Accrual Versus Cash Flow Data in Predicting Saudi Share Price From the Point of View Students

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ABSTRACT

There are two widely accepted approaches used to predict the stock price of a business's equity. The accounting approach assumes that the predictive ability of a company's earnings out-performs the cash flows to predict share prices. A financial model assumes that cash flows are a better tool for forecasting future stock prices. The motivation of this paper is to discover whether the accrual accounting components or the cash flow components provide a better explanation for estimating the share price of non-financial companies listed on the Saudi Stock Exchange (SSE), an emerging capital market of Saudi Arabia during various economic conditions; pre-global financial crisis, during the global financial crisis and after the global financial crisis. A hypothesis was developed and regression analysis was used to test the hypothesized relationships. Annual data used in this study were collected from the financial statements of 90 non-financial companies listed on the Stock Exchange of Saudi Arabia from 2007 to 2011. The regression results found that the accrual components have a better predictive power than cash flow components to forecast Saudi stock prices before, during and after the global financial crisis. The results of this paper can be used as evidence to support the theory in financial analysis such as the efficient markets theory, the free cash flow theory, the traditional financial theory and the theory underlying the relationship between earnings and stock price.

Key Words: Share price prediction, Cash flow Components, Accrual components, Saudi Stock Exchange, Global financial crisis.

1. Introduction

Accrual and cash flow components analysis is very important for making investment decisions. They can help investors in making investment decisions and predicting firm's future performance and can also give early warning about the slowdown of a firm's financial condition (Ohlson, 1980). Accrual and cash flow components can be used to predict financial variables and to evaluate relative performance, such as predicting bankruptcy, share prices and the probability of loan defaults (Sylvestre and Urbancic, 1994). They are developed to help users of financial statements compare performances of companies on a year-to-year basis and across companies. Therefore, knowledge of such financial ratios and their possible impact on share prices is highly appreciable as it would help investors make wise investment decisions and enable firms to enhance their stock market value.

Saudi Stock Exchange (SSE) is the largest financial market in the Arab world, accounting for 63% of the share volume on all Arabian Stock Exchanges in 2003 (Saudi Arabian Monetary Agency, 2003). In mid-December 2009 its market capitalization was around U.S.D 313 billion (SAMBA Report Series, 2009). Moreover, it is deemed the 8th largest among those of developing countries (Al-Sehali, 2006). The SSE is a good case for investigation due to the lack of studies conducted on the market because it is relatively young and the historical data is limited. Al-Twaijry, (2007) stated that stock trading found its way in the SSE by the end of the nineties. Therefore, the SSE is recent and only developed recently as a recognized market. Also, Aljazira Capital Report, (2010) indicated that the SSE was informal and unorganized before the decade of 1990s. In addition, Al-Rodhan, (2005) declared that firms listed on the Gulf Cooperation Council (GCC) stock exchanges have solid track records; but there is limited historical data to analyze the basis of this remarkable growth. Also, Al-Sehali, (2006) stated that the knowledge of the role of accounting information in explaining changes in share prices of listed Saudi companies in this market is still insufficient. Accordingly, there is a lack of studies conducted on the SSE because the market is relatively young and the historical data is limited.

Like many emerging markets, the Middle East Capital Markets (MECM) responded sharply to the global financial crisis by 15 September 2008, the day that Lehman investment bank filed for bankruptcy after failing to find a buyer (Onour, 2010). The Saudi Arabian stock market in particular fell by 6.5 percent (Olivia and Javier, 2009). In addition, trading volume and value dipped 3.3% and 23.3%, respectively, during 2008 as the global economic crisis gripped KSA equity market. The trading volume and value continued to decline during 2009 with a dip of 3.9% and 35.6% respectively as the investors continued to remain cautious in the wake of global economic crisis (Aljazira Capital Report, 2010). This study attempts to compare the ability of accrual accounting data versus cash flows data in explaining the variations in share price of Saudi listed firms in different economic conditions. Namely, before, during and after the global financial crisis of 2008-2009 (GFC) which started in July 2007 in the United States of America (USA), and which is considered as the deepest one since World War II (SESRIC Report, 2009).

2. Problem Statement

Many studies have researched the comparative ability of accrual components and cash flow components in predicting future share prices. However, previous research has reported mixed results in this area as well as limited studies are available in some cash

flow elements and accrual. The studies done on this issue are based upon the assertion of the Financial Accounting Standards Board (FASB) which states that accounting earnings and its components provide a better indication of a firm's ability to generate future cash flows than cash flow information themselves (SFAC No. 1, FASB 1978, para. 44). In other words, the statement of FASB implies that using the earnings to predict future cash flows, stock returns, etc., is much better compared to the use of cash flows as a predictor. The assertion of FASB has generated many studies researching this issue. Studies have attempted to confirm or refute the FASB's contention; by examining the comparative ability of accrual earnings and cash flow data to predict future cash flows, future earnings and future share prices.

There are two types of research studying this issue. The first type of research is agreeing with the statement declared by FASB and the second type disagrees with that statement. First, research that agrees using earnings as a better predictor in predicting future share prices emanated from cash flow than the cash flows itself is Greenberg, Johnson and Ramesh, (1986), and who disagree with the FASB statement is Finger, (1994) and Burgstahler, (1998). Finger, (1994) and Burgstahler, (1998) state that current cash flows have more predictive ability when predicting future share prices than current earnings in the short-horizon. A number of studies reached to a conclusion that the predictive ability of a company's earnings outperforms the cash flows to predict share prices. Some of such research studies were carried out by Ali and Pope, (1995); Al-Sehali, (2006); Cheng, Chao and Schaefer, (1996); Board and Day, (1989); Clubb, (1995); Cotter, (1996); Dechow, (1994); Ingram and Lee, (1997); and Jordan, Waldron, Mississippi and Clark, (2007). On the contrary, another set of studies, e.g. Al-Min, (1999); Barth, Cram and Nelson, (2001); Chotkunakitti, (2005); Finger, (1994); Hussain and Al-Attar, (2004); Krishnan and Largay, (1997); Mubarak, (1997); Narktabtee, (2000) and Supriyadi, (1999) have tended to indicate conflicting results that cash flows are a better tool for forecasting future cash flows.

Several researchers indicated that the issue of the comparative ability of accrual and cash flow components is still need to be researched. A study by Telmoudi et al., (2010) stated that the former studies could not judge with certainty in favor of any explanatory variable, (cash flow, earnings, accrual…), to forecast the future share prices. In addition, some researchers confirmed that the results of prior research around this issue are mixed, weak and inconsistent and arrive at inconclusive findings such as Alharbi, (2009); Cheng and Shamsher, (2008); Tho, (2007); Anwer and Nainar, (2006) and Norita and Shamsul, (2004). The inconsistency of results could be due to a combination of several factors. Firms in emerging market are mixed in nature, mostly newly listed and have volatile earnings. Also, emerging markets are different from developed markets in a number of respects: for instance, transparency, liquidity, level of corruption, volatility, governance taxes and transaction costs.

In Saudi Arabia, evidence of the comparative predictive ability of accrual and cash flow components is very limited. Al-Sehali, (2006), mentioned that future studies in the Saudi context might want to consider the investigation of the reasons for earnings' superiority over cash flows in the SSE. In addition, Al-Sehali and Spear, (2004) declared that, to date, the extant literature lacks significant empirical evidence on the current role of accrual and cash flow components in security valuation in the SSE, despite its status as one of the largest (by market capitalization) among emerging markets.

Besides that, there is a lack of studies conducted around this issue during the financial crisis periods. As discussed previously, accounting information is very important to predict share price. However, this prediction is affected by other factors such as financial crises. For instance, Muliati et al., (2009) found that earnings and book value as well as a non - accounting beta for firm valuation in Malaysia are more valued during the financial crisis as compared to after the financial crisis (1997-1999). Another example from Saudi Arabia, Al-Twaijry, (2007) found that earnings per share and dividends per share are not always good predictors of the changes in the share price, where the explanatory power of these variables was 80 percent before the domestic crisis which took place in Feb 2006 in the SSE and suddenly declined by 64 percent to 29 percent during the crisis and continued decreasing after the crisis to 4 percent. In addition, Chotkunakitti, (2005) pointed out that cash flow ratios were not a good predictor of future cash flows due to the impact of the Asian economic crisis, which had an effect on the predictive power of accounting data of Thai listed companies. Another study conducted on the Stock Exchange of Thailand by Narktabtee, (2000). Narktabtee revealed that the accounting information had more information content when the economic situation was normal and lost information content when the Asian economic crisis occurred.

On this basis, the current study focuses on examining the comparative ability of accrual and cash flow components in predicting future Saudi share prices before the GFC, during the GFC and after the GFC. Therefore, this research differs from prior studies because previous studies focused on normal horizons, while the current study instead focuses typically on the crisis horizons. In other words, most studies related to the issue of the comparative ability of accrual and cash flow components to forecast future share prices were conducted in the normal economic situations, while the current study investigates this issue for the crisis periods and non-crisis. In light of the preceding argumentation, it can be concluded that there is a lack of research evidence in Saudi Arabia about the issue of the comparative ability of accrual components and cash flow components in predicting future share prices. In addition, the findings of the previous studies were non-consistent and therefore, this issue is still needs to be researched.

3. Objectives of the Study

This study examines the accrual and cash flow components jointly among Saudi firms. Its prime purpose is to compare the comparative ability of accrual components and cash flow components to predict future share prices of non-financial companies listed on the SSE, an emerging capital market of Saudi Arabia. Based on prior research such as Andikaputri, (2008) and Maxwell, (2010), the study jointly compares the information provided by accrual components, A combination of Earnings Per Share (EPS) and Return On Assets (ROA), with that provided by cash flow components, A combination of Cash Flow Per Share (CFPS) and Cash Flow Return On Assets (CFROA) in predicting share price before, during and after the GFC.

Therefore, the main objective of this study is to investigate the comparative ability of accrual components and cash flow components to explain the variations in the share prices of non-financial companies listed on the SSE in various economic conditions, that is, before, during and after the GFC. Therefore, this study jointly compares the information provided by accrual components (A combination of EPS and ROA) with that provided by cash flow components (A combination of CFPS and CFROA) in predicting share price

before, during and after the GFC. Accordingly, the research objective can be formulated as follows:

To investigate the ability of accrual components versus cash flow components in predicting Saudi share price before, during and after the GFC.

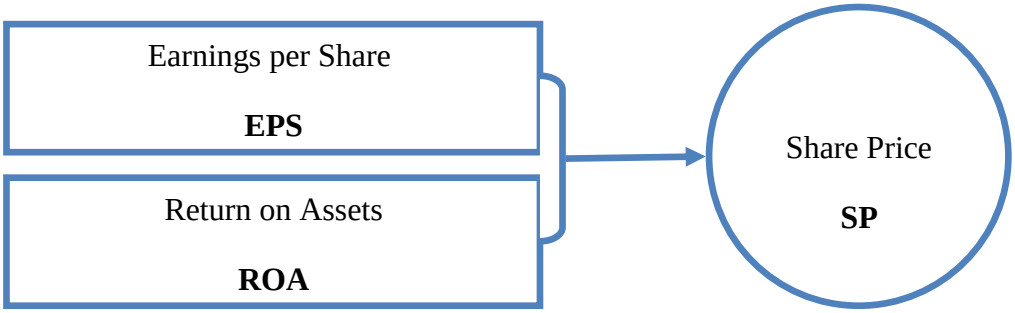
4. Methodology

The goal of this study is to investigate the comparative ability of accrual accounting components and cash flow components in predicting share prices of Saudi listed firms before, during and after the global financial crisis. In this study, share price is the dependent variable and its behavior study could be collected from the annual reports published on GulfBase Web Site (www.gulfbase.com). Share price reflects the performance of the company and means the weighted average (weighted mean) for the share price in the trading market (Maligi, 2006). Based on Al-Min (1999), Al-Jafri and Bashikh (2005) and Al-Sehali and Spear (2004), share prices used in this research are defined as the closing share price at the end of each annual report, namely, the end of the financial year. They are taken directly from annual reports at the end of the year. Share price changes every day. During certain time of the year, it can easily notice the volatility of share prices. This may take place many times in one day for some shares. In addition, due to non-existence of a system helps determine the stock price movement, then the study uses the closing share price data from annual reports. All accrual and cash flow data including earnings per share (EPS), return on assets (ROA), cash flow per share (CFPS) and cash flow return on assets (CFROA) represent the independent variables in this study which could be collected from annual financial reports (financial statements).

4.1 Accrual Components Model (AC Model)

The AC Model is used to investigate the ability of a combination of earnings per share and return on assets in predicting future share prices. The model is used with cash flow component model (CFC Model) to examine the comparative ability of accrual components and cash flow components to forecast share prices of Saudi listed firms before, during and after the GFC. Figure 1 shows the AC Model:

Figure 1: Model of predicting share prices using accrual components



This model is used to examine the ability of a combination of earnings per share (EPS) and return on assets (ROA) in predicting share price. The model is based on multiple regression and tested in all economic conditions, including before, during and after the global financial crisis. The AC Model is formulated as follows:

$$SP=a_0+a_1EPS+a_2ROA+e \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

SP refers to the closing share prices at the end of the year, i.e. at the end of 2007 for the period pre-crisis, at the end of 2008 and 2009 for the period during the crisis and at the end of 2010 and 2011 for the period post-crisis.

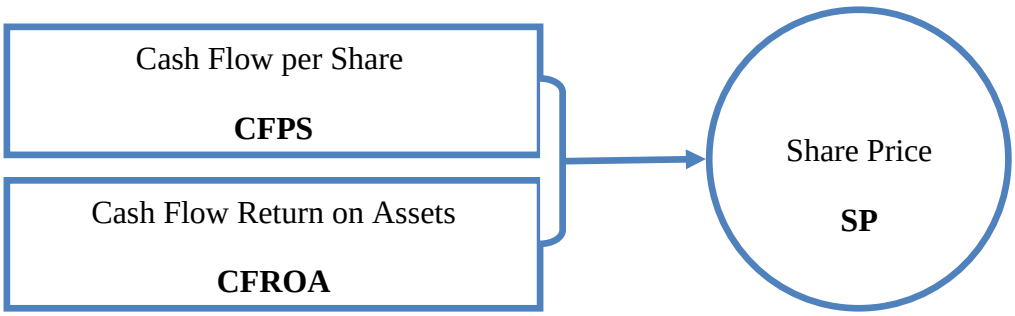
EPS refers to earnings per share at the end of the year, at the end of the year 2007 for the period before the GFC, at the end of the year 2008 and 2009 for the period during the GFC, at the end of 2010 and 2011 for the period after the GFC.

ROA refers to return on assets at the end of the year, at the end of 2007 for the period pre-crisis, at the end of 2008 and 2009 for the period during the crisis, and at the end of 2010 and 2011 for the period post-crisis.

4.2 Cash Flow Components Model (CFC Model)

The CFC Model is used to study the ability of a combination of cash flow per share and cash flow return on assets in predicting future share prices. The model is used with AC Model to investigate the comparative ability of cash flow components and accrual components to predict share prices of Saudi listed firms before, during and after the GFC. Figure 2 shows the CFC Model:

Figure 2: Model of predicting share prices using cash flow components



This model is used to examine the ability of a combination of cash flow per share (CFPS) and cash flow return on assets (CFROA) in predicting share price. The model is based on multiple regression and tested in all economic conditions, including before, during and after the global financial crisis. The CFC Model is formulated as follows:

$$SP=a_0+a_1CFPS+a_2CFROA+e \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

SP refers to the closing share price at the end of 2007 for the period before the GFC, at the end of 2008 and 2009 for the period during the GFC and at the end of 2010 and 2011 for the period after the GFC.

CFPS refers to cash flow per share at the end of the year, at the end of 2007 for the period pre-crisis, at the end of 2008 and 2009 for the period during the crisis, and at the end of 2010 and 2011 for the period post-crisis.

CFROA refers to cash flow return on assets at the end of the year, at the end of the year 2007 for the period before the GFC, at the end of the year 2008 and 2009 for the period during the GFC, at the end of 2010 and 2011 for the period after the GFC.

4.3 Hypothesis Development

The objective of this study is to examine the value relevance of accrual components in comparison with cash flow components in explaining the variations in share prices before, during and after the GFC. The study uses earnings per share and return on assets as proxies of accrual components as well as uses cash flow per share and cash flow return on assets as proxies of cash flow components. Hypotheses of this study are formulated according to the assertion of the Financial Accounting Standards Board (FASB, 1978) and the empirical results of the literature. The assertion of the Financial Accounting Standards Board (FASB) states that accounting earnings and its components provide a better indication of a firm's ability to generate future cash flows than cash flow information themselves (SFAC No. 1, FASB 1978, para. 44). The statement of FASB implies that using the earnings to predict future cash flows, stock returns, etc., is much better compared to the use of cash flows as a predictor.

In addition, a set of studies such as Board and Day (1989); Jordan et al. (2007); Al-Sehali (2006); Dechow (1994); Cotter (1996); Ingram and Lee (1997); Ali and Pope (1995); Clubb (1995) and Cheng et al. (1996) found that accrual measures are a better tool than cash flow measures to forecast future share prices. Based on the statement of FASB mentioned earlier and findings of prior research, this study estimates that accrual components provide more information in explaining the price changes than cash flow components. Accordingly, hypothesis of the study are formulated as follows:

Accrual components are able to provide more information in explaining the price variations than cash flow components before, during and after the GFC.

The hypothesis is supported if the predictive power of the accrual component model is greater than the predictive power of the cash flow component model before, during and after the GFC. Namely, if adjusted R^2 of the accrual component model is greater than adjusted R^2 of the cash flow component model before, during and after the GFC, then the accruals components are considered a better tool than cash flow components in explaining the variations in share price before, during and after the GFC.

4.4 Data

The study utilizes annual data covering the period of 2007-2011. The choice of this period is grounded on data availability as well as it includes the period of the global financial crisis 2008-2009. The study uses secondary annual data gathered from annual financial reports published on the SSE website. The share price data consists of the closing share price at the end of the year, and they are gathered from the Annual Reports of SSE published on GulfBase Web Site (www.gulfbase.com). The data chosen from financial statement were as follows:

i. Balance sheet from the accounting year 2007 (ended in 31 December 2007) to the accounting year 2011 (ended in 31 December 2011), the variable taken directly from this statement is Total Assets.
ii. Income statement from the accounting year 2007 (ended in 31 December 2007) to the accounting year 2011 (ended in 31 December 2011), the variables taken directly from this statement are earnings per share and net income. Net income is used in this research to calculate the amount of Return on assets (ROA). The ROA is calculated by dividing net income over total assets at the end of the year.

iii. Statement of cash flows from the accounting year 2007 (ended in 31 December 2007) to the accounting year 2011 (ended in 31 December 2011), the variable taken directly from this statement is the cash flow from operating activities. Cash flow from operations is used in this research to calculate the amount of cash flow per share and cash flow return on assets.

4.5 Population and Sampling of the Study

The sample of the companies comprises all non-financial companies, 90 non-financial companies, listed in the SSE and which data available and with December 31 fiscal year end over the period of 2007-2011.

Table 4.1: Distribution of companies into sectors in the SSE

ID	Sector	Number of Companies
	Non-Financial Companies	
1.	Media and Publishing	3
2.	Industrial	13
3.	Cement	8
4.	Services	8
5.	Electrical	2
6.	Agriculture and Food Industries	14
7.	Telecommunication and Information Technology	4
8.	Hotel and Tourism	2
9.	Multi-Investment	7
10.	Industrial Investment	11
11.	Building and Construction	13
12.	Real Estate Development	7
13.	Transport	4
Financial Companies		
14.	Banks and Financial Services	11
15.	Insurance	21
Total Companies Listed on the Saudi Stock Exchange		**128**

Source: (Saudi Stock Exchange website, 2011)

The financial companies are excluded from the sample size because they apply the International Accounting Standards (IAS) whereas, the non-financial companies apply the Saudi Accounting Standards (SAS). All non-financial companies are subject to the supervision and the control of the Saudi Organization for Certified Public Accounting (SOCPA) which prepares and develops SAS as well as it has all powers to oblige the companies which are subject to its control to apply SAS (Saudi Arabia Economics Report, 2011). The financial companies are not subject to the control of SOCPA but they are instead subject to the control of the Saudi Arabian Monetary Agency (SAMA). Therefore, SOCPA does not have the powers to oblige the financial companies to apply the SAS. On this basis, the current study examines only the non-financial companies listed on the SSE.

A longitudinal study has been chosen to correlate with all non-financial companies listed on the SSE and the period of five years would be sufficient to monitor the comparative ability of accrual components and cash flow components to predict share price. The sample consists of 90 non-financial companies listed on the SSE during the period of 2007-2011. The firms were selected based on the following criteria:

i. The firms were listed on the SSE starting from January 2007 until 2011.
ii. The firms that have necessary financial statement data.
iii. Share price data are available for the company selected during the sample period of 2007-2011.

Based on the criteria mentioned above, the company selected must be active in the business and trades on the SSE. That means, the application of the models is limited to the companies whose shares are traded on the SSE regularly during the study period. In other words, trading in shares of the company under-study has not been broken off during the study period, and the company has not been consolidated with other companies, or has been liquidated.

Based on these criteria, 90 samples of observations were selected for the period of pre-global financial crisis 2007. Namely, 90 companies are selected for the year 2007 which represents the period of pre-global financial crisis. In addition, 180 samples of observations were selected for the period of during the global financial crisis i.e. 90 companies are selected for the year 2008 and the year 2009 which together represent the period of during the global financial crisis. Also, 180 samples of observations were selected for the period of post financial crisis, i.e. 90 companies were selected for the year 2010 and the year 2011 which together represent the period of post global financial crisis (See Table 3.2).

Table 4.2: Sample selection of the study period, before, during and after the crisis

Fiscal Year	**2007**	**2008**	**2009**	**2010**	**2011**
Number of companies	90	90	90	90	90
Number of observations	90	180		180	
Periods	Pre-global financial crisis	During the global financial crisis		Post the global financial crisis	

5. Findings and Discussion

The study hypothesis is to compare the information provided by accrual components with that provided by cash flow components in predicting share price before, during and after the GFC. It assumes that accrual components are able to provide more information than cash flow components in explaining the variations of share price. Two models were used to test the hypothesis, AC Model and CFC Model. Table 5.1 shows the regression results for the AC Model and CFC Model before, during and after the GFC.

Table 5.1: Regression Results for AC Model and CFC Model before, during and after the GFC

	AC Model			**CFC Model**		
	Before GFC	***During GFC***	***After GFC***	***Before GFC***	***During GFC***	***After GFC***
F-ratio	106.197	112.058	287.934	20.254	4.459	10.428
Model Sig.	.000	.000	.000	.000	.013	.000
R	.842	.747	.875	.564	.219	.325
R^2	.709	.559	.765	.318	.048	.105
Adjusted R^2	.703	.554	.762	.302	.037	.095
t value (EPS)	8.947*	12.557*	15.311*			
Parameter Sig (EPS)	.000	.000	.000			
t value (ROA)	1.793***	2.533**	2.856*			
Parameter Sig (ROA)	.076	.012	.005			
t value (CFPS)				6.217*	2.892*	4.541*
Parameter Sig (CFPS)				.000	.004	.000
t value (CFROA)				3.763*	1.917***	1.996**
Parameter Sig (CFROA)				.000	.057	.047
Number of Cases	90	180	180	90	180	180

*, **, *** Statistical significance at the 0.01 , 0.05 and 0.1 levels respectively.

In the AC model presented in Table 1, the F-ratio is 106.197 before the GFC, which is highly significant (P<0.01). The findings reject the null hypothesis that there is no relationship between the independent variable, accrual components (EPS and ROA), and the dependent variable (SP). The findings show that there is a statistically significant relationship between the independent variable (accrual components) and the dependent variable (SP). During the GFC, the F-ratio for the AC model is 112.058, which is highly significant (P<0.01). The findings reject the null hypothesis that there is no relationship between the independent variable, accrual components (EPS and ROA), and the dependent variable (SP). The findings show that there is a statistically significant relationship between the independent variable (accrual components) and the dependent variable (SP). After the GFC, the F-ratio for the AC model is 287.934, which is highly significant (P<0.01). The findings reject the null hypothesis that there is no relationship between the independent variable, accrual components (EPS and ROA), and the dependent variable (SP). The findings show that there is a statistically significant relationship between the independent variable (accrual components) and the dependent variable (SP). Therefore, there is a statistically significant relationship between accrual components and share price before, during and after the GFC.

In the CFC model presented in Table 1, the F-ratio is 20.254 before the GFC, which is highly significant (P<0.01). The findings reject the null hypothesis that there is no relationship between the independent variable, cash flow components (CFPS and CFROA) and the dependent variable (SP). The findings show that there is a statistically significant relationship between the independent variable (cash flow components) and the dependent variable (SP). During the GFC, the F-ratio is 4.459, which is significant (P<0.05). The findings reject the null hypothesis that there is no relationship between the independent variable, cash flow components (CFPS and CFROA) and the dependent variable (SP). The findings show that there is a statistically significant relationship between the independent variable (cash flow components) and the dependent variable (SP). After the GFC, the F-

ratio is 10.428, which is significant (P<0.01). The findings reject the null hypothesis that there is no relationship between the independent variable, cash flow components (CFPS and CFROA) and the dependent variable (SP). The findings show that there is a statistically significant relationship between the independent variable (cash flow components) and the dependent variable (SP). Therefore, there is a statistically significant relationship between cash flow components and share price before, during and after the GFC.

In the column labelled R square in Table 1, the value of R^2 is .709 for the AC model and adjusted R^2 is .703 before the GFC, which means that the predictors (constant, EPS and ROA) account for 70.3% of the variations in share price. Accrual components in equation 1 are significantly positive in the prediction equation before the GFC. During the GFC, the value of R^2 is .559 for the AC model and adjusted R^2 is 0.554, which means that the predictors (constant, EPS and ROA) account for 55.4% of the variations in share price. Accrual components in equation 1 are significantly positive in the prediction equation during the GFC. After the GFC, the value of R^2 is .765 for the AC model and adjusted R^2 is .762, which means that the predictors (constant, EPS and ROA) account for 76.2% of the variations in share price. Accrual components in equation 1 are significantly positive in the prediction equation after the GFC.

For the CFC model shown in Table 1, the value of R^2 is .318 and adjusted R^2 is .302 before the GFC, which means that the predictors (constant, CFPS and CFROA) account for 30.2% of the variations in share price. Cash flow components in equation 2 are significantly positive in the prediction equation before the GFC. During the GFC, the value of R^2 is .048 for the CFC model and adjusted R^2 is .037, which means that the predictors (constant, CFPS and CFROA) account for 3.7% of the variations in share price. Cash flow components in equation 2 are significantly positive in the prediction equation during the GFC. After the GFC, the value of R^2 is .105 for the CFC model and adjusted R^2 is .095, which means that the predictors (constant, CFPS and CFROA) account for 9.5% of the variations in share price. Cash flow components in equation 2 are significantly positive in the prediction equation after the global financial crisis.

Table 1 also shows the t and sig values for both models, AC model and CFC model. For the AC model, the t value for the EPS is 8.947 before the GFC, which is positive, and the sig value is .000, which is significant. These results mean that earnings per share are found to have a significant and positive influence on share price at a significance level of $p< 0.01$. In addition, the t value for the ROA is 1.793, which is positive, and the sig value is .076, which is significant at 0.1 levels. Accordingly, return on assets is also found to have a significant and positive influence on share price at a significance level of $p< 0.1$. During the GFC, the t value is 12.557 for the EPS, which is positive, and the sig value is .000, which is significant. These results mean that earnings per share are found to have a significant and positive influence on share price at a significance level of $p< 0.01$ during the GFC. In addition, the t value for the ROA is 2.533, which is positive, and the sig value is .012, which is significant at 0.05 levels. Accordingly, return on assets is also found to have a significant and positive influence on share price at a significance level of $p< 0.05$. After the GFC, the t value is 15.311 for the EPS, which is positive, and the sig value is .000, which is significant. These results mean that earnings per share are found to have a significant and positive influence on share price at a significance level of $p< 0.01$ after the GFC. In addition, the t value for the ROA is 2.856, which is positive, and the sig value is

.005, which is significant at 0.01 levels. Accordingly, return on assets is also found to have a significant and positive influence on share price at a significance level of $p< 0.01$.

For the CFC model, the t value for the CFPS is 6.217 before the GFC, which is positive, and the sig value is .000, which is significant. Therefore, cash flow per share is found to have a significant and positive influence on share price at a significance level of $p< 0.01$. In addition, the t value for the CFROA is 3.763, which is positive, and the sig value is .000, which is significant. Accordingly, cash flow return on assets is found to have a significant and positive influence on share price at a significance level of $p< 0.01$ before the GFC. During the GFC, the t value for the CFPS is 2.892, which is positive, and the sig value is .004, which is significant. Therefore, cash flow per share is found to have a significant and positive influence on share price at a significance level of $p< 0.01$ during the GFC. In addition, the t value for the CFROA is 1.917, which is positive, and the sig value is .057, which is significant at 0.1 levels. Accordingly, cash flow return on assets is found to have a significant and positive influence on share price at a significance level of $p< 0.1$ during the GFC. After the GFC, the t value for the CFPS is 4.541, which is positive, and the sig value is .000, which is significant. Therefore, cash flow per share is found to have a significant and positive influence on share price at a significance level of $p< 0.01$ after the GFC.

In addition, the t value for the CFROA is 1.996, which is positive, and the sig value is .047, which is significant at 0.05 levels. Accordingly, cash flow return on assets is found to have a significant and positive influence on share price at a significance level of $p< 0.05$ after the GFC. Based on these results, there is an obvious difference in the findings between CFC model and CFROA model mentioned earlier. In the simple regression, CFROA is not significantly related to share price, but here in the CFC model the association is significant. These results are in line with previous studies such as Jordan et al. (2007). Jordan et al combined cash flow from operations with earnings per share and sales to estimate stock prices. By using cash flow from operations alone, they found that the cash flow from operations has an insignificant effect on share price, but when the cash flow from operations was combined with earnings per share and sales, it had a significant effect beyond earnings per share and sales.

Based on the results reported above regarding the AC model and CFC model, the findings indicate that the accrual components are a better tool than cash flow components in explaining the variation in share prices before, during and After the GFC for the following results:

i. Accrual components are highly correlated with share price than cash flow components before, during and after the GFC (Before the GFC, R=.842 for the AC model and R=.564 for the CFC model. During the GFC, R=.747 for the AC model and R=.219 for the CFC model. After the GFC, R=.875 for the AC model and R=.325 for the CFC model).
ii. The relationship of accrual components and share price is stronger than the relationship of cash flow components and share price before, during and after the GFC (Before the GFC, R^2=70.9% and adjusted R^2=70.3% for the AC model, while R^2=31.8% and adjusted R^2=30.2% for the CFC model. During the GFC, R^2=55.9% and adjusted R^2=55.4% for the AC model, while R^2=1% and adjusted R^2=3.7% for the CFC model. After the GFC, R^2=76.5% and adjusted R^2=76.2% for the AC model, while R^2=10.5% and adjusted R^2=9.5% for the CFC model).

Accordingly, the hypothesis is supported and therefore, the accruals components provide more information than the cash flow components do in predicting share price before, during and after the GFC.

Based on the findings of the hypothesis discussed above, the accrual component model was found to be a significant predictor of future share prices at 0.01 levels in all prediction periods from 2007 to 2011. The cash flow component model was also found to be a significant predictor of future share prices in all prediction periods at 0.01 levels from 2007 to 2011except for the prediction period during the crisis ($p< 0.013$), where the model was found to be a significant predictor of future share prices but at 0.05 levels. Overall, this finding suggests that accrual components and cash flow components have a significant predictive power for future share prices of Saudi listed companies.

In addition, the adjusted R^2 of the accrual component model for each prediction period was found to be unstable (adjusted R^2 before the crisis was .703, during the crisis was .554 and after the crisis was .762). This means that the explanatory power of the accrual component model in prediction future share prices was varied over the prediction periods. The adjusted R^2 of the cash flow component model for each prediction period was also found to be unstable (adjusted R^2 before the crisis was .302, during the crisis was .037 and after the crisis was .095). This means that the explanatory power of the cash flow component model in prediction future share prices was varied over the prediction periods.

In summary, the accrual component model and the cash flow component model can be used to predict future share prices of Saudi listed companies and the explanatory ability of the models in predicting future share prices differs across periods. However, the models may decrease its explanatory power when the prediction contains a period during the financial crisis. When comparing the adjusted R^2 between models within all periods, crisis period and non-crisis, the results show that the accrual component model provided a higher adjusted R^2 than the cash flow component model in all prediction periods. These results indicate that the accrual component model provides better predictors than the cash flow component model. Accordingly, accrual components are considered a better tool than cash flow components in predicting future share prices before, during and after the global financial crisis.

This research finding is consistent with previous research conducted in developed countries and developing. Many previous researchers examined the comparative ability of accrual components and cash flow components to predict future share prices and found that accrual components provide more information in predicting share prices than that contained by cash flow components. Ingram and Lee (1997) found that accrual components are better tool than cash flow components for only companies having a consistent pattern of income. Cotter (1996) found that earnings components are better to reflect value relevant events than cash flow components over return intervals of one to ten years. Dechow (1994) found that cash flow measures suffer measurement error to a greater extent than earnings in predicting future share prices. Accordingly, the research results are in line with the results of previous studies such as Ingram and Lee (1997); Cotter (1996) and Dechow (1994).

6. Conclusion

The main purpose of this study is to compare the value relevance of accrual components (EPS and ROA) with the value relevance of cash flow components (CFPS and

CFROA) in explaining the variations in the share price of Saudi listed firms before, during and after the global financial crisis. The study concluded that accrual components (the combination of EPS and ROA) are a better tool than cash flow components (the combination of CFPS and CFROA) in predicting Saudi share price before, during and after the global financial crisis.

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