THE VALUE RELEVANCE OF UNREALIZED GAINS AND LOSSES AROUND THE FINANCIAL CREDIT CRISIS: EVIDENCE FROM THE UK

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Abstract

This paper examines the usefulness of the unrealized gains and losses on foreign currency exchange and marketable securities, using a sample of UK non-financial FTSE 350 around the recent financial credit crisis. A number of findings are reported by the current study. First, study finds that the unrealized gains and losses on foreign currency exchange and marketable securities matter when making investment decisions and can explain changes in firms' market value, however, this relationship becomes more negative post-the crisis period indicating that investors attach some value for such information. Second, the study concludes that investors underestimate the value of firms report unrealized gains and losses in the post-crisis period, confirming the view that these items are considered to be one of the major drivers of the credit crisis. The present articles provides a great deal of implication for national (UK Accounting Standard Board) and international (IASB) accounting regulators about the impact of using unrealized gains and losses of foreign currency exchange and marketable securities.

Keywords: Value Relevance, Unrealized Gains and Losses, Recent Credit Crisis

1. INTRODUCTION

A great deal of the extant literature has indicated that most companies are exposed to foreign exchange changes as their cash flows are directly or indirectly influenced by the movements in the exchange rate (Shapiro, 1975; Levi, 1994; Marston, 2001). According to this line of reasoning, most studies documented little or no impact of foreign exchange fluctuations on market measures (Jorion, 1990; Bartov and Bodnar, 1994; El-Masry et al. 2007; Hutson and Stevenson, 2010). In addition, the diffusion of Fair value accounting along with the high degree of capital markets' fluctuations has expanded the gap between the cost and the market value of financial assets and liabilities, which in turns, inflated the reported amounts of unrealized gain and loss (URGL) in firms' financial statements. Indeed, reporting URGL is consistent with what is so called "Clean Surplus" accounting principle (Christensen and Feltham, 2003). That's it, clean surplus means that the accounting system recognizes all changes whether realized or unrealized.

Economic theory assumes that companies' cash flows are subject to foreign exchange and financial instruments exposures either by direct financial transactions or indirect effect of exchange changes on the competitiveness of the firm (Levi, 1994; Marston, 2001). In keeping with this view, empirical research in this field points out that changes in the value of exchange rate and financial securities are major sources of macroeconomic uncertainty that affect the returns and cash flows of corporations (Shapiro, 1975; Levi, 1994; Marston, 2001). Consistently, the current study uses such underlying

thought in order to investigate the impact of such information (foreign exchange rates and financial instruments) on firms' market values around the recent financial credit crisis.

The primary objective of this paper is to examine the value relevance of unrealized gains and losses (URGL) of foreign currency exchange and marketable securities for the UK FTSE 350 around the recent financial credit crisis. In particular, this investigation is carried out over three intervals including pre- crisis period, during the crisis period and post- crisis period. Indeed, the current paper provides a number of contributions into the extant literature in this field. While the extant literature in this area focused on either the value relevance of financial instruments (e.g. Barth et al., 1996; Seow and Tam, 2002; Khurana and Kim, 2003; Wang et al., 2005; Hassan et al., 2006; Li and Gao, 2007; Laux and Luez, 2009; Song et al., 2010; Gebhardt, 2012) or comprehensive income (O'Hanlon and Pope, 1999; Cahan et al., 2000; Isidro et al., 2004) which is affected by the URGL of both foreign currency exchanges and marketable securities alongside with other items' URGL (Kanagaretnam et al., 2009; Kubota et al., 2009), the current paper independently examines the impact of URGL of such items on firms' market values. This research is unique as it aims to examine whether investors trust financial statement in critical times; it investigates the value relevance of a set of accounting variables that have been of interest when making investment and credit decisions around the recent financial crisis (2007/2008). This research is conducted in one of the most active, attractive and largest capital markets throughout the world, the FTSE. In contrast to many previous studies which focused on examining the value relevance of some common

accounting numbers (Book value of Equity, Earnings, Cash flows), the current paper provides a novel contribution by the examining the value relevance of one of the most controversial during the recent financial credit crisis, the Unrealized Gains and Losses arising from Foreign Currency Exchange (FCE) and Marketable Securities (MS). This, in turns, provides a great deal of insight about how differently market values react to the publication of such information over such critical time. This paper is structured as follows. Section 2 outlines the literature review and hypotheses development. Section 3 details the research design, while Sections 4 and 5 provide the empirical results and additional analysis, respectively before concluding the paper in section 5.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The content of the financial statements has been a major phase of market-based accounting research since the late 1960s (Ball and Brown, 1968;; Bowen, 1981; Fairfield et al., 1996). Holthausen and Watts (2001) reviewed prior research in this field and categorised it into three groups. First, relative association studies which compare the association between share market values/returns and alternative bottom-line numbers (e.g., Dhaliwal et al., 1999; Harris et al., 1994). Second, incremental association studies which investigate whether accounting information of interest matters in explaining firms' market values or returns. Finally, Marginal information studies examine whether specific accounting numbers affect investment decisions; such studies typically employ event studies (e.g. short window return studies) to decide whether the publication of accounting information is related to changes in market values. This paper belongs to the first two categories; it examines the incremental and relative value relevance of accounting numbers over the recent global financial credit crisis; it covers three periods including pre- crisis, crisis time and post- crisis.

Changes in both foreign currency exchange rates and marketable securities prices are very important inputs in a country's economy. Recently, major accounting organizations (including IASB, ABS and FASB) allow companies to use fair value accounting for the evaluation of financial assets and liabilities such as marketable securities and foreign currency translations. In addition, they permit certain accounting numbers and specifically what is so called "Unrealized gains and losses" to by-pass the income statement and go directly to equity in the statement of financial position (FASB, IASB and UK ASB). The exclusion of such items from income and their inclusion in the calculation of the change in retained earnings would cause that calculation to represent "dirty surplus" policy and as a result would have an impact on both investment and credit decisions (Holthausen and Watts, 2001). The clean surplus framework has been linked to equity valuation (e.g., Ohlson, 1995; Feltham and Ohlson, 1995; and Stark, 1997). For example, Ohlson (1995) shows that under clean surplus accounting, the value of the firm is a function of net book value and abnormal earnings. We use this relationship to provide some market-based evidence on the usefulness of URGL disclosures in the financial statements. The remainder of this section reporting the extant literature on value relevance of URGL of both foreign currency exchange and marketable securities.

2.1. The Value Relevance of Unrealized Gains and Losses on Foreign Currency Exchange

Economic theorists indicate that companies are subject to foreign exchange exposure as their cash flows are affected by fluctuations in exchange rates (Heckman, 1985; Levi, 1994; Marston, 2001). Such influence can directly affect firms' cash flows such as transaction exposure of expected future foreign currency cash flows. On the other hand, indirect exposure results from the impact of foreign exchange movements on the competitiveness of the firm. In keeping with this view, empirical research in this field points out that exchange rate changes are a major source of macroeconomic uncertainty that affects the returns and cash flows of corporations. A great deal of the extant literature has indicated that most companies are exposed to foreign exchange changes as their cash flows are influenced by foreign currency exchange rate movements (Shapiro, 1975; Heckman, 1985; Levi, 1994; Marston, 2001). In particular, using cross-country data from eight developing and developed countries, Dominguez and Tesar (2006) has found that significant proportion of public listed firms experienced significant currency exposure. In another example, El-Masry et al. (2007) investigated the foreign exchange exposure of 394 UK firms over the period 1981-2001. They show that only 15% of their sample firms are significantly exposed to the foreign exchange fluctuations. In a multi-country study, Hutson and Stevenson (2010) find that only 8% of their 312 UK firms are exposed to currency index movements during the period 1984-2003. Having established such theoretical anticipation of a link between a firm's performance and foreign exchange rates, it is expected that empirical research to form this association. Indeed, there is a dearth of empirical research about the impact of URGL of foreign currency exchange on firms' market values. The only exception for this generalization is related to a number of studies which failed to report a significant association between market measures and URGL on foreign currency exchange (Jorion, 1990; Bartov and Bodnar, 1994; Amihud, 1994).

Using a sample of UK FTSE 350 over a period of 16 years (2000-2015) the current study examines the association between the URGL of foreign currency exchanges and firms' market value over three periods (pre- the crisis, during the crisis and post- the crisis time). Hence, the following research hypotheses is developed:

H1: Do unrealized gains and losses on foreign currency exchange have consistent incremental and relative value relevance in the pre-crises period, during crisis period and post-crisis period?

2.2. The Value Relevance of Unrealized Gains and Losses on Marketable Securities

During the latest global financial crisis, capital markets throughout the world experienced dramatic changes in marketable securities' values. The intense

ill-functioned markets and fluctuations around the recent credit financial crisis triggers the reliability fear of investment securities (Seow and Tam, 2002; Wang et al., 2005; Song et al., 2010; Gebhardt, 2012). In addition, the permission of increasing usage (by FASB, IASB, ASB) of fair accounting of such securities has widened variations in their market values over years (Li and Gao, 2007; Laux and Luez, 2009). As a result, investors' and creditors' trust in the financial statements has declined over time (Hassan et al., 2006).

Previous research in this area focused on two phases. The first phase examined the value relevance of financial instruments including qualitative and quantitative information (e.g. Barth et al., 1996; Seow and Tam, 2002; Khurana and Kim, 2003; Wang et al., 2005; Hassan et al., 2006; Li and Gao, 2007; Laux and Luez, 2009; Song et al., 2010; Gebhardt, 2012). The second phase investigated the association between the comprehensive income and firms' market values (O"Hanlon and Pope, 1999; Cahan et al., 2000; Isidro et al., 2004). In general, empirical evidence is provided from both strands about the usefulness of such accounting information and indicated that such information is value relevant to investors and reliable enough to be reflected in market measures. Such findings were drawn on pensions (Barth, 1991; Nelson, 1991; Houmes et al., 2012), bank loan (Barth et al., 1994), investment securities (Ahmed and Takcda, 1995) and derivatives (Schrand, 1997). The current study follows different approach by examining the relationship between URGL of marketable securities and firms' market values around the recent financial credit crisis. Hence, the second research hypothesis is as follows:

H2: Do unrealized gains and losses on marketable securities have consistent incremental and relative value relevance in the pre-crises period, during crisis period and post-crisis period?

3. RESEARCH METHODOLOGY

3.1. Sample Construction

The sample of this study consists of UK FTSE 350 during the period 2000-2015. We follow prior research and exclude all financial and insurance firms due to their reporting process (.e.g., Akbar et al. 2013, Bepari et al. 2013, Alhadab 2015, Alhadab et al. 2015). We collect financial and accounting data

from Thomson One Banker database for fiscal years ending in December over the sample period. After including all firms with the necessary data to run the analysis, we end up with a sample consists of 3,898 firm-year observations during the period 2000-2015. This sample is divided into three sub-samples as follows: the pre-crisis sample covers the period from 2000 to 2006 (1,564 firm-year observations); the crisis sample covers the period from 2007 to 2008 (526 observations); and the post-crisis sample covers the period from 2009 to 2015 (1,808 observations).

3.2. Empirical Models

To investigate whether the unrealized gains and losses on foreign currency exchange and marketable securities have consistent incremental and relative value relevance in the pre-crises period, during crisis period and post-crisis period, we estimate two models where the dependent variable is market value of equity per share (MVi,t) and main independent variables of interest are proxies for unrealized gains and losses on foreign currency exchange (UNGL-FCEXi,t) and unrealized gains and losses on marketable securities (UNGL-MSECi,t).

Following prior research (.e.g., Akbar et al. 2013, Bepari et al. 2013), we add a set of control variables into the models that are found to be associated with the market value of equity. We control for the size effect by adding (Size) into the models. While book value of equity per share (BV), earnings per share (EPS), and cash flows from operations per share (CFO) are added into the models as prior literature shows that these variables are considered to be of the most important predictors of firm value (e.g., Collins et al. 1997; Barth et al., 1999; Brown et al. 1999; Francis and Schipper 1999; Landsman and Maydew 2002; Habiib, 2008; Bepari et al., 2013). To control for growth opportunities Book-to-market ratio (BM) is added and to control for firms' risk profile leverage (Leverage) and liquidity (Liquidity) ratios are included into the models. Finally, we control for the industry (IND) and time (Year) effects. Following prior research (Kolev 2010, Song et al 2010, and Jung 2014), all variables in the model are scaled on a per-share basis to reduce the scale effects in the regression models. Thus, the following models are estimated to all samples.

$$MV_{it} = a_0 + \beta_1\, UNGL\_FCEX_{it} + \beta_2\, BV_{it} + \beta_3\, EPS_{it} + \beta_4 CFO_{it} + \beta_5\, Size_{it} + \beta_6\, BM_{it} + \beta_7\, Leverage_{it} + \beta_8 Liquidity_{it} + IND + Year + \varepsilon_{it} \tag{1}$$

$$MV_{it} = a_0 + \beta_1\, UNGL\_MSEC_{it} + \beta_2\, BV_{it} + \beta_3\, EPS_{it} + \beta_4 CFO_{it} + \beta_5\, Size_{it} + \beta_6\, BM_{it} + \beta_7\, Leverage_{it} + \beta_8 Liquidity_{it} + IND + Year + \varepsilon_{it} \tag{2}$$

$$MV_{it} = a_0 + \beta_1\, UNGL\_FCEX_{it} + \beta_2\, UNGL\_MSEC_{it} + \beta_3\, BV_{it} + \beta_4\, EPS_{it} + \beta_5 CFO_{it} + \beta_6\, Size_{it} + \beta_7\, BM_{it} + \beta_8\, Leverage_{it} + \beta_9 Liquidity_{it} + IND + Year + \varepsilon_{it} \tag{3}$$

where:

UNGL-FCEXi,t = unrealized gains and losses on foreign currency exchange at the end of year t for firm i,

UNGL-MSECi,t = unrealized gains and losses on marketable securities at the end of year t for firm i,

MVi,t = market value of equity per share at the end of year t for firm i,

BVi,t = book value of equity per share at the end of year t for firm i,

EPS i,t = the earnings per share at the end of year t for firm i,

CFO i,t = cash flows from operations per share at the end of year t for firm i,

Size = the natural logarithm of market capitalisation at the end of year t for firm i,

BM = the book-to-market ratio at the end of year t for firm i,

Leverage= total debt divided by total assets at the end of year t for firm i,

Liquidity = current ration calculated as current assets divided by current liabilities at the end of year t for firm i,

IND = industry dummies,

Year = time dummies,

ε_{it} = a random error term.

We estimate Model 1 to test our first hypothesis and Model 2 to test for the second hypothesis. If the unrealized gains and losses on foreign currency exchange and marketable securities have consistent value relevance, then the coefficients on (UNGL-FCEX) and (UNGL-MSEC) in Models 1 and 2 are expected to be statistically significant in all periods. Further, the explanatory power (Adj.R2) is compared between the Models to examine whether adding/removing both (UNGL-FCEX) and (UNGL-MSEC) would have any impact in explaining the variation in the share prices. Model 3 is estimated to examine whether the unrealized gains and losses on foreign currency exchange and marketable securities have consistent incremental

and relative value relevance when both variables are included into the same model.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics

Table 1 presents descriptive statistics for all variables and shows that the unrealized gains and losses on foreign currency exchange (UNGL-FCEX) for our sample ranges from £-48 million to £18 million with mean (median) value of £22,847 (£24). While for unrealized gains and losses on marketable securities (UNGL-MSEC), Table 1 shows that this variable ranges from £-1.1 million to £4.5 million with mean (median) value of £16,199 (£0.00). This very large difference between the mean and median values indicates that these variables [UNGL-FCEX and UNGL-MSEC] are positively skewed. Further, Table 1 shows similar evidence for the other variables that their mean values are greater than their median values and, therefore, are positively skewed. This in turn shows the need to address the heteroskedasticity problem (e.g., Bepari et al. 2013) since our data are not randomly distributed. To overcome this issue the robust standard errors (that are clustered at the firm level) are computed as suggested by Petersen (2009).

Table 1. Descriptive statistics for the UK FTSE 350 sample over the period 2000-2014

	N	Mean	Median	Std. Dev.	Min	Max
UNGL-FCEX	2503	22847.03	24.00	1241493.00	-48000000.00	18000000.00
UNGL-MSEC	3668	16199.20	0.00	181962.60	-1100000.00	4500000.00
MV	3898	4314.66	648.89	12781.99	3.53	154059.00
BV	3898	2.51	1.27	6.77	-8.19	169.38
EPS	3898	0.32	0.18	1.25	-26.28	31.31
CFO	3898	0.62	0.30	1.64	-2.98	47.53
Size	3898	13.57	13.41	1.85	8.35	19.45
BM	3898	587.01	423.55	974.91	-9962.50	26602.81
Leverage	3898	32.55	30.56	86.64	-2780.39	2394.02
Liquidity	3898	130.74	110.00	111.56	3.00	563.00

Note: This table presents sample descriptive statistics for the sample. All variables are previously defined

Table 2. Correlations matrix for all variables

	UNGL-FCEX	UNGL-MSEC	MV	BV	EPS	CFO	Size	BM	Leverage	Liquidity
UNGL-FCEX	1									
UNGL-MSEC	0.001	1								
MV	-0.007	0.059***	1							
BV	-0.397***	0.164***	0.515***	1						
EPS	0.250***	0.217***	0.448***	0.406***	1					
CFO	-0.552***	0.203***	0.426***	0.853***	0.314***	1				
Size	-0.055***	0.170***	0.357***	0.275***	0.258***	0.316***	1			
BM	-0.456***	0.070***	-0.085***	0.554***	-0.028	0.512***	-0.007	1		
Leverage	-0.010	-0.005	0.026	-0.001	-0.017	0.025	0.030	-0.056***	1	
Liquidity	-0.035*	0.029	0.172***	0.100***	0.074***	0.122***	0.459***	-0.017	0.027	1

Note: Significant at: *10, * *5 and * * *1 percent levels; this table reports Pearson correlation matrix for all the variables. All variables are previously defined

Table 2 provides the correlation matrix for all variables used in the analysis and shows that the unrealized gains and losses on marketable securities (UNGL-MSEC) are positively associated with market value per share (MV). Thus, this preliminary evidence

suggests that UNGL-MSEC may have value relevance that can predict the variation in firms' share prices. In general, Table 3 indicates that all correlation coefficients are not high suggesting no multicolleanrity problems among independent

variables. The only exception to this generalization relates the correlation between CFO and BV with a coefficient of 0.853. Nevertheless, the current investigation conducted a colleanrity test alongside with all regressions to dissipate any concerns regarding such correlations. The result of such test show no problem of multicolleanrity where the all VIFs where less than 5.

4.2. Empirical Results

4.2.1. The value relevance of UNGL-FCEX

Table 3 reports the results for the analysis of whether unrealized gains and losses on foreign currency exchange (*UNGL-FCEX*) have consistent incremental and relative value relevance over the periods examined including pre-crises period (Model 1) during crisis period (Model 2) and post-crisis period (Model 3) Models 1 and 2 indicate no evidence that *UNGL-FCEX* had incremental value relevance where both coefficients (-0.027 and 0.016)

showed insignificant association with firms' values. Such result can be attributed to the fact that in the crisis period there are many parties (e.g., analysts, researchers, regulators, financial institutions, etc.) claim that *UNGL* was one of the main reasons for the credit crisis and, therefore, investors do not use the *UNGL-FCEX* to evaluate the firm's value. However, this was not the case post-the crisis period where Model 3 in Table 3 shows a negative and statistically significant relationship between *UNGL-FCEX* and firms' market values suggesting that firms which reported unrealized gains and losses on foreign currency exchange in their financial statements post the crisis period were positively valued by investors. Model 3 also shows that the *UNGL-FCEX* have incremental value relevance over the other determinant variables (BV, EPS, CFO) to explain the variation in firm's share prices, suggesting that investors use the *UNGL-FCEX* as one of the main factor to evaluate the firm's share prices. Further, Table 3 shows that the relative value relevance of *UNGL-FCEX* has declined post the crisis time; notably, its explanatory power (Adj.R^2) has declined from 0.843 (pre- the crisis) to 0.445 (post the crisis) indicating that the usefulness of such accounting information may have been underestimated by investors.

Table 3. The value relevance of Unrealized Gains and Losses on Foreign Currency Exchange (UNGL-FCEX) around the credit crisis

	Pre-crisis period	During-crisis period	Post-crisis period
	Model 1	Model 2	Model 3
	MV	MV	MV
Constant	0.009	0.043*	-0.157***
	(0.662)	(1.810)	(-4.774)
UNGL-FCEX	-0.027	0.016	0.003**
	(-0.995)	(1.602)	(2.014)
BV	0.019***	0.007***	0.003**
	(9.807)	(6.417)	(2.166)
EPS	0.000	0.043***	0.000
	(0.039)	(7.116)	(0.088)
CFO	-0.002	-0.004	0.011**
	(-0.259)	(-0.804)	(2.542)
Size	0.001	-0.001	0.012***
	(0.610)	(-0.930)	(5.181)
BM	-0.000***	-0.000***	-0.000***
	(-3.590)	(-3.442)	(-5.174)
Leverage	0.000*	0.000	-0.000
	(1.795)	(1.045)	(-0.536)
Liquidity	-0.000	0.000**	0.000**
	(-0.249)	(2.183)	(2.065)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	1,564	526	1,808
Adj. R-squared	0.843	0.829	0.445

Note: Significant at: *10, * *5 and * * *1 percent levels, Robust t-statistics appear in parentheses; this table reports the results of regressions of unrealized gains and losses on foreign currency exchange (UNGL-FCEX) on market value per share (MV).

Overall, the reported results in Table 3 confirms our first hypothesis that the unrealized gains and losses on foreign currency exchange have consistent incremental and relative value relevance in the pre-crises period, during crisis period and post-crisis period.

4.2.2. The value relevance of UNGL-MSEC

Table 4 reports the results for the analysis of whether the unrealized gains and losses on

marketable securities (*UNGL-MSEC*) have incremental and relative value relevance over book value and earnings in the pre-crises period (Model 1), during crisis period (Model 2) and post-crisis period (Model 3). Table 4 shows that the *UNGL-MSEC* have consistent value relevance in the pre-crises period and post-crisis period. Specifically, we find negative and statistically significant coefficients of (-0.429) and (-0.107) on *UNGL-MSEC* in Models 1 and 3, respectively. These results indicate e.g., that each 1 percent decrease in *UNGL-MSEC* leads to decrease in share prices by approximately 0.429 percent in

Model 1 and 0.107 percent in Model 3, after controlling for the impact of BV, EPS, and CFO.

Further, the explanatory powers (Adj.R^2) of Models 1 and 3 in Table 4 (*UNGL-MSEC* value relevance) are higher than of the explanatory powers of Models 1 and 3 in Table 3 (*UNGL-FCEX* value relevance). For example, the explanatory power of Model 1 in Table 4 (Adj.R^2 =0.846) is higher than the explanatory power of Model 1 in Table 3 (Adj.R^2 =0.843). Thus, Table 4 provides evidence that

confirms the relative value relevance of *UNGL-MSEC* over *UNGL-FCEX*. In addition, it is worth noting that the relative value relevance of *UNGL-MSEC* has declined during and post the crisis period. In particular, Table 4 shows that the Adj.R^2 of Model 1 (pre- crisis) decreased from 0.846 to 0.829 in Model 2 (during the crisis), and then dramatically decreased to 0.448 in Model 3 (post the crisis), suggesting that *UNGL-MSEC* become less important for investors in the post crisis period.

Table 4. The value relevance of Unrealized Gains and Losses on Marketable Securities (UNGL-MSEC) around the credit crisis

	Pre-crisis period	During-crisis period	Post-crisis period
	Model 1	Model 2	Model 3
	MV	MV	MV
Constant	0.004	0.037	-0.167***
	(0.308)	(1.564)	(-5.237)
UNGL-MSEC	-0.429***	-0.050	-0.107**
	(-3.979)	(-1.292)	(-2.130)
BV	0.019***	0.007***	0.003**
	(9.468)	(6.137)	(2.155)
EPS	0.001	0.044***	0.003
	(0.084)	(7.277)	(0.719)
CFO	-0.001	-0.004	0.010***
	(-0.072)	(-1.003)	(2.582)
Size	0.001	-0.001	0.013***
	(0.999)	(-0.571)	(5.791)
BM	-0.000***	-0.000***	-0.000***
	(-3.508)	(-3.335)	(-5.300)
Leverage	0.000*	0.000	-0.000
	(1.767)	(1.044)	(-0.529)
Liquidity	-0.000	0.000**	0.000*
	(-0.294)	(2.056)	(1.828)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	1,564	526	1,808
Adj. R-squared	0.846	0.829	0.448

*Note: Significant at: *10, * *5 and * * *1 percent levels, Robust t-statistics appear in parentheses; this table reports the results of regressions of unrealized gains and losses on marketable securities (UNGL-MSEC) on market value per share (MV).*

Overall, the reported results in Table 4 confirm our second hypothesis that the unrealized gains and losses on marketable securities have consistent and incremental value relevance in the pre-crises period, during crisis period and post-crisis period. These result also suggest that in the pre and post-crisis period investors underestimate the values of firms that report unrealized gains and losses on marketable securities in their comprehensive income statements. This is in turn can be attributed to many claims that unrealized gains and losses are one of major drivers of the recent credit crisis.

4.2.3. The Value Relevance of both UNGL-FCEX and UNGL-MSEC

Table 5 reports the results where both unrealized gains and losses on foreign currency exchange (*UNGL-FCEX*) and unrealized gains and losses on marketable securities (*UNGL-MSEC*) are added into the same model. This is to examine whether these factors have consistent value relevance in the pre-crises period, during crisis period and post-crisis period. Table 5 shows negative and statistically significant coefficients of (-0.424) and (-0.114) on *UNGL-MSEC* in Models 1 and 3, respectively, suggesting that *UNGL-MSEC* have consistent and incremental value relevance over *UNGL-FCEX* and the

other determinant factors e.g., BV, EPS, and CFO in the pre and post the credit crisis period. Also, Model 3 in Table 3 shows that the coefficient on *UNGL-FCEX* is negative (-0.003) and statistically significant at 0.05 level confirm the previous evidence on the value relevance of *UNGL-FCEX* in the post crisis period even after controlling on the other factors that contribute to explain the variation in firms' share prices.

Further, Table 5 shows that the explanatory powers (Adj.R^2) of the combination of both *UNGL-FCEX* and *UNGL-MSEC* enhances the relative value relevance of such information, it reports an adjusted.R^2 of 0.846, 0.830, and 0.452 to Models 1, 2, and 3, respectively. In addition, the explanatory powers (Adj.R^2) that are reported in Table 5 are higher than of the explanatory powers reported in Tables 3 and 4, suggesting that the inclusion of both *UNGL-FCEX* and *UNGL-MSEC* into the same model leads to increase the extent of explaining the cross variation in firms' share prices.

Overall, the reported results in Tables 3, 4, and 5 confirm our predictions that the unrealized gains and losses on foreign currency exchange and marketable securities have consistent incremental and relative value relevance over other predictors (e.g., BV, EPS, and CFO) in the pre-crises period, during crisis period and post-crisis period.

Table 5. The value relevance of Unrealized Gains and Losses on Foreign Currency Exchange (UNGL-FCEX) and Marketable Securities (UNGL-MSEC) around the credit crisis

	Pre-crisis period	During-crisis period	Post-crisis period
	Model 1	Model 2	Model 3
	MV	MV	MV
Constant	0.004	0.039*	-0.167***
	(0.267)	(1.689)	(-5.156)
UNGL-FCEX	-0.025	0.015	0.003*
	(-0.945)	(1.616)	(1.961)
UNGL-MSEC	-0.424***	-0.049	-0.114**
	(-3.886)	(-1.451)	(-2.093)
BV	0.019***	0.007***	0.003**
	(9.528)	(6.506)	(2.072)
EPS	0.001	0.043***	0.001
	(0.085)	(7.255)	(0.296)
CFO	-0.000	-0.004	0.013***
	(-0.041)	(-0.799)	(2.661)
Size	0.001	-0.001	0.013***
	(1.039)	(-0.778)	(5.569)
BM	-0.000***	-0.000***	-0.000***
	(-3.506)	(-3.411)	(-5.203)
Leverage	0.000*	0.000	-0.000
	(1.778)	(1.038)	(-0.536)
Liquidity	-0.000	0.000**	0.000*
	(-0.314)	(2.169)	(1.842)
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
N	1,564	526	1,808
Adj. R-squared	0.846	0.830	0.452

Note: Significant at: *10, * *5 and * * *1 percent levels, Robust t-statistics appear in parentheses; this table reports the results of regressions of unrealized gains and losses on foreign currency exchange (UNGL-FCEX) and marketable securities (UNGL-MSEC) on market value per share (MV).

5. CONCLUSIONS

Existing literature in this area of research has emphasized the value relevance of various accounting information including book value of equity, earnings, and CFO (e.g., Akbar et al. 2011), financial Instruments (e.g. Barth et al., 1996; Seow and Tam, 2002; Khurana and Kim, 2003) and comprehensive income (O"Hanlon and Pope, 1999; Cahan et al., 2000; Isidro et al., 2004). The present study is among a very few studies which examines the value relevance of the *UNGL-FCEX* and *UNGL-MSEC* around the credit crisis period using a sample of UK firms, the FTSE 350. Indeed, we provide empirical evidence about the usefulness of the unrealized gains and losses on foreign currency exchange (*UNGL-FCEX*) and marketable securities (*UNGL-MSEC)* around the recent financial crisis over three periods, namely the pre-crisis period, the crisis period, and post-crisis period.

A number of findings has emerged from the current research. First, the results indicate that investors underestimate the market value of firms that report unrealized gains and losses (*UNGL-MSEC)* in their comprehensive income statements in the pre and post-crisis periods. This confirms the view that the unrealized gains and losses that reported in the income statements are considered to be a major cause of the recent financial credit crisis. Second, for the post-the crisis period the results show that *UNGL-FCEX* have incremental value relevance over the other determinant variables to explain the variation in firm's share prices, suggesting that investors use the *UNGL-FCEX* as one of the main factor to evaluate the firm's share prices and they were positively valued by investors. Finally, it is worth noting that our results are consistent even

after controlling for some control variables that are considered to be of the most important drivers of firms' value such as BV, EPS, and CFO per share. While previous research in this field failed to provide significant evidence about the impact of URGL on firms' market values, the findings of current paper indicates that such accounting information becomes more important and of interest when making investment decision presumably as a result of the financial crisis. Indeed, the results of the pre- and during the crisis analysis shows consistent findings with the extant literature where no significant association documented between variables examined. However, this was not the case post- the crisis period where investor value firms that reported the URGL differently.

The findings of this study provide some important implications for managers, regulators and standards setters to revise their regulations that allow firms to use the fair value option. The International Financial Reporting Standards (IFRS) allow managers to choose either the fair value or historical cost to evaluate their financial assets at the end of the year. Hence, managers should be aware that users consider the URGL of foreign currency and financial securities when making investment and credit decisions they appear to be conscious of the long-term nature of the exposure of the net investment.

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