The Value Relevance and Predictability of IFRS Accounting Information: The Case of GCC Stock Markets

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Abstract

This paper investigates some earning attributes (as the value relevance and predictability) of accounting information provided under International Financial Reporting Standards (IFRS) in the Bahrain Bourse (BHB) and the Muscat Securities Market (MSM). The sample used in this research consists of 280 year-firm observations from 40 different companies listed in BHB; and a total 203 year-firm observations from 29 companies listed in MSM covering the period 2005-11. The findings of the study suggest that, for BHB, the adoption of IFRS leads to improvement in the value relevance of financial reporting contradictory predictability attribute as predictability of accounting information in listed companies of BHB is reduced after the adaption of IFRS. In MSM, the adoption of IFRS captures approximately similar value relevance of accounting information before adoption IFRS, however, predictability of accounting information improves after the adaption of IFRS. It was clear that the IFRS adoption by companies in MSM enhances the predictability of accounting information more than in BHB.

1. Introduction

There is a consensus on the fact that the quality of financial reporting is essential to various users who require useful accounting information for investment and other decision-making purposes. According to the International Accounting Standards Board (IASB), relevance is considered as one of the four fundamental qualitative characteristics that determine the usefulness of accounting information for making economic decisions. Useful information must be capable of making a difference in a decision through helping users in predicting outcomes (the predictability of accounting information) of past, present and future events or to confirm or correct expectations (FASB, 1999). The conceptual framework of both the British Accounting Standard Board - ASB (ASB, 1999) and IASB (IASB, 2014) refers that information has the quality of relevance "when it influences the economic decisions of users by helping them evaluate past, present or future events or confirming, or correcting, their past evaluations".

Recently, approximately more than 120 countries and reporting jurisdictions permit or require International Financial Reporting Standards (IFRS) for domestic listed companies, although approximately more than 90 countries have fully conformed with IFRS as promulgated by the IASB and include a statement acknowledging such conformity in audit reports (AICPA, 2013). In his speech delivered at the 8th Annual Forum of the Gulf Cooperation Council Accounting and Auditing Organization held in Riyadh, Saudi Arabia, Michel Prada, Chairman of the IFRS Foundation Trustees, summarized the progress of the adoption of IFRS. He states "Today, more than 100 countries require the use of IFRS while many more have plans in place to adopt IFRS in the coming years". (IFRS, 2014). In addition, IFRS have been accepted or recommended on many stock markets around the world and they have been endorsed by the International Organisation of Securities Commissions (IOSCO).

The adoption of unique and internationally recognized set of accounting standards increases the comparability among companies of different countries, reducing the learning costs that analysts face in analyzing financial statements drawn with different standards (Guggiola, 2010). Aharony et al. (2010) argue that a major development in accounting regulation throughout the world is the adoption of IFRS which has been recognized as the significance move to a set of harmonized global accounting standards. IFRS adoption by a given country will lead businesses and individuals in other countries to be more likely to invest in that country (Ding et al., 2007). For instance, in Africa, Owolabi and Iyoha (2012) summarize the potential benefits of the adoption of IFRS in creating a better access to the global capital markets and a higher standard of financial disclosure for national regulatory bodies. Similarly, Houqe et al. (2012) argue that one of the important determinants of the quality of accounting information is the adoption of IFRS. Financial reports prepared under IFRS will be more useful when they are used in an international context (Callao et al., 2007). For example, Gordon et al. (2012), who analyzed a panel data set of over 1300 observations covering 124 countries for the period from 1996 through 2009, concluded that the adoption of IFRS leads to increased foreign direct investment inflows. The quality of the information provided can be assessed by observing its usefulness to investors and analysts to predict companies' economic performances (Guggiola, 2010).

Existing studies in this area of the accounting research show conflicting evidence on both value relevance and predictability of accounting information provided under IFRS. Some studies (Ashbaugh and Pincus, 2001; Horton et al., 2008; Dobija and Klimczak, 2010; Alali and Foote, 2012) report more value relevance and predictability of accounting information provided under IFRS, while other studies find contrary evidence (e.g. Lin and Chen, 2005; Callao et al., 2007; Meulen et al., 2007; Gordon et al.,2010; Atwood et al., 2011). Although previous empirical studies investigated this issue in different countries, only few studies accomplished in the Gulf Cooperation Council - GCC area (Alali and Foote, 2002 in UAE; Mousa and Desoky, 2013 in Kingdom of Bahrain (herewith is Bahrain)). None of the above studies investigated both value relevance and predictability in a comparative study as the current study does. The current study examines the value relevance and predictability of accounting information provided under IFRS in emerging capital markets, Bahrain and Sultanate of Oman (herewith is Oman) as members of the GCC. A number of studies (Ashbaugh and Pincus, 2001; Barth et al. 2005 and 2006; Hellström, 2006; Filip and Raffournier, 2010; Horton et al., 2008; Dobija and Klimczak, 2010; Alali and Foote, 2012) argue that the characteristics of quality of accounting information can be expressed by the quality of earnings in terms of earnings attributes (e.g., value relevance; predictability; timeliness). For example, Barth et al. (2001) concluded that companies with high quality accounting information have a stronger association between stock prices from one side and earnings and book value from the other because higher earnings quality better reflects a firm's economic condition.

This study contributes to the current debate on whether IFRS can increase the quality of accounting information in a number of ways. First, the study is one of the first empirical studies that examines value relevance and predictability of accounting information provided under IFRS in emerging markets such as Bahrain and Oman that are presently attracting a large amount of investors. Second, the current research is vital since the quality of accounting information is critical for the functioning of capital markets which helps in reducing investors' uncertainty and improves the market transparency to investors and other stakeholders. Third, the empirical investigation of this study could provide benefits to policy makers, regulators and others in this area, GCC countries. Fourth, it may help in studying other emerging capital markets in the area.

The remainder of this paper is organized as follows. Section 2 presents background on financial markets of Bahrain and Oman. Section 3 discusses prior literature and develops the hypotheses. Section 4 describes the empirical models and sample selection. Section 5 provides descriptive statistics and the results of the empirical tests. Section 6 summarizes the conclusions and presents the limitations of the study.

2. Background about Bahrain and Oman financial markets

The GCC is a political and economic union of the Arab states bordering the Arabian Gulf and located on or near the Arabian Peninsula, namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. The six members of the GCC are evolving from a regional bloc to a confederation. The GCC is continuing its economic reform program, focusing to attract domestic, regional and foreign private sector investment into different sectors. The

global financial and economic crisis slowed the pace of investment and development projects, but the recent global economic recovery will result in a sharp rebound in the GCC's economic activities. The current study is based on two members of GCC, namely Bahrain and Oman this due to some similarities between the two countries in economic, social and political conditions (i.e., they used the local GCC set of accounting standards and later the changed to full adoption of IFRS.

Bahrain aims to create the right climate to attract more foreign investment in order to ensure sustainable growth and to create increased employment opportunities. BHB was established as a shareholding company according to Law No. 60 for the year 2010 to replace Bahrain Stock Exchange that was established in 1987 according to Amiri Decree No. 4. The Exchange officially commenced operations in June 1989. According to the 2013 Index of Economic Freedom, Bahrain is ranked as the first in its region and 12 in the world rank (The Heritage Foundation, 2013). In 2002, the legislative and regulatory authority and supervision of BHB was transferred from the Ministry of Commerce to the Central Bank of Bahrain (CBB) in which CBB regulates and supervises all the bourse's activities. BHB aims to contribute to the national economy by offering a dedicated, reliable and efficient capital markets platform. Besides, a Corporate Governance Code (CGC) in Bahrain, which has been effective since the beginning of 2011, aims to make the Corporate Governance (CG) system transparent and understandable for both national and international investors in a well liberalized and transparent economic system.

At every company's annual shareholder meeting held after January 1st, 2011, CG should be an item on the agenda for information regarding the company's governance. The role of directors in companies is defined also in the Commercial Companies Law 2001 and its Executive Regulations. This law specifies the requirement for a board of directors, its overall responsibilities, the composition of the board of directors and voting rights. Amendments to the law were generally directed towards CG issues such as the annual meeting, communication with third party, relationships with shareholders and disclosure requirements (Hussain and Mallin, 2003).

Oman is a country in Southwest Asia, on the southeast coast of the Arabian Peninsula. Oman's economic performance improved significantly in 1999 due largely to the mid-year upturn in oil prices. The government is moving ahead with privatization of its utilities, the development of a body of commercial law to facilitate foreign investment, and increased budgetary outlays. Oman liberalized its markets in an effort to accede to the World Trade Organization (WTO) and gained the membership in 2000.

MSM was established by the Royal Decree (53/88) issued on 21 June 1988 to regulate and control the Omani securities market. After ten years of continuous growth, the Capital Market Law was issued by Royal Decree No. 80/98 effective in 1999. MSM is fully owned by the Capital Market Authority (CMA), established in Oman in accordance with the Law. The CMA is supervised by the Ministry of Commerce and Industry. The activities of MSM are regulated by the CMA and prescribed by the Law. CMA seeks to encourage saving, disseminating investment awareness and protect investors. MSM endeavors to create the

climate conducive for the mutual interest of investors and the national economy. In 2002, Oman was the first country in the region that issued a code of corporate governance for public joint stock companies and insurance companies and it was fully implemented in 2004. A department for corporate governance was established in 2007 and then the Corporate Governance Committee was formed from the public and private sectors. In 2010 the Oman Centre for Corporate Governance was formed. Development of transparency and compliance systems had constructive impact in enhancing the efficiency of listed companies and boosting their competitiveness.

3. Literature review and hypothesis development

In the light of the objective of the current study, the relevant literature can be considered as follows:

3.1 Value relevance of accounting information

Accounting literature on the area of value relevance of accounting information began in the early 1960s with the influential work of Ball and Brown (1968) who build on developments in capital theory where it was argued that an efficient capital market will be affected by newly released useful accounting information. The value relevance of accounting information has been tested extensively in prior studies (e.g., Muelen et al. 2007;Callao et al., 2007; Humphrey et al., 2009; Aharony et al. 2010; Alali and Foote, 2012; Gordon et al, 2012; Mousa and Desoky, 2013) including accounting information prepared under IFRS. The existing literature gives conflicting evidence on the effects of adopting IFRS on value relevance of accounting information. For example, Clarkson et al. (2011) investigate the impact of IFRS adoption in Europe and Australia on the relevance of book value and earnings for equity valuation by using a large sample of 3488 companies that initially adopted IFRS in 2005 from 14 European countries and Australia. The results suggest that the adoption of IFRS has had a greater impact on the financial statements of some countries and IFRS increases the relevance of book value and earnings (the mean percentage changes in both earnings per share and book value per share are larger).

Using a sample of 319 companies adopting IFRS from 1990 to 2003, Barth et al. (2008) show that companies using IFRS exhibit less earnings smoothing, more timely loss recognition, and more value relevance than those applying domestic accounting standards. In United Arab Emirates, Alali and Foote (2012) examine the value relevance of accounting information under IFRS in the Abu Dhabi Stock Exchange (ADX) based on models developed by Easton and Harris (1991), and Ohlson (1995) and using monthly market data from 2000 to 2006. The sample includes 56 companies with 1934 firm-monthly observations. The overall results show that earnings are positively and significantly related to cumulative returns; and earnings per share and book value per share are positively and significantly related to price per share. In Bahrain, using a sample of listed companies in Bahrain Bourse, Mousa and Desoky (2013) examine the value relevance of accounting information prepared under the adoption of IFRS. Results from the two OLS regression models (returns and price models) revealed that for the stock return model showed a slight difference in the value relevance of accounting information after the adoption of IFRS. However, in the other model, the price earning model,

the findings showed some improvement in the value relevance after the adaption of IFRS.

In Poland, Dobija and Klimczak (2010) investigate the relevance of earnings of listed corporations from 1997 to 2008 to corporate value after the adoption of IFRS and corporate governance codes. The study used 372 consolidated reports with total observations of 856 and applied two models (unexpected earnings model and the earnings yield model). In both models, coefficients are statistically significant and positive. The results provide evidence that accounting earnings have value relevance. Similarly, evidence on the value relevance of earnings become increasingly significant under IFRS is reported by Hellström (2006) in the Czech market and in Romania by Filip and Raffournier (2010).

On the other hand, a number of studies provide evidence on the adaption of IFRS has less or no improvement in the relevance of financial reporting. For example, Gordon et al. (2010) provide evidence on value relevance of earning is significantly higher under US GAAP than under IFRS. Niskanen et al. (2000) analyze 18 Finnish companies that disclose earnings under Finnish accounting standards (local GAAP) and IFRS (1984–1992) using an earnings model. The results show that the change in local GAAP earnings, as well as the level and change in aggregate reconciliation to IFRS, are value irrelevant.

In Spain, Callao et al. (2007) examine the improvement in the value relevance of accounting information as a result of the application of IFRS rather than local criteria. The sample comprises 26 of non-financial companies with the highest market capitalization on the Spanish stock market at June 30, 2005. The findings of the study show that there has been no improvement in the relevance of financial reporting to local stock market operators because the gap between book and market values is wider when IFRS are applied. In the same line, Meulen et al. (2007) test several accounting and market-based quality measures (i.e., value relevance, timeliness, predictability, and accruals quality) to draw inferences about attribute differences between IFRS and U.S. GAAP earnings by using the sample of 313 firm-year observations, covering the period 2000–2003 and collected from 124 German new market companies. First, running the prices and earnings model, the authors obtain an R2 of 16.33% for the IFRS sample and 28.36% for the U.S. GAAP sample. Second, in the returns/earnings model, the authors find no significant difference between the two sets. The explanatory power of the estimated model is (R2 of 37.53% for IFRS versus 32.54% for U.S. GAAP; z = 0.63). Overall results seem to suggest that no significant and consistent differences for the value-relevance attribute.

Bartov et al. (2005) find no significant difference in earnings quality, measured by the price-earnings relationship, for a sample of 417 German new market companies, during the period 1998–2000, that were allowed to choose between IFRS and U.S. GAAP. Further, Schiebel (2006) reported that German GAAP more value relevant than IFRS using 24 companies (12 German GAAP and 12 IFRS) in the period 2000–2004. Hung and Subramanyam (2007) used a sample of 80 German companies which voluntarily adopted IFRS over the period 1998-2002 and found that book value of equity (increased approximately 50% for IFRS), as well as variability of book value and net income, are higher under IFRS than under local German GAAP. They also find that book value of equity and net

income under IFRS are no more value relevant than the amounts under local German GAAP.

Moreover, in China, Lin and Chen (2005) applied the Ohlson model and the returns model and found that earnings and the book values of equity determined under Chinese GAAP provide more relevant accounting information for the purpose of determining the prices of shares than IFRS using 415 companies (reconciliation Chinese GAAP-IFRS) from to 1995–2000. Similarly, Gastón et al. (2010) analyzed the impact of IFRS on the relevance of financial reports issued by companies in Spain and the United Kingdom using a sample of 74 companies listed on FTSE 100 and 100 companies listed on the Madrid Stock Exchange General Index (IGBM) on fiscal year 2004. They concluded that IFRS have affected negatively to the relevance of financial reporting in both countries, although this effect has only been significant in Spain.

In the light of the above discussion, the following hypotheses (H) can be suggested:

H1: the adoption of IFRS improves the value relevance of accounting information for companies traded on BHB.

H2: the adoption of IFRS improves the value relevance of accounting information for companies traded on MSM.

3.2 Predictability of accounting information

The adoption of IFRS could enhance analysts' ability to predict earnings by reducing the variability of accounting item measurements across companies, providing financial markets with in depth information concerning a company's financial position and result of operations and increasing the comparability among companies of different countries (Guggiola, 2010). For example, Ashbaugh and Pincus (2001) found that analyst forecast errors are smaller after the adoption of IFRS. On the other hand, there is a quite widespread opinion that the adoption of IFRS improves the ability of analysts in predicting earnings. For example, Horton et al. (2008) examined the effects of mandatory IFRS reporting on analysts forecast accuracy using a sample covering companies from sixteen European countries in three groups: 1635 companies adopt IFRS for the first time mandatorily, 331 companies had voluntarily adopted IFRS on or before 2003 and 161 companies continued to report under local GAAP or US GAAP after 2005. They concluded that voluntary adopters and mandatory adopters all have significantly lower forecast errors, dispersion and volatility after 2005, at the 0.1% level; and that the larger the positive difference between IFRS earnings and local GAAP earnings, the larger the improvement in forecast accuracy. Using a comprehensive disclosure index of selected IFRS of a sample of 87 companies comply with IFRS for the 2 years 1999 and 2000, Hodgdon et al. (2008) investigated the relationship between analysts' earnings forecast errors and firm compliance with the disclosure requirements of IFRS. They provided evidence that compliance with the disclosure requirements of IFRS reduces information asymmetry and enhances the ability of financial analysts to provide more accurate forecasts.

In contrast, Gordon et al. (2010) investigate earnings quality using a host of earnings

attributes measures that have been generally associated with the quality of financial reporting: accrual quality, earnings persistence, earnings predictability, cash persistence, cash predictability, smoothness, relevance, timeliness and conservatism using a sample of foreign companies that filed Form 20-F reconciliations from IFRS to U.S. GAAP over the period 2004–2006. The authors have documented that US GAAP and IFRS are not distinguishable using these earnings attributes with the exception of value relevance, which is significantly higher under US GAAP than under IFRS. Atwood et al. (2011) examine the association between current accounting earnings and future cash flows differ for companies reporting under IFRS versus domestic accounting standards using a sample of 58,832 firm-year observations drawn from 33 countries from 2002 through 2007. The authors found no difference in the persistence of positive earnings across companies reporting, but found that losses reported under IFRS are less persistent than losses reported under U.S. GAAP. Moreover, future cash flows have a lower association with current earnings reported under IFRS than under U.S. GAAP. The results of the study conducted by Meulen et al. (2007) indicate that U.S. GAAP data better predict future performance than IFRS data (R2 of 45.98% compared to 19.38%). The difference is significant at the 5% level.

Therefore, based on the above arguments, the second hypotheses can be suggested as follows:

H3: the adoption of IFRS improves the predictability of accounting information for companies traded on BHB.

H4: the adoption of IFRS improves the predictability of accounting information for companies traded on MSM.

4. Research design and sample selection

This section is devoted to explain the methodology adopted in the study and how the dependent and independent variables are identified. Also the form of data analysis being undertaken to test the hypotheses developed earlier in this research.

Earning quality is most often measured by applying value-relevance models which looking at the association between stock prices (or returns) and accounting information. Alali and Foote (2012) argued that value relevance can be identified as a statistical association between financial information and prices or returns. Dobija and Klimczak (2010) argued that value relevance methodology examines the relationship between accounting numbers and stock prices, with the basic premise that, if accounting numbers provide useful information to investors, they should be correlated with stock prices. Furthermore, Harris et al. (1994) assessed quality by looking at the association between prices and earnings (or shareholders' equity). They found that the explanatory power of German earnings is comparable to U.S. earnings, but the explanatory power of shareholder's equity in Germany is significantly lower than in the United States. The current study builds on the existing literature (Alali and Foote, 2012; Clarkson et al. 2011; Dobija and Klimczak, 2010; Muelen et al. 2007) which expresses the quality of earnings in terms of earnings attributes (e.g., value relevance and predictability) as follows:

4.1. Value relevance models

Following a number of previous studies (e.g., Dobija and Klimczak, 2010; Muelen et al. 2007; Bartov et al., 2005; Collins et al., 1999), the current study measures value relevance by running two models.

First, the return model which describes the relationship between stock returns and accounting earnings as follows:

$$RET_{i;t} = \alpha_0 + \alpha_1 \quad X_{it} \quad / P_{i;t-1} + \alpha_2 \quad DX + \alpha_3 X_{it} \quad / P_{i;t-1} \quad * \quad DX$$

where $RET_{i,t}$ is the annual market-adjusted return, ending three months after the fiscal year end, X_{it} is earnings per share, DX is a dummy equal to one if earnings are negative and zero otherwise, (where, Collins et al., 1999 argue that market prices react differently to positive and negative earnings) and $P_{i;t-1}$ is the security price at the beginning of the period. The model's R squared, which reflects the degree of association, is estimated for the IFRS and GAAP sample separately.

Second, the price-earnings model was run as suggested by Ohlson (1995) and Burgstahler and Dichev (1997) followed by Muelen et al. (2007). It was distinguished between positive and negative earnings, resulting in the following regression:

$$P_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 DX + \alpha_3 X_{it} * DX + \alpha_4 BV_{i;t\_1}$$

Where P_{it} is the security price three months after fiscal year end t, $BV_{i;t\_1}$ is the book value of equity at the beginning of period t, and other variables are as previously defined above. In this regression, the coefficient on earnings, α1, reflects the pricing effect of current earnings. The coefficient on beginning-of-year book value of equity captures the effect of expected future normal earnings. The measure of value relevance is based on the explanatory power of the equation. Consistent with Collins et al. (1999), the current study required each observation to have a positive book value of equity.

4.2 Predictability model

To examine whether accounting information provided under IFRS has predictive ability, the study followed existing literature (as Dechow et al. 1998; Ashbaugh and Pincus, 2001; Muelen et al., 2007) by applying the following model which considers future, current and past earnings as follows:

$$X_{i;t1+} = \alpha_0 + \alpha_1 \quad X_{it} + \alpha_2 \quad X_{i;t1-}$$

where X_i is earnings per share for firm i either in fiscal year t+1, t or fiscal year t−1, and all variables are scaled by a firm-size measure, that being sales in year t.

4.3 Sample selection

Data needed for the empirical part of this research was congregated from stock markets of

two GCC countries namely Bahrain and Oman. By the end of 2011, 49 companies were listed on the BHB. Of them, some companies were excluded because of insufficient data available or were de-listed or suspended. Accordingly, the final sample includes only 40 companies with completed data for seven years from 2005 to 2011. The total number of year-firm observations is 280, of which 120 observations are before applying IFRS while 160 observations after applying IFRS.

On the other hand, the index of Muscat Securities Market (MSM 30) includes 30 companies with the highest stock market capitalization on the continuous market and, therefore, they are representing the behavior and evolution of the MSM over a given period. It includes three sectors (financial, industry and services sector). One firm was excluded for insufficient data with a final sample of 29 companies for the period from 2005 to 2011. The total number of year-firm observations is 203. Of them 87 observations are before applying IFRS while 116 observations after applying IFRS.

The primary source of data used in this study is the web sites of both BHB and MSM as well as the annual reports of companies listed on these two stock markets. A variety of other sources, such as other related web sites (e.g. www.mubasher.net; www.gulfbase. com) which include data bases for companies listed in BHB and MSM, were used in the current study. Additionally, the web site of each firm was visited and examined in detail.

5. Empirical results and analysis

This section of the study is devoted to presentation and discussion of the data needed for testing research hypotheses. Table 1 provides some descriptive statistics on accounting and capital market information. In general, the stock market on which the sample companies are traded, BHB, is characterized by a little downward trend on average during the period of seven years, 2005-11. The average share price melted down from Bahraini Dinar (BD) 21.39 (the mean share price for a period of three years from 2005 to 07) to BD 16.58 (the mean share price for the period from 2008 to 11) ($1 = BD 0.377). This is not surprising as the second period (2008-11) witnessed the global financial crises which affect the world economy and most stock markets around the world including GCC stock markets were affected. Other results were found for the minimum and maximum share price for the two periods. For instance, the maximum share price was moved up from BD 894.00 in the first period (2005-07) to BD 992.00 in the second period (2008-11; while the minimum share price was moved down from BD 0.04 to BD 0.03 from the first to the second period respectively.

Furthermore, Table 1 shows information on the annual return of the sampled companies. Companies, on average, have a mean of 10.89 for the period 2005-2007 with a standard deviation of 29.26. The minimum of annual return was a negative of -86.67 with a maximum of 233.99. Concerning the second period, 2008-11, the annual return was considerably dropped to show a mean of -11.70 as an average of the four-year period with a standard deviation of 22.97. This result shows the general down trend of the BHB during the period from 2005 to 2011 showing the effects of the global financial crises, especially for the period 2008-11, on the GCC stock markets. Concerning minimum annual return, no

significant change witnessed between the two periods while an important change was witnessed between the two periods for the maximum annual return as it was moved from 233.99% in the first period to be only 63.41% in the second.

The average EPS clearly dropped down from BD 3.042 (the mean of the first period, 2005-07) with a high standard deviation of BD 19.352 to only BD 0.660 (the mean EPS of the second period, 2008-11) with a higher standard deviation of 38.792. Again the big difference between the two periods can be justified because of the global financial crises. Regarding the performance share book value of equity, descriptive results reveal that the average for the two periods, before (2005-07) and after (2008-11), is nearly similar. This means that there is no big difference between the two values of share book value of equity. Further, no important differences revealed between minimum and the maximum values of this variable. Looking at the last row of Table 1, we further conclude that the market, in general, does not show material differences to the application of IFRS.

Table (1) Descriptive statistics of listed companies in BHB

Variables	Before IFRS					After IFRS				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
$RET_{i;t}$ (%)	120	-86.67	233.99	10.89	29.26	160	-79.59	63.41	-11.70	22.97
P_{it} (BD)	120	0.04	894.00	21.39	130.99	160	0.03	992.00	16.58	106.39
X_{it} (BD)	120	-0.228	145.145	3.042	19.352	160	-422.240	241.130	0.660	38.792
$BV_{i;t\_1}$ (BD)	120	0.06	725.00	16.98	104.58	160	0.04	671.00	15.09	93.35

The annual market-adjusted return ($RET_{i;t)}$; the security price three months after fiscal year end ($P_{it)}$; earning per share X_{it}; the book value of equity per share ($BV_{i;t\_1}$).

Table (2) Descriptive statistics of listed companies in MSM

Variables	Before IFRS					After IFRS				
	N	Min	Max	Mean	SD	N	Min	Max	Mean	SD
$RET_{i;t}$ (%)	87	-16.69	984.72	12.959	105.543	116	-3.95	166.59	2.132	15.829
P_{it} (BD)	87	-0.07	14.60	0.8324	1.910	116	0.06	14.80	.923	2.329
X_{it} (BD)	87	0.00	0.99	0.090	0.179	116	-0.04	1.24	0.084	0.199
$BV_{i;t\_1}$ (BD)	87	0.03	6.04	0.434	0.917	116	0.08	5.28	0.446	0.871

The annual market-adjusted return ($RET_{i;t)}$ the security price three months after fiscal year end ($P_{it)}$ earnings per share Xit; the book value of equity per share ($BV_{i;t\_1}$).

Table 2 above shows the descriptive statistics of listed companies in MSM. The mean of the annual market-adjusted return for listed companies in MSM is 12.959 (for the period 2005-07) with a high standard deviation of 105.543. The minimum of annual return was a negative of -16.69 while the maximum was 984.72 for the same period. Concerning the second period, 2008-11, the annual return was considerably dropped down to show a mean of 2.132 as an average of the next four-year period with a standard deviation of 15.829. Table 2 shows similar results to what was provided in Table 1. It clearly shows the general down trend of the MSM during the period from 2008 to 2011 reflecting the effects of the global financial crises on the GCC stock markets. The average EPS decreased from Omani Riyal (OMR) 0.090 (the mean of the first period, 2005-07) with a standard deviation of OMR 0.179 to OMR 0.084 (the mean EPS of the second period from 2008 to 2011) with a standard deviation of OMR 0.199 ($1 = OMR 0.385). The average of book value of equity per share is slightly changed from OMR 0.434 (the mean book value of the first period, 2005-07) to OMR 0.446 (the mean book of the second period from 2008 to 2011). No significant difference revealed between the two periods.

5.2 Regression analysis

5.2.1 Value relevance attribute

Differences between accounting information of before (2005-07) and after (2008-11) the adoption of IFRS with regard to return-earnings model and price-earning model are reflected in differences in the regression models' R²s and Adjusted R2s. The adjusted R2 provides a better estimation of the true population value, especially with a small sample (Tabachnick and Fidell, 1996). Table 3 (Panel 1 and 2) presents regression results on both models and for the two periods, before and after the application of IFRS. Table 3 (Panel 1) reveals regression results on Model 1, returns-earning Model, for the two periods and shows that both R2 and adjusted R2 for the first period "before IFRS" are 8.0% and 6.0% respectively, while higher values of R2 and adjusted R2 of 12.6% and 10.9% are obtained for the second period "after

IFRS". The above results indicate that there is some difference in the value relevance of accounting information after the adoption of IFRS by listed companies in BHB.

Following a number of previous studies (e.g.: Barth et al. 2005 and 2006; Meulen et al., 2007), the current study uses the Cramer test statistic (Cramer, 1987), which is based on the estimation of R2 standard deviations, to assess whether a difference in the R2 is statistically significant between the two models, before and after. Results from the Cramer test statistic for the returns-earning model, Model 1, reveal slight evidence (t = 1.30) of after IFRS than before IFRS. The above result somewhat supports the first research hypothesis, H1, formulated earlier which states that "the adoption of IFRS improves the value relevance of accounting information for companies traded on BHB".

One possible reason for the above result is that most listed companies in BHB might apply IFRS before that period especially that the Ministry of Commerce and Agriculture in Bahrain advised and recommended the corporate sector companies in late 1990s to adopt the IAS. The above result slightly supports the argument that IFRS are clearly more value-relevant than local standards. In general, Furthermore, this result partially consistent with those revealed in previous studies such as Barth et al. (2008) and Dobija and Klimczak (2010) who concluded that companies using IFRS exhibit more value relevance than those applying domestic accounting standards. However, the above result is not consistent with those reported by other studies provide a clearer and strong evidence on the improvement of fair value (Clarkson et al., 2011and Alali and Foote, 2012).

Concerning the price-earning model, Model 2, Table 3 (Panel 2) above provides values of the two periods (before and after adoption IFRS). The results show some improvement in the value relevance from the first to the second period. For the first period, it provides results of both R2 and adjusted R2 which are 24.1% and 23.2% respectively. However, an obvious change was noticed in the second period as both values of R2 and adjusted R2 were increased to 33.3% and 29.1% respectively. This result indicates that the adoption of IFRS may affect the value relevance of accounting information, price-earning information. This finding is supporting the acceptance of H1 which formulated earlier in this study.

The above result maintains the argument that IFRS are clearly more value-relevant than other local standards. This result is consistent with findings reported by a number of the previous studies. For instance, it is consistent with what was reported in the Czech market by Hellström (2006) and in Romania by Filip and Raffournier (2010) and in Poland by Dobija and Klimczak (2010) who concluded that the value relevance of earnings becomes increasingly significant under IFRS. Similar findings were obtained by Niskanen et al. (2000) in Finland who reported that the change in local GAAP earnings, as well as the level and change in aggregate reconciliation to IFRS, are value irrelevant. In the same line, the above result is in line with what was reported in UAE by Alali and Foote (2012) who reported that earnings scaled by beginning of period price are positively and significantly related to cumulative returns and earnings per share and book value per share are positively and significantly related to price per share.

Table (3) Regression results (Returns–earnings model & Price–earnings model) in BHB

Panel 1: Earning Model 1 (Before IFRS)				Earning Model 1 (After IFRS)			
α0	α1	α2	α3	α0	α1	α2	α3
2.161	0.045	8.265	0.011	-22.716	0 .012	13.102	0.001
(0.141)	(1.255)	(0.477)	(0.196)	(-4.676)**	(2.083)*	(2.376)*	(0.367)
N	120			N	160		
R^2	0.080			R^2	0.126		
Adj.R^2	0.060			Adj.R^2	0.109		
F	[1.231]**			F	[7.469]**		

Panel 2:	Price Model 2 (Before IFRS)				Price Model 2 (After IFRS)			
α0	α1	α2	α3	α4	α0	α1	α2	α3	α4

Panel 2:	Price Model 2 (Before IFRS)				Price Model 2 (After IFRS)				
α0	α1	α2	α3	α4	α0	α1	α2	α3	α4
0.040	0.235	0.149	0.447	0 .342	0.048	0.065	.023	.009	.065
(0.216)	(6.543)*	(0.800)	(3.146)**	(0.029)	(0.012)	(0.015)	(-6.902)**	(4.322)**	(7.760)**
N	120				N	160			
R^2	0.241				R^2	0.333			
Adj.R^2	0.232				Adj.R^2	0.291			
F	[5.443]*				F	[11.324]**			

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; **,

* = *p*-value < 1%, 5% respectively. Where:

Returns–earnings model (Model 1): $RET_{i;t} = α_0 + α_1 X_{it} / P_{i;t-1} + α_2 DX + α_3 \Delta X_{it} / P_{i;t-1} * DX$

Price–earnings model (Model 2): $P_{it} = α_0 + α_1 X_{it} + α_2 DX + α_3 X_{it} * DX + α_4 BV_{i;t\_1}$

($RET_{i,t}$ is the annual market-adjusted return, ending three months after the fiscal year end, X_{it} is earnings per share, DX is a dummy equal to one if earnings are negative and zero otherwise, $P_{i;t-1}$ is the security price at the beginning of the period and P_{it} is the security price three months after fiscal year end t, $BV_{i;t\_1}$ is the book value of equity at the beginning of period t).

However, the above finding is not consistent with Goodwin et al. (2008) who concluded that no evidence is found that IFRS improve the value relevance of accounting information. Furthermore, our findings are not in line with what was reported in China by Lin and Chen (2005) who found that earnings and the book values of equity determined under Chinese GAAP provide more relevant accounting information for the purpose of determining the prices of shares than IFRS. Further, conflicting evidence was obtained by Bartov et al. (2005), in Germany, who found no significant difference in earnings quality when measured by the price-earnings relationship; and by Gordon et al. (2010) who found that value relevance of earning is significantly higher under US GAAP than under IFRS.

Concerning the MSM, regression results of listed companies in MSM were provided in Table 4, Panels 1 and 2. Panel 1, shows regression results on the returns-earnings models, Models 3 and 4, for the two periods. Earning Model 3 "Before IFRS" has an R2 of 9.3% and adjusted R2 is 6.2%, while these values were 9.9 % and 7.1% respectively for the other period "after IFRS" which are give little difference from the first period "Before IFRS". Also, there is no statistically significant difference between the two periods. In sum, these results seem to

suggest that earnings stated according to IFRS capture approximately similar value relevant of accounting information before adoption IFRS. It should be noted that the above results are not noticeably differ from those reported for BHB (see Table 3 above).

Table (4) Regression results (Returns–earnings model & Price–earnings model) in MSM

Panel 1: (Before IFRS)	Earning Model 3			Earning Model 3 (After IFRS)			
α0	α1	α2	α3	α0	α1	α2	α3
-11.386	-1.617	25.371	-12.777	0.215	-2.660	2.770	-5.794
(-0.105)	(-0.085)	(0.232)	(-0.663)	(0.979)	(0.706)	(0.744)	(0.438)
N	87			N	116		
R^2	0.093			R^2	0.099		
Adj.R^2	0.062			Adj.R^2	0.071		
F	[3.155]			F	[1.187]		

Panel 2: Price Model 4 (Before IFRS)					Price Model 4 (After IFRS)				
α0	α1	α2	α3	α4	α0	α1	α2	α3	α4
0.119	0.692	0.049	4.964	0.078	-0.100	-0.245	-0.080	4.990	1.527
(0.084)	(6.583)**	(0.034)	(6.077)**	(0.346)	(-0.360)	(-0.160)	(-0.286)	(7.794)**	(10.467)**
N	87				N	116			
R^2	0.464				R^2	0.480			
Adj.R^2	0.385				Adj.R^2	0.399			
F	[23.976]				F	[25.643]			

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; **, *= p-value < 1%, 5% respectively. Where:

Returns–earnings model (Model 1): $RET_{i;t} = \alpha_0 + \alpha_1 X_{it} / P_{i;t-1} + \alpha_2 DX + \alpha_3 \Delta X_{it} / P_{i;t-1} * DX$

Price–earnings model (Model 2): $P_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 DX + \alpha_3 X_{it} * DX + \alpha_4 BV_{i;t\_1}$

($RET_{i,t3}$ is the annual market-adjusted return, ending three months after the fiscal year end, X_{it} is earnings per share, DX is a dummy equal to one if earnings are negative and zero otherwise, $P_{i;t-1}$ is the security price at the beginning of the period and P_{it} is the security price three months after fiscal year end t, $BV_{i;t\_1}$ is the book value of equity at the beginning of period t).

Panel 2 of Table 4 shows regression results on Model 4, the price/earnings models, for the two periods "Before IFRS" and "After IFRS". In the light of values of R2 and Adjusted R2, it can be noticed that neither model of the two periods makes accounting information more or less value relevant than the other. The explanatory power of the estimated Model 4 "after IFRS" is little higher than model 4 "before IFRS" (R2 of 46.4% "before IFRS" versus 48.0 % "after IFRS"; adjusted R2 of 38.5% "before IFRS" versus 39.9 % "after IFRS"). This finding is consistent with Meulen et al. (2007) who tested several accounting and market-based quality measures including value relevance and reported that no significant differences for the value-relevance attribute. Similar results are reported by Goodwin et al. (2008). In contrast, the results of current study on MSM companies are not comply with the results of a number of prior studies such as (Ashbaugh and Pincus, 2001; Horton et al., 2008; Dobija and Klimczak, 2010; Alali and Foote, 2012) that reported more value relevance of accounting

information after adoption IFRS. Based on the above discussion, it is possible to reject H2 which formulated earlier in this study.

5.2.2 Predictability attribute

Concerning predictability attribute of accounting information of BHB companies, we estimate Model 5 for the two periods, "Before IRS" and "After IFRS". Table 5 below presents the results of the regression analysis which was run using the "enter" method. The results show the explanatory power of the model as measured by the R2 and adjusted R2. The values of R2 and adjusted R2 are 29.3% and 27.2% for the first period "Before IFRS" while they are 20.5% and 14.2% respectively for the second period "After IFRS". It can be noted that these values in the second period "After IFRS" is clearly lower than the first period "Before IFRS". Model 5 is statistically significant at 1% level. This finding suggests that predictability of accounting information in listed companies of BHB is reduced after adaption of IFRS. Such finding is not in line with the results reported by Ashbaugh and Pincus (2001) and Horton et al. (2008) who reported that the mandatory adaption of IFRS leads to improve and enhances the ability of financial analysts to provide more accurate forecasts. Accordingly, H3 can be rejected.

Table (5) Regression results of predictability models in BHB

Model 5 "Before IFRS"			Model 5 "After IFRS"		
$\alpha0$	$\alpha1$	$\alpha2$	$\alpha0$	$\alpha1$	$\alpha2$
12.683	-8.305	9.529	-17.859	-0.234	-0.395
(0.311)	(-47.859)**	(52.856)**	(-0.515)	(-2.768)**	(-4.908)**
N	120		N	160	
$0.R^2$	0.293		R^2	0.205	
Adj.R^2	0.272		Adj.R^2	0.142	
F	[19.478] **		F	[14.058]**	

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; **, *= p-value < 1%, 5% respectively. Where: $X_{I;t+1} = \alpha_0 + \alpha_1 \; X_{it} + \alpha_2 \; X_{I;t-1}$

where X_i is earnings per share for firm I either in fiscal year t+1, t or fiscal year t−1, and all variables are scaled by a firm-size measure, that being sales in year t.

With regard to predictability attribute of accounting information of MSM companies, the results we obtained on the two periods are presented in Table 6, Models 6. In general, the results of Model 6 indicate that Model 6 "After IFRS" has more predictability than "Before IFRS", R2 of 31.1 % and Adjusted R2 of 24.5% compared with R2 of 41.2% and Adjusted R2 of 32.3%. These results are significant at the 1% level. It is clear that the IFRS adoption by companies in MSM enhances the predictability of accounting information more than in BHB. The above result is consistent with the findings reported by some previous studies. For

instance, it is in line with those reported by Ashbaugh and Pincus (2001) who found that analyst forecast errors are smaller after the adoption of IFRS; and by Horton et al. (2008) when concluded that voluntary adopters and mandatory adopters all have significantly lower forecast errors; and finally by Hodgdon et al. (2008) who provided evidence that compliance with the disclosure requirements of IFRS enhances the ability of financial analysts to provide more accurate forecasts. However, it is not consistent with those reported by Meulen et al. (2007) who indicated that U.S. GAAP data better predict future performance than IFRS data (R2 of 45.98% compared with 19.38%). The above finding suggests that predictability of accounting information in listed companies of MSM improved after the adaption of IFRS. Therefore, H4 cab be acceptable.

Table (6) Regression results of predictability models in MSM

Model 6 "Before IFRS"			Model 6 "After IFRS"		
$\alpha 0$	$\alpha 1$	$\alpha 2$	$\alpha 0$	$\alpha 1$	$\alpha 2$
0.024	0.692	-0.097	-0.006	0.893	0.220
(1.675)	(6.583)**	(-1.006)	(-1.891)	(10.290)**	(2.113)*
N	87		N	116	
R^2	0. 311		R^2	0.412	
Adj.R^2	0. 245		Adj.R^2	0.323	
F	[18.373] **		F	[29.750]**	

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; **, *= p-value < 1%, 5% respectively. Where:

$X_{i;t+1} = \alpha_0 + \alpha_1 \ X_{it} + \alpha_2 \ X_{i;t-1}$

where X_i is earnings per share for firm i either in fiscal year t+1, t or fiscal year t−1, and all variables are scaled by a firm-size measure, that being sales in year t.

6. Summary and conclusions

This paper investigates some earning attributes, the value relevance and predictability, of IFRS accounting information in two of the GCC countries namely Bahrain and Oman. International previous studies on the quality of accounting information tend to focus mostly in developed countries with a limited number of studies in developing countries. This study uses a sample of companies in the two emerging markets, BHB and MSM. The sample used in this research consists of 280 year-firm observations from 40 different companies listed in BHB and a total 203 year-firm observations from 29 companies listed in MSM covering the period 2005-11. On practical level implications, the results of the study should be of interest to the institutions involved in implementing changes necessary to harmonize international accounting in GCC countries as well as to investors planning business activities in GCC countries. They should also be of interest to accounting standard setters and regulators, as well as academic researchers and educators.

The current study has a number of interesting results. First, for listed companies in BHB, the adoption of IFRS leads to improvement in the value relevance of financial reporting contradictory predictability attribute as predictability of accounting information in listed companies of BHB is reduced after adaption of IFRS. Second, for listed companies of MSM,

the adoption of IFRS captures approximately similar value relevant of accounting information before the adoption of IFRS, however, predictability of accounting information improves after the adaption of IFRS. Third, it was clear that the IFRS adoption by companies in MSM enhances the predictability of accounting information more than in BHB.

This study is subject to some limitations. First, the sample size of this study might be expanded by including other GCC countries. Second, other earning attributes such as timeliness, cash predictability and smoothness were excluded from the current study. Future research, subject to the availability of data on a sufficient period of IFRS adoption in the GCC countries, should explore to what extent the adoption of IFRS in such important economic area can contribute to improve the ability of analysts to correctly interpret the published financial information. The effect of IFRS adoption on investors is a fruitful area for future research. Empirical research could examine investors' perceptions on their ability to forecast cash flows improves or deteriorates as a result of IFRS adoption.

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