that fair value revaluations have a strong relation with future performance and agree with the results of (Aboody et al., 1999; Zhai, 2007; Lopes, 2011). The positive coefficient of REV for three years ahead is interpreted as reinforcement of the findings of revaluation regression, and provides evidence for the association between fair value revaluations and operating cash flow.

Overall, the two regression results for predicting future performance fully support Hypothesis 1 & 2 that there is an association between fair value revaluation and the Jordanian company's future performance, as the test results show that REV coefficients are positive and significance after revaluations. However, this provide an indication that, in Jordan there is a gradual increase in realization of fair value revaluations in the following years, thus we reject the null hypotheses 1 & 2 and accept the alternative ones that is, Jordanian firms operating income and operating cash flow is associated with assets revaluation using fair value model. Consequently, fair value accounting revaluations are relevant to predict future performance.

Table 4. Regression results on Future Performance and Changes in Operating cash flow as Dependent Variable.

Model 1: $\Delta OCF_{(t+\tau),i} = \alpha_o + \alpha_1 REV_{it} + \alpha_2 \Delta OCF_{it} + \alpha_3 \Delta WC_{it} + \alpha_4 MB_{it} + \alpha_5 log\ ASSET_{it} + E_{it}$							
		One year ahead (2009)		**Two year ahead (2010)**		**Three year ahead (2011)**	
Independent Variable	**Prediction**	**Coefficient**	***t* -Stat.**	**Coefficient**	***t* -Stat.**	**Coefficient**	***t* -Stat.**
REV	+	0.156	2.928 **	0.074	3.274 **	0.069	2.923 **
ΔCFO	?	-0.529	-0.686	-0.313	-4.677**	-2.216	-3.832**
ΔWC	?	-0.001	-0.060	-0.002	-0.045	-0.019	-0.352
MB	?	-0.094	-4.121*	0.354	0.514	-0.268	-0.355
Log ASSETS	?	0.003	1.125	0.004	1.481	0.034	2.374**
N		51		51		51	
Adj. R^2		0.355		0.490		0.428	
F- stat		5.959		9.664		7.728	
Sig.		0.000		0.000		0.000	
REV- Sig.		0.006		0.002		0.000	
Multicollinearity diagnostic							
Independent variable	**REV**	**ΔCFO**		**ΔWC**	**MB**	**Log ASSETS**	
VIF	1.734	2.118		1.037	1.158	1.461	

* Sig at 5% ** sig at 1%

CONCLUSION

The general findings of our study when examining the association between Jordanian companies fair value revaluations and its future performance provided a conclusive evidence that asset revaluations by Jordanian firms are associated with its future performance, measured by its operating income and operating cash flow for the three subsequent years after revaluations. Our results revealed that these associations were statistically positive and significant in the Jordan, and agrees with the results of prior international, regional and local studies of value relevance of fair value accounting

LIMITATIONS OF THE STUDY

Every study has some limitations, one limitation of this study arise from the unavailability of data sources, missing data from the Jordanian companies guide which resulted in excluding some firms of the study. This might increase the risk to make generalizations from such a small sample (there were only 40% of sample firms applied assets revaluation). Therefore, similar to many value relevance studies, this study was restricted by a small sample size, which is common in emerging markets which might decrease the comparability of our results to those of international and regional studies, For example, only a few years of fair value disclosures were available, which limited the tests to future years and reduced our ability to conduct more tests about the significant relationship between asset revaluation and future performance.

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مدى ملائمة القيمة العادلة في قياس الأداء المستقبلي للشركات الأردنية (دراسة تطبيقية للبنوك التجارية والشركات العقارية الأردنية المدرجة في سوق عمان المالي)

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ملخص

لقد شهدت بيئة التقرير المالي الأردنية تطور مؤثر في العقدين الأخيرين تمثل في تبني معايير التقرير المالي الدولية وتحديثاتها، وقد هدفت هذه الدراسة إلى التأكد من أن التطوير المستمر لهذه البيئة من خلال تبني الممارسات المحاسبية الحديثة ومنها محاسبة القيمة العادلة يؤدي إلى تقديم بيانات مالية أكثر ملائمة. ركزت هذه الدراسة على استخدام الأساليب الكمية في التحليل حيث قام الباحثان باستخدام بيانات مالية للوصول إلى نتائج تجيب على أسئلة الدراسة. وقامت الدراسة على استقصاء مدى ملائمة محاسبة القيمة العادلة من خلال فحص العلاقة بين الأداء المستقبلي للشركات مقاسا بالدخل التشغيلي والتدفقات النقدية التشغيلية واستخدام القيمة العادلة وقد قام الباحثان بتطبيق نموذج (Aboody et al., 1999) لقياس مدى ملائمة محاسبة القيمة العادلة وقد شملت عينة الدراسة البنوك التجارية والشركات العقارية الأردنية المدرجة أسهمها في سوق عمان المالي للفترة من 2008-2011. وقد خلصت الدراسة في نتائجها التالية إلى أنه يوجد أثر ايجابي مهم يشير إلى ارتباط وثيق بين الأداء المستقبلي للشركات مقاسا بالدخل التشغيلي والتدفقات النقدية التشغيلية وبين استخدام القياس بالقيمة العادلة وخلصت هذه الدراسة إلى أن القياس باستخدام محاسبة القيمة العادلة في البيئة الأردنية وجدت ملائمة خلال كامل فترة الدراسة.

الكلمات الدالة: ملائمة القيمة العادلة، الأداء المستقبلي، الدخل التشغيلي، التدفق النقدي التشغيلي، البنوك التجارية الأردنية، الشركات العقارية الأردنية.

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