



Master Thesis Accounting, Auditing, and Control

“Does the information relevance of the fair value hierarchy for banks change during the COVID-19 pandemic?”

ABSTRACT: Theory predicts that uncertainty during a global crisis leads to less reliability in fair value accounting. The COVID-19 pandemic brings volatility and uncertainty to the financial markets. Using financial data from all financial institutions in the United States over a period from 2012 to 2020, I find that the information relevance of the fair value hierarchy indeed changes during the COVID-19 pandemic compared to the Pre-COVID-19 period. The results suggest that companies not only look at market prices (level 1 of the fair value hierarchy) but are motivated to change their valuation techniques because of the COVID-19 pandemic. The information relevance of level 3 Fair Value Assets disappears during the COVID-19 period. Investors seem to have less trust in level 1 fair value assets independent of their tier 1 capital ratio, at least for small banks. Investors seemed to perceive level 3 Fair Value Assets as less relevant and level 2 Fair Value Liabilities as more relevant for large banks and high tier 1 ratio banks. Overall, the results suggest that the changes in the information relevance of the fair value hierarchy are dependent on bank characteristics. Contrary to what was found during the 2008 financial crisis, not all value relevance of each fair value hierarchy went down. This could be due to the update on the standard of Fair Value Accounting (FVA), ASC 820.

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1 Introduction

One of the most vigorous debates in the financial world is that of Fair Value Accounting (FVA). The debate around FVA is about the trade-off between the relevance and reliability of accounting numbers measured at fair value. The significant benefits of FVA are that it has greater relevance, a better reflection of actual volatility, and it simplifies financial reporting. The opposing sides of FVA are that the measurements are less verifiable by investors, a more considerable estimation error by the management, and it is prone to manipulation by the management. There can be problems with the observable market, which will be explained in the literature review. These negative points lead to information asymmetry between investors and managers, which is a severe problem for the reliability of FVA. (Song et al., 2010)

The biggest macro-economic event going on at the time of writing this thesis is the COVID-19 pandemic. The COVID-19 pandemic has affected all of us. The virus claimed millions of lives and disrupted the way we live in many ways. Not only are our day-to-day lives affected, but this pandemic also has a significant impact on our financial system. According to research by Zang et al. (2020), the financial markets have seen dramatic fluctuations on a never seen before scale. Their results show that the global financial market risks have increased substantially during this pandemic. The severity of the fluctuations and risks are linked to the severity of the outbreaks in each country. This pandemic brought great uncertainty, and global markets became highly unpredictable and volatile. Theory predicts that this uncertainty leads to less reliability. Investors will be reluctant because of the volatility in times of crisis, and fair values become harder to predict. To investigate whether this uncertainty and more difficult predictions during the COVID-19 pandemic have an impact on the information relevance of FVA for banks, the research question of my thesis will be as follows:

“Does the information relevance of the fair value hierarchy for banks change during the COVID-19 pandemic?”

Fair value accounting (FVA) is a way to measure assets and liabilities that can be seen on a company’s balance sheet. The latest standard about FVA by the Financial Accounting Standards Board (FASB) is Accounting Standards Codification 820 (ASC 820). This standard was formerly (2006) known as Financial Accounting Standard 157 (FAS 157), and ASC 820 is a minor update to this standard. This standard expands disclosures about fair value measurements, defines fair value, and creates a framework for measuring fair value according to generally accepted accounting principles (GAAP). Prior to FAS 157, there were different definitions of fair value and not much guidance on implementing FVA. The differences in definitions and guidance created unnecessary inconsistencies and complexity in applying GAAP. The goal of FAS 157 was to increase consistency and comparability in fair value measurements. It also expanded the disclosures about fair value measurements. ASC 820 added even more disclosures. The standard is very similar to the newest International Financial Reporting Standard (IFRS) about FVA, IFRS 13. The Standard defines fair value as “the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction

between market participants at the measurement date.” It is sometimes referred to as an ‘exit price’. The standard seeks to increase consistency and comparability in fair value measurements and related disclosures through a ‘fair value hierarchy’. The three-level hierarchy bases the fair value on the following inputs: “Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the reporting entity has the ability to access at the measurement date; level 2 inputs are inputs other than quoted prices included within level 1 that are observable for the asset or liability, either directly or indirectly; and level 3 inputs are unobservable inputs for the asset or liability.” (FASB, 2006)

First, a descriptive analysis is performed on the data to see if there is a difference in the usage of the different levels of the fair value hierarchy during the COVID-19 pandemic. The main test of this research is a test for information relevance in the two periods. The same test as the Song et al. (2010) paper is used. This tests whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. This indicates their value relevance. To test how much weight investors put on the different fair value hierarchy levels, the estimated coefficients are compared to their predicted values of 1 for fair value assets and non-fair value assets and -1 for fair value liabilities and non-fair value liabilities. This indicates if the information relevance is higher or lower than the predicted value. The estimated coefficients of the COVID-19 and Pre-COVID-19 periods are compared using a dummy variable for 2020. When these estimation coefficients are compared between the two periods, the change in the information relevance of the fair value hierarchy for banks during the COVID-19 pandemic can be interpreted.

After that, robustness tests are done but then incorporating bank characteristics. The previous test is repeated for large and small banks based on total assets and differences in capital ratio based on high and low tier 1 ratio banks. Again a dummy variable for 2020 will be used to interpret the differences between the COVID-19 and the Pre-COVID-19 period for the large and small and high and low tier 1 banks. The results are not robust when only the large or high tier 1 ratio banks and not the small and low tier 1 banks have significant effects due to the COVID-19 pandemic.

Using financial data from all financial institutions in the United States over a period from 2012 to 2020, the following results are found. Overall, the results are very mixed. On the one hand, the results from the main test suggest that investors place more weight on level 1 fair value assets (FVA1) during the Pre-COVID-19 period than in the COVID-19 period and less weight on level 3 fair value assets (FVA3) during the Pre-COVID-19. The results also suggest that investors put more weight on level 2 fair value liabilities (FVL2) in the Pre-COVID-19 period than in the COVID-19 period. The same evidence is found when using a dummy variable to test for coefficient differences, where the decrease of FVA1 and increase of FVL2 is significant at the 5 and 10% level, respectively. On the other hand, incorporating bank characteristics, the only consistent result throughout the robustness checks is FVA3 losing its value relevancy in the COVID-19 period. Investors placing more weight on FVA1 during the Pre-COVID-19 period than in the COVID-19 period is not robust for large banks. Investors putting less weight on level 3 fair value assets and more weight on level 2 fair value liabilities during the Pre-

COVID-19 is only robust for large and high tier 1 capital ratio banks. The decrease in FVA1 and increase of FVL2 from Table 6 are only robust for high tier 1 capital banks.

2 Literature review

Throughout the years, the shift towards fair value accounting has been inherently linked to the accounting of financial instruments and the specific problems involved. The starting point of the debate began with the Savings-and-Loans-debacle in the U.S. during the 1980s. During this time, notorious practices were being used, like designating securities as investments in order not to write down to the carrying amount and the realization of gains on securities trading above their book values. This was made possible due to historical cost accounting hindering proper identification of the financial status of savings and loans. The reaction of standard setters was to implement a special rule for particular securities to attribute fair value measurements to financial instruments. The IASC advocated full fair value accounting for financial instruments in its 1997 discussion paper, which represented the basis for the Joint Working Group Draft Standard in 2000. At the same time, fair value accounting for non-financial items also became more widely used (Hitz, 2007). Academic literature was done extensively during this period to advise standard setters on the implementation of fair value. Out of this research came several issues related to FVA. To understand the relation of the information relevance of the fair value hierarchy in times of COVID-19, these issues must first be examined.

2.1 Issues with FVA

2.1.1 Measurement error

Barth and Landsman (1995) responded to the debate around FVA by looking at fundamental issues related to using FVA for financial reporting. Their paper looked at how helpful FVA is in perfect and complete markets and settings with more realistic assumptions. They used the Efficient Market Hypothesis (EMH) for this. The EMH states that prices fully reflect all available information. This means that new information spreads quickly and is incorporated in prices without delay (Fama, 1970). An FVA-based balance sheet in a perfect market reflects all value-relevant information. The income statement and realization are unnecessary for the valuation, and intangible assets related to management expertise, asset synergies, or options are fully reflected in the balance sheet. However, fair values are not well-defined in a more realistic setting, leading to estimation error. Neither the balance sheet nor the income statement or valuation fully reflect all value-relevant information. Interestingly, they chose the value-in-use as the best method for firm valuation instead of the exit price method currently used in FVA. The estimation error is one of the significant downsides of FVA and is primarily present in levels 2 and 3 of the fair value hierarchy.

2.1.2 Reliability

Another downside is the proposed reliability issue. Barth et al. (1998) looked at the estimation method for fair values of bonds and their features, specifically conversion, call, put, and sinking fund provisions. Their goal was to gain insight into the relevance and reliability of estimated fair values. They found that fair value estimates are relevant because they relate highly to total bond fair value. However, their research also shows a lack of reliability of the estimates. One of the reasons for this is interdependency between variables, making it hard to develop a reliable model. The model also becomes too complex and challenging when incorporating all the

dimensions of risk and values that can affect the fair values of specific instruments. These findings suggest that fair value estimates of financial instruments are sensitive to whether market information of other instruments is available on the balance sheet to use as input for the estimation model.

2.1.3 Manipulation of model inputs

The fair value hierarchy requires estimates and assumptions made by managers. This could bring the problem of information asymmetry if this information is not properly disclosed. These estimations and assumptions are mainly present in level 3 of the fair value hierarchy. Managers can use private information and the actual underlying economic value of an asset or liability as inputs for the model to calculate level 3 fair values. This creates two problems, adverse selection and moral hazard.

The adverse selection problem arises when investment portfolios contain level 3 fair values. It can be difficult for buyers to get credible and verifiable information about these investments. A company with a higher quality investment portfolio can have the same stock price as a company with a lesser quality investment portfolio because the information is not easily verifiable. This problem can be solved by selling a portion of their portfolio to indicate that the selling price is close to the fair value estimate of the asset or liability. Another solution is to include the valuation assumptions of both firms in the disclosures to let outsiders verify the assumptions and estimates that are made. Either way, it will be costly for the companies to prove their higher-quality investment portfolio. Still, it should be worth it to prove their supremacy over other companies. (Landsman, 2007)

The moral hazard problem arises when managers use their private information to their advantage by manipulating fair values upwards to increase income and their bonus-based compensation. They can pick the information they want to calculate level 3 fair values, as long as this is justifiable. Evidence for this problem is found in the Aboody et al. (2006) paper. They looked at whether firms understated stock option-based compensation expense. They found that managers manage estimates of disclosed employee stock option fair values downward by selecting certain parameters.

Accounting regulators and standard setters are faced with the challenge of how much freedom they should give to managers when estimating fair values. Managers should be permitted to reveal private information to mitigate adverse selection while also having the moral hazard cost of their discretion in manipulating balance sheet ratios and earnings. Landsman (2007) concludes that extensive disclosure about the estimations and assumptions is the best possible solution to these problems. The FASB included these better disclosures in SFAS 157. They also state that this standard leads to more empirical research to see whether investors find the disclosures useful. It is interesting to see if investors still find it useful in times of crisis.

2.2 FVA in times of crisis

Now that the main issues of FVA are examined, the next step is to look at FVA in times of crisis. The debate around FVA has grown in recent years. The tradeoff between reliability and relevance is at the heart of the debate of when to deviate from market prices in determining fair values (Laux and Leuz, 2009). The decrease in value relevance during the financial crisis of 2008 is investigated by Kolev (2008), Goh et al. (2009), and Song et al. (2010). They explore the value relevance of FVA by looking at the relation between the share prices of financial institutions and their fair value hierarchy during 2008. Kolev (2008) finds that all three levels of the fair value hierarchy are value relevant, but the relevancy of all three levels decreased during 2008 as the crisis worsened. They also find that the relevancy is even lower for firms with lower equity capital. Goh et al. (2009) looked at the same relation but used a different model with more control variables. All three levels of the fair value hierarchy are value relevant and decreased as the crisis worsened during 2008. However, Song et al. (2010) found that the value relevance did not decrease during 2008, and the value relevance of level 3 fair values even increased during this period. These research papers suggest more research is required to understand the effects of FVA in good and bad economic times to guide efforts to reform the rules. One issue is that FVA loses many of its strong points when prices from active markets are no longer available. To solve this, models have to be used, which makes it very difficult to verify and determine fair values. It is possible that details on implementation and FVA could be further improved. The COVID-19 pandemic brings such volatility and uncertainty to financial markets. Therefore, research about the information relevance of fair value accounting for banks during the COVID-19 pandemic could be relevant for scholars and standard setters because there is not much empirical information on this topic. More contradictions such as between Kolev (2008), Goh et al. (2009), and Song et al. (2010) are discussed in the next paragraph.

2.3 Other contradiction in literature

Aside from the debate about FVA during crises, there is also a contradiction in papers on the information relevance of FVA and the fair value hierarchy. In 2017, the IASB summarized the academic literature on the effects of SFAS 157 and IFRS 13. They find that multiple studies show that FVA and the fair value hierarchy under SFAS 157 are value relevant (e.g., Magnan 2009; Song, Thomas, and Yi 2010; Du, Li, and Xu 2014; Freeman, Wells, and Wyatt 2017 and Wang, Song, and Zhang 2017). FVA is affected by many other circumstances such as market conditions, managerial intent concerning underlying assets, managerial discretions, and the institutional environment. Most of these papers find that level 1 and 2 fair values are more relevant than level 3 fair values. However, Lawrence, Siriviriyakul, and Sloan (2016) find that level 3 fair values are more information relevant than level 1 and 2 fair values. They find that level 3 fair values are more informative about securities' future cash flows and more predictive of future stock returns. This contrast is probably due to the choice of entities when conducting this research. The Lawrence, Siriviriyakul, and Sloan paper only focuses on investment funds with significant proportions of level 3 fair values. Then there is also the paper mentioned before by McInnis et al. (2018), where they found that the combined value relevance of book value of

equity and income is higher under GAAP than under FVA. This raises the question of what happens with the value relevance of FVA during the COVID-19 pandemic.

2.4 COVID-19 and FVA

Attempts have been made to look at the effects of the COVID-19 pandemic on FVA. KPMG (2020) states that “FVA becomes more complex in times where fair values may have changed significantly, reflecting changes in cash flow forecasts, higher uncertainty, and elevated risks”. Deloitte (2020) states that “when reporting in uncertain times, it is essential to provide users of the financial statements with appropriate insight into the risks and uncertainties facing an entity and the judgements that have been made in preparing financial information”. PWC (2020) opted for a Q&A for managers about what to do with different financial instruments and FVA during the uncertain times of the COVID-19 pandemic. There are not many papers on this specific topic, but the ones that are there are literature studies. An example is the one from Barnoussi et al. (2020). They look at the impact of the COVID-19 pandemic on the measurement of financial instruments for banks since they are mostly measured at fair value. They hypothesize for 2020 that the financial reporting of banks worldwide will be affected by uncertainty. The stability of the world’s financial sector could be substantially affected by negative consequences. The neutral application of existing accounting standards is critical as it ensures transparency, maintenance of a level playing field, objective decisions, and valuable information that serves comparability. However, there is no empirical evidence on how the COVID-19 pandemic affected FVA on banks.

2.5 COVID-19 crisis and Global Financial Crisis (2008)

Lastly, the COVID-19 pandemic and the 2008 Global Financial Crisis (GFC) have similarities and differences. According to a paper from Strauss-Kahn (2020), the first similarity is these crises’ uncertainty. The unpredictability of the coronavirus and the 2008 bank crisis led to a non-quantifiable risk that governments and companies have to deal with. The second similarity is the extent of the initial financial and economic collapse. The third is the massive reactions made by authorities. Monetary and fiscal policies were created to provide support in these trying times. The first difference is an important one related to FVA. In 2008, banks were part of the problem, but with the COVID-19 pandemic part of the solution. Especially in Europe, public guarantees are put in place. To help firms survive the crisis, necessary loans are provided by banks. This is also made possible thanks to new regulations regarding the disclosure of FVA. This leads to more transparent banks, which could also help investors make sense of banks’ FVA. Second is the speed of the regression, which was more “V-shaped” during lockdowns as opposed to a more “U-shaped” impact of the GFC. The third is the size and the speed of the reactions made in reaction to the crises. This is partly due to the fear that a crisis such as 2008 would happen again. Last is the fading global coordination between governments and banks. After the 2008 GFC, there was good hope that countries worldwide would increase their international cooperation. However, this is not the case with the COVID-19 pandemic between banks and governments.

2.6 Hypothesis development

Song et al. (2010) predict that investors put less weight on level 3 fair value assets and liabilities because of their perceived liability concerns. The R² of the model decreased as the economic crisis of 2008 worsened. This implies that the R² during the COVID-19 pandemic will also be lower than in the 2012-2019 period. They also noticed that the level 1 and 2 fair values coefficients did not change significantly. However, the level 3 coefficient for assets and liabilities moved closer to the predicted 1 and -1 value as the crisis worsened. This paper only looked at the beginning of the 2008 financial crisis, so these results are only exploratory. Other papers (Kolev (2008) and Goh et al. (2009)) found that the value relevance of all three fair value levels decreased during the 2008 crisis. It is interesting to see if these exploratory results hold in another time of turmoil for the financial system. As mentioned before, this pandemic brings great uncertainty, and global markets have become highly unpredictable and volatile. Theory predicts that this uncertainty leads to less reliability. Investors will be reluctant because of the volatility in times of crisis, and fair values become harder to predict. This is especially true for level 3 fair values because these are based on unobservable inputs. That is why the hypothesis to my research question is:

“The information relevance of the fair value hierarchy for banks decreases during the COVID-19 pandemic.”

3 Research design

The research method used is a statistical analysis of data (“empirical archival”). Research assessing the reliability and relevance of fair value information uses this method often. It focuses on banks since banks have a large portion of financial assets and liabilities measured at fair value compared to other industries (Landsman, 2007). Therefore, banks create one of the cleanest and most powerful settings to test whether FVA enhances financial statement relevance (McInnis et al., 2018).

To test the information relevance of the fair value hierarchy, a modified Ohlson (1995) framework is used to estimate the association between share prices and the fair value hierarchy of assets and liabilities per share. This is a model which has been extensively used in literature about the information relevance of FVA. To test the difference in value relevance before and during the COVID-19 pandemic, the data is split into periods one during COVID-19 (2020) and two before the COVID-19 pandemic (2012-2019). The financial crisis of 2008 ended in 2011, so 2012 is chosen as a starting point because this was seen as a ‘stable’ time on the financial market. For the 2012-2019 period, year fixed effects will be included. In this framework, the share price can be expressed as a linear function of balance sheet items (non-fair value assets, fair value assets, non-fair value liabilities, and fair value liabilities) and income statement items (net income before extraordinary items) per share.

$$PRC_{it} = \alpha_0 + \alpha_1 NFVA_{it} + \alpha_2 FVA1_{it} + \alpha_3 FVA2_{it} + \alpha_4 FVA3_{it} + \alpha_5 NFVL_{it} + \alpha_6 FVL12_{it} + \alpha_7 FVL3_{it} + \beta_1 NI_{it} + \epsilon_{it}$$

(1)

PRC is the per-share price measured at the end of the 10Q filing month for firm i in quarter t . All variables are per-share numbers. NFVA is the non-fair value assets. FVA1, FVA2, and FVA3 are the fair value assets under the fair value hierarchy. NFVL are the non-fair value liabilities. FVL1, FVL2, and FVL3 are the fair value liabilities under the fair value hierarchy. NI is net income before extraordinary items.

First, a descriptive analysis can be performed on the data. There could be a difference in the usage of the fair value hierarchy. Because of the pandemic, the observable market becomes more unclear, and uncertainty increases estimation error. Companies might be motivated to change their valuation techniques and use more judgement and assumptions to get a more reliable estimation. This could lead to a higher number of objects classified as level 3 in the fair value hierarchy. The way to measure if there is a significant difference in averages is the t -test. The Welch’s t -test is used because the two groups have different sample sizes and unequal variances.

The same test as the Song et al. (2010) paper is used to test the fair value hierarchy's information relevance in the two periods. This tests whether the estimated coefficients for fair value assets and liabilities and non-fair value assets and liabilities are different from 0. This indicates their

value relevance. To test how much weight investors put on the different fair value hierarchy levels, the estimated coefficients are compared to their predicted values of 1 for fair value assets and non-fair value assets and -1 for fair value liabilities and non-fair value liabilities. This indicates if the information relevance is higher or lower than the predicted value. This prediction comes from the theoretical assumption that the valuation model is specified correctly and that markets are efficient. The estimated coefficients of the COVID-19 and Pre-COVID-19 periods are compared using a dummy variable for 2020. When these estimation coefficients are compared between the two periods, the change in the information relevance of the fair value hierarchy for banks during the COVID-19 pandemic can be interpreted. The way to compare these estimation coefficients is by performing an OLS regression.

The R2 of the two periods could also indicate the value relevance of the fair value hierarchy. A decrease in the R2 would indicate a reduction in the ability of the model to predict the share price. This means that the split in fair value and non-fair value assets has less explanatory power during the COVID-19 pandemic.

The same test will be done as a robustness test but then incorporate bank characteristics. It could be the case that larger banks tend to report level 1 and 2 fair values, and smaller banks level 3 fair values. The reported findings could be because of banks being smaller or larger instead of before and after the COVID-19 pandemic. Another characteristic is the difference in capital ratio. This is correlated with the managers' choice of valuation levels (Song et al., 2010). Investors could value banks' assets according to bank characteristics, which would make the results confounded. To examine these issues, the test is repeated for large and small banks based on total assets and differences in capital ratio based on high and low tier 1 ratio banks. Again a dummy variable for 2020 will be used to interpret the differences between the COVID-19 and the Pre-COVID-19 period for the large and small and high and low tier 1 banks. The results are not robust when only the large or high tier 1 ratio banks and not the small and low tier 1 banks have significant effects due to the COVID-19 pandemic. The tier 1 ratio is defined as the core equity capital divided by risk-adjusted total assets (Laiola, 2015). The bigger and smaller banks are divided by the median of the data. The same goes for the high and low tier 1 ratio banks.

4 Sample selection and descriptive statistics

4.1 Sample Selection

I want to obtain financial statement and other banking data from the Compustat Bank Fundamentals database and price data from the Center for Research in Security Prices (CRSP). Compustat collects quarterly regulatory data for all financial institutions and financial statement data from their Securities and Exchange Commission (SEC) filings, including disclosures of the fair value of financial instruments. The sample consists of all commercial banks from 2012 to 2020 with the data required for the tests. The financial crisis of 2008 ended in 2011, so I choose 2012 as a starting point because this is seen as a relative “stable” time on the financial market, which is not a time of crisis. Table 1 explains the sample selection process. The COVID-19 sample consists of firms with their quarterly financial data from Compustat in 2020 (n=574). Firms that don’t have price information from the CRSP database are eliminated (n=399). Five Canadian-based firms don’t report their financial statements following the regular quarters of the year. These are eliminated as well (n=394). Because of the large sample size, firms with missing values are completely eliminated (n=366). To handle extreme outliers, Belsley et al. (1980) and Fox (1991) are followed, eliminating 28 observations that have studentized residuals greater than 2 in the estimation of Equation (1) above (n=338). Winsorization would lead to few observations being removed compared to the studentized residual method, leading to enormous standard errors. The set of tests could not be performed with these high standard errors. That is why the studentized residual method is used, which is also used in Belsley et al. (1980), Fox (1991), and (Song et al., 2010). This method identifies extreme outliers by quantifying how large the residuals are in standard deviation units. These 338 firms represent 1,352 firm-quarters.

The sample for the 2012-2019 period consists of firms with their quarterly financial data from Compustat in 2012-2019 (n=470). Firms that don’t have price information from the CRSP database are eliminated (n=274). The five Canadian-based firms that don’t report their financial statements following the regular quarters of the year are also eliminated (n=269). Because of the large sample size, firms with missing values are completely eliminated (n=240). To handle extreme outliers, Belsley et al. (1980) and Fox (1991) are followed, eliminating 22 observations that have studentized residuals greater than 2 in the estimation of Equation (1) above (n=218). These 218 firms represent 6,976 firm-quarters. This adds up to a total of 8,328 firm-quarters for this research.

TABLE 1
Sample Selection

Process	# of Firms (2012-2019)	# of Firms (2020)	Total Firm- Quarters
Firms with their quarterly financial data from Compustat.	470	574	17,336
Less: Firms that do not have price information in the CRSP database.	(196)	(175)	(6,972)
Less: Firms with Abnormal Quarters	(5)	(5)	(180)
Less: Firms with Missing Values	(29)	(28)	(1,040)
Less: Outliers with a studentized residual greater than 2 in the estimation of Equation (1), following Belsley et al. (1980) and Fox (1991)	(22)	(28)	(816)
Sample Selection	218	338	8,328

This table provides the sample selection process. The data was initially acquired from Compustat Bank Fundamentals Quarterly Research File. To be included in the sample selection, firms must have fair value disclosure from 2012-2019 (n=471) and 2020 (n=574). Quarterly price information was derived from the Center for Research in Security Prices (CRSP). Firms without this information are eliminated. For the 2012-2019 period, this means that 196 firms are eliminated (n=275). For the 2020 period, 175 firms are eliminated (n=399). To have consistent periods for the firms, firms with abnormal quarters are eliminated. For the 2012-2019 and the 2020 period, this means that five firms are eliminated (n=270 and n=394, respectively). Due to the large sample size, firms with missing values are eliminated. For the 2012-2019 period, 29 firms are eliminated (n=241). For the 2020 period, 28 firms are eliminated (n=366). To handle extreme outliers, Belsley et al. (1980) and Fox (1991) are followed, eliminating 22 and 28 for observations that have studentized residuals greater than 2 in the estimation of Equation (1) above (n=218 & n=338).

4.2 Descriptive Statistics

Table 2 provides descriptive statistics containing information from 8,328 firm-quarters. Panel A provides the relative size of fair value assets and liabilities. The mean total of fair value assets (FVA) and liabilities (FVL) relative to total assets and liabilities are 16.72% and 0.28%, respectively. The fair values under level 2 of the fair value hierarchy represent most fair values. Panel B provides descriptive statistics on price, non-fair value, fair value assets and liabilities, and income on a per-share basis. The mean share price (PRC) is 23.36. The mean of the non-fair value assets and non-fair value liabilities per share are 150.54 and 161.34, respectively. The means for the fair value assets under level 1 (FVA1), level 2 (FVA2), and level 3 (FVA3) of the fair value hierarchy per share are 1.02, 30.06, and 0.48, respectively. The means for the fair value liabilities under level 1 (FVL1), level 2 (FVL2), and level 3 (FVL3) of the fair value hierarchy per share are 0.07, 0.76, and 0.11, respectively.

Table 3 provides descriptive statistics on bank characteristics for the Pre-COVID-19 (2012-2019) and COVID-19 (2012) periods. All variables are measured in averages. The sample for the Pre-COVID-19 period consists of 218 individual firms, representing 6,976 firm-quarters. The sample for the COVID-19 period consists of 338 individual firms, representing 1,352 firm-quarters. All variables have increased in the COVID-19 period (2012) compared to the Pre-COVID-19 period (2012-2019).

TABLE 2
Descriptive Statistics

Panel A: Relative Size of Fair Value Assets and Liabilities

Variable	N (Firm Quarters)	Mean	Std. Dev.	25th Percentile	Median	75th Percentile
<i>FVA/Total Assets</i>	8,328	16.72%	9.88%	10.07%	15.05%	21.74%
<i>FVA1/Total Assets</i>	8,328	0.50%	1.72%	0.00%	0.01%	0.23%
<i>FVA2/Total Assets</i>	8,328	16.15%	9.77%	9.69%	14.42%	21.00%
<i>FVA3/Total Assets</i>	8,328	0.27%	1.82%	0.00%	0.00%	0.14%
<i>FVL/Total Liabilities</i>	8,328	0.28%	2.05%	0.00%	0.00%	0.18%
<i>FVL1/Total Liabilities</i>	8,328	0.03%	0.30%	0.00%	0.00%	0.00%
<i>FVL2/Total Liabilities</i>	8,328	0.37%	3.5%	0.00%	0.00%	0.14%
<i>FVL3/Total Liabilities</i>	8,328	0.07%	1.69%	0.00%	0.00%	0.00%

Panel B: Per Share Value of Price, Non-Fair Value, Fair Value Assets and Liabilities, and Income

Variable	N (Firm Quarters)	Mean	Std. Dev.	25th Percentile	Median	75th Percentile
<i>PRICE</i>	8,328	23.36	14.31	12.88	20.23	30.74
<i>NFVA/Share</i>	8,328	150.54	82.59	92.83	138.63	189.53
<i>FVA1/Share</i>	8,328	1.02	3.99	0.00	0.01	0.34
<i>FVA2/Share</i>	8,328	30.06	26.82	12.82	23.51	37.87
<i>FVA3/Share</i>	8,328	0.48	2.94	0.00	0.00	0.21
<i>NFVL/Share</i>	8,328	161.34	89.15	100.53	149.18	200.16
<i>FVL1/Share</i>	8,328	0.07	0.62	0.00	0.00	0.00
<i>FVL2/Share</i>	8,328	0.76	5.83	0.00	0.00	0.20
<i>FVL3/Share</i>	8,328	0.11	2.92	0.00	0.00	0.00
<i>NI/Share</i>	8,328	0.42	0.49	0.20	0.38	0.59

This table provides descriptive statistics. Panel A provides the relative size of fair value assets and liabilities. FVA indicates the fair value assets, and FVL indicates the fair value liabilities per level of the fair value hierarchy. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy.

Panel B provides descriptive statistics on price, non-fair value, fair value assets and liabilities, and income on a per-share basis. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NI stands for net income before extraordinary items.

TABLE 3
Descriptive Statistics on Bank Characteristics

Bank Characteristic	Pre-COVID-19 Period (2012-2019)	COVID-19 Period (2012)
Total Assets (x 1,000)	28,550,000	29,510,000
Total Liabilities (x 1,000)	25,560,000	26,170,000
Outstanding Shares (x 1,000)	100,670	139,630
Income before Extraordinary Items (x 1,000)	39,162	70,347
Share Price	\$ 20.35	\$ 23.95
Tier 1 Capital Ratio	12.62%	13.22%

This table provides descriptive statistics on bank characteristics for the Pre-COVID-19 (2012-2019) and COVID-19 (2012) period. All variables are measured in averages. The sample for the Pre-COVID-19 period consists of 218 individual firms, representing 6,976 firm-quarters. The sample for the COVID-19 period consists of 338 individual firms, representing 1,352 firm-quarters.

5 Results

5.1 Difference in Fair Value Levels

The first test that will be done is a *t*-test to see if the use in the different levels of the fair value hierarchy changed in times of COVID-19 (2020) compared to normal times (2012-2019). The results for this test can be seen in Table 4. The results are very mixed. Significant differences are found for levels 1 and 3 of the fair value assets and levels 2 and 3 of the fair value liabilities. Level 1 of the fair value assets and level 3 of the fair value liabilities have a significant decrease at the 1% level (*t*-statistic = -3.43 and -2.26, respectively). Level 3 of the fair value assets and Level 2 of the fair value liabilities increase significantly at the 1% level (*t*-statistic = 3.39 and 10.61, respectively). One could argue that the COVID-19 pandemic only worsened after March 2020, but most of the results stayed the same when including the first quarter of 2020 to the “normal times” group. The exception is for the level 1 fair value assets, where the decrease changes from significant at the 1% level to significant at the 5% level (*t*-value of -3.10). These results suggest that companies not only look at market prices (level 1 of the fair value hierarchy) but are motivated to change their valuation techniques because of COVID-19. At least for the level 3 fair value assets and the level 2 fair value liabilities. For level 3 fair value liabilities, the results suggest that these are less used.

TABLE 4
Difference in Fair Value Levels

Fair Value Level	Percentage of total Fair Value (2012-2019)	Percentage of total Fair Value (2020)	Difference (Percentage Points)
<i>FVA1/Share</i>	3.67%	2.69%	-0.98*** (-3.43)
<i>FVA2/Share</i>	95.04%	95.04 %	0.00 (0.00)
<i>FVA3/Share</i>	1.28%	1.97%	0.69*** (3.39)
<i>FVL1/Share</i>	1.75%	1.79%	0.04 (0.14)
<i>FVL2/Share</i>	41.93%	57.06%	15.85*** (10.61)
<i>FVL3/Share</i>	6.21%	3.87%	-2.34*** (-2.26)

This table provides the differences in the usage of the different levels of the fair value hierarchy. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. *t*-values are in parentheses. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 5
Value Relevance of Fair Value Hierarchy 2012-2019

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	1.775	6.592	0.269	0.788				
<i>NFVA</i>	0.903	0.024	36.865	0.000***	15.822	0.000***		
<i>FVA1</i>	1.204	0.039	31.100	0.000***	27.694	0.000***		
<i>FVA2</i>	0.940	0.025	37.027	0.000***	5.579	0.018*		
<i>FVA3</i>	0.624	0.083	7.535	0.000***	20.579	0.000***		
<i>NFVL</i>	-0.907	0.027	-33.749	0.000***			11.991	0.001**
<i>FVL1</i>	-2.386	0.362	-6.599	0.000***			14.689	0.000***
<i>FVL2</i>	-0.950	0.044	-21.510	0.000***			1.280	0.258
<i>FVL3</i>	-0.735	0.079	-9.341	0.000***			11.362	0.001**
<i>NI</i>	5.453	0.377	14.476	0.000***				
n	6,976							
Adj. R2	59.35%							
Year Fixed Effects	Yes							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. Year fixed effects are included. The sample of 6,976 firm quarters represents 218 distinct firms from the Pre-COVID-19 period (2012-2019). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 6
Value Relevance of Fair Value Hierarchy 2020

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	1.991	0.460	4.328	0.000***				
<i>NFVA</i>	0.853	0.036	23.823	0.000***	16.770	0.000***		
<i>FVA1</i>	0.952	0.060	15.789	0.000***	0.635	0.427		
<i>FVA2</i>	0.888	0.036	24.370	0.000***	9.369	0.002**		
<i>FVA3</i>	0.883	0.089	9.893	0.000***	1.730	0.187		
<i>NFVL</i>	-0.872	0.039	-22.177	0.000***			10.523	0.001**
<i>FVL1</i>	-2.855	0.537	-5.314	0.000***			11.919	0.001***
<i>FVL2</i>	-0.737	0.095	-7.727	0.000***			7.586	0.006**
<i>FVL3</i>	-0.485	0.940	-0.516	0.606			0.203	0.584
<i>NI</i>	1.597	0.260	6.145	0.000***				
n	1,352							
Adj. R2	65.00%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample of 1,352 firm quarters represents 338 distinct firms from the COVID-19 period (2020). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 7
Differences Value Relevance of Fair Value Hierarchy Pooled Regression

Dependent Variable = Share Price

Independent Variables	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value
<i>Intercept</i>	2.496	0.362	6.901	0.000***
<i>NFVA</i>	0.906	0.024	38.145	0.000***
<i>FVA1</i>	1.211	0.038	32.232	0.000***
<i>FVA2</i>	0.943	0.025	38.292	0.000***
<i>FVA3</i>	0.621	0.080	7.742	0.000***
<i>NFVL</i>	-0.910	0.026	-34.925	0.000***
<i>FVL1</i>	-1.802	0.382	-4.720	0.000***
<i>FVL2</i>	-1.048	0.051	-20.706	0.000***
<i>FVL3</i>	-0.723	0.076	-9.494	0.000***
<i>NI</i>	5.451	0.364	14.984	0.000***
<i>Dummy2020</i>	-0.494	0.666	-0.742	0.458
<i>NFVA*Dummy2020</i>	-0.050	0.050	-1.010	0.312
<i>FVA1*Dummy2020</i>	-0.261	0.082	-3.169	0.002**
<i>FVA2*Dummy2020</i>	-0.052	0.051	-1.027	0.305
<i>FVA3*Dummy2020</i>	0.264	0.135	1.959	0.050
<i>NFVL*Dummy2020</i>	0.035	0.055	0.644	0.519
<i>FVL1*Dummy2020</i>	-1.086	0.758	-1.434	0.152
<i>FVL2*Dummy2020</i>	0.303	0.127	2.385	0.017*
<i>FVL3*Dummy2020</i>	0.246	1.145	0.215	0.830
<i>n</i>	8,328			
<i>Adj. R2</i>	60.49%			
<i>Year Fixed Effects</i>	Yes			

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. This is a pooled sample of 8,328 firm quarters (2012-2020). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Dummy2020 is a dummy variable for 2020. This table provides the coefficient estimates and t-statistic testing whether the estimated coefficients for both non-fair value assets and liabilities and fair value assets and liabilities are different from 0, and statistical testing on coefficient differences by interacting the independent variables with the dummy variable. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

5.2 Difference in Value Relevance

The main test of this research is to test the information relevance of the fair value hierarchy in the two periods. The results can be seen in Tables 5, 6, and 7. Table 5 displays the value relevance of the fair value hierarchy in the 2012-2019 period. Column (A) tests whether the valuation coefficients are value relevant. This is the case when the estimated coefficients are different from 0. In Table 5 for the Pre-COVID-19 period, all the valuation coefficients are value relevant, at the 1% level. Column (B) tests whether the estimated coefficients are statistically different from their predicted value of 1 for fair value assets. Levels 1 and 3 of the fair value assets are different from their predicted value of 1, significant at the 1% level. Level 2 of fair value assets is significantly different from 1 at the 10% level. Column (C) tests whether the estimated coefficients are statistically different from their predicted value of -1 for fair value liabilities. Level 1 of the fair value liabilities is statistically different from -1 at the 1% level, level 2 is not statistically different, and level 3 is different at the 5% level. The results stayed the same when assigning the first quarter of 2020 to the “normal times” group, except for FVA2 becomes insignificant, FVL1 goes to significant at the 10% level instead of 1%, and FVL3 goes from significant at the 5% level to significant at the 10% level. Year-wise regressions for the Pre-COVID-19 period can be found in Appendix A.

Table 6 displays the value relevance of the fair value hierarchy in 2020. All the valuation coefficients are value relevant at the 1% level, except for level 3 fair value liabilities. Only level 2 of the fair value assets is statistically different from its predicted value of 1. Levels 1 and 3 are not statistically different from their predicted value of 1. Level 1 of the fair value liabilities is statistically different from -1 at the 1% level, level 2 is statistically different at the 5% level, and level 3 is not statistically different. The results stayed the same when assigning the first quarter of 2020 to the ‘normal times’ group, except NFVA dropped to 10% instead of 1%, FVA2 lost significance, NFVL lost significance, and FVL2 dropped to 10% instead of 5%.

Table 7 provides the coefficient estimates and t-statistic testing of whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0, and statistical testing on coefficient differences by interacting the independent variables with the dummy variable. In the 2020 period, the estimated coefficient for FVA1 is significantly lower than the 2012-2019 period at the 5% level. The estimated coefficient for FVL2 is significantly higher than the 2012-2019 period at the 10% level.

The results suggest that investors place more weight on level 1 fair value assets during the Pre-COVID-19 period than in the COVID-19 period (estimated coefficient of 1.204 versus 0.952) and less weight on level 3 fair value assets during the Pre-COVID-19 period (estimated coefficient of 0.624 versus 0.883). Investors putting less weight on level 3 fair value assets in the Pre-COVID-19 period are in line with results from Song et al. (2010). Table 6 for the COVID-19 period shows that level 1 of the fair value liabilities is statistically different from -1 at the 1% level. This suggests that investors put more weight on level 2 fair value liabilities

in the Pre-COVID-19 period than in the COVID-19 period (estimated coefficient of -0.950 versus -0.737).

The same evidence is found in Table 7, where the decrease of FVA1 and increase of FVL2 is significant at the 5 and 10% level, respectively (t -statistic = -3.169 and 2.385, respectively). The results stayed the same when assigning the first quarter of 2020 to the normal times group, except that FVA3 becomes significant at the 10% level (t -statistic = 2.104).

The overall R² of the model in the COVID-19 period (2020) and the Pre-COVID-19 (2012-2019) period could also be an indication of the value relevance of the fair value hierarchy. Based on previous research, a decreased R² was expected. However, the R² increased a little bit in the COVID-19 period (2020) compared to the Pre-COVID-19 (2012-2019) period (adjusted R² of 65.00% in 2020 compared to 59.35% in the 2012-2019 period). Compared to the year-wise regression from the Pre-COVID-19 period (Appendix A), only 2018 had a slightly higher R² (67.28%). An increase in the R² indicates an increase in the ability of the model to predict the share price. This means that the split in fair value and non-fair value assets has more explanatory power during the COVID-19 pandemic.

5.3 Robustness Checks

Robustness checks will be done to test whether the results hold under different circumstances. Certain bank characteristics could confound the results found in Tables 5, 6, and 7. An example is when larger banks evaluate their fair values differently from smaller banks. The results found in Tables 5, 6, and 7 are then due to bank characteristics rather than the COVID-19 pandemic. Another test will be done incorporating differences in capital ratio. Differences in capital ratio could be correlated with managers' choice of valuation levels. Investors could value banks' assets according to bank characteristics, which would make the results confounded. To investigate these issues, the same tests are done, but then incorporating bank characteristics such as bank size based on total assets and managers' choice of valuation levels based on banks' tier 1 capital ratio.

5.3.1 Small and big banks

Tables 8, 9, and 10 display the change in value relevance of the fair value hierarchy for small banks. Firms are classified as small or big banks based on the median value of total assets. The tables have similar results as Tables 5, 6, and 7 in that investors place more weight on FVA1 during the Pre-COVID-19 period than in the COVID-19 period (estimated coefficient of 1.509 versus 1.287) and FVL3 losing their value relevance in the COVID-19 period. Contradictions to Table 5, 6, and 7 are that the weight on FVA3 decreases during the COVID-19 period (estimated coefficient of -0.813 versus 0.068), the weight on FVL1 and FVL2 increases (estimated coefficients of -0.171 and -0.813 versus -5.256 and -2.233, respectively), FVL3 not being significantly different from -1 in the Pre-COVID-19 period, FVA2 not being significantly different from 1 in both periods, FVA3 losing their value relevance in the COVID-19 period and FVL1 and FVL2 losing their value relevance in the Pre-COVID-19 period. Also, the change in estimated coefficient for FVL2 is still significant, but now at the 5% level, and for small

banks, the change is a decrease instead of an increase (estimated coefficients of -2.060 versus 0.303).

Tables 11, 12, and 13 display the change in value relevance of the fair value hierarchy for big banks. The tables have similar results as Tables 5, 6, and 7 in that there is less weight placed on FVA3 during the Pre-COVID-19 period than the COVID-19 period (estimated coefficients of 0.025 versus 0.887), FVA2 being significantly different from 1 in both periods and FVL3 not being value relevant in the COVID-19 period. Contradictions to Table 5, 6, and 7 are that there is more weight placed on FVA1 for the COVID-19 period (estimated coefficients of 0.785 versus 0.946), FVL1 not being significantly different from -1 in both periods, there is more weight placed in FVL2 during the COVID-19 period (estimated coefficients of 0.706 versus -0.783), FVL3 not being significantly different from -1 in the Pre-COVID-19 period and FVA3 losing their value relevance in the Pre-COVID-19 period. Also, there is no significant decrease in FVA1, but a significant increase for FVA3 and FVA2 at the 1% and 5% levels, respectively (estimated coefficients of 0.861 and 0.234, respectively).

5.3.2 Low and high tier 1 capital ratio banks

Tables 14, 15, and 16 display the change in value relevance of the fair value hierarchy for banks with a low tier 1 capital ratio. Firms are classified as high or low tier 1 capital banks based on the median value of tier 1 capital ratios. The tables have similar results as Table 5, 6, and 7 in that investors place more weight on FVA1 during the Pre-COVID-19 period than in the COVID-19 period (estimated coefficient of 1.433 versus 1.131) and FVL3 not being value relevant in the COVID-19 period. Contradictions to Table 5, 6, and 7 are that the weight on FVA3 decreases during the COVID-19 period (estimated coefficient of -0.813 versus 0.068), FVL2 being significantly different from -1 in the Pre-COVID-19 period, FVL3 not being significantly different from -1 in the Pre-COVID-19 period, FVL3 already not being value relevant in the Pre-COVID-19 period and FVA2 not being value relevant in the COVID-19 period. Also, there is no significant decrease in FVA1 but a significant decrease for FVL1. The change in the estimated coefficient for FVL2 is still significant at the 10% level and is a decrease instead of an increase (estimated coefficients of -0.894 versus 0.303).

Tables 17, 18, and 19 display the change in value relevance of the fair value hierarchy for banks with a high tier 1 capital. The tables have similar results as Tables 5, 6, and 7 in that investors place more weight on FVA1 during the Pre-COVID-19 period than in the COVID-19 period (estimated coefficient of 1.053 versus 0.662), there is less weight placed on FVA3 during the Pre-COVID-19 period than the COVID-19 period (estimated coefficients of 0.551 versus 0.832), there is more weight placed on FVL3 during the Pre-COVID-19 period than the COVID-19 period (estimated coefficients of -0.637 versus -0.267), there is less weight placed on FVL2 during the COVID-19 period than the Pre-COVID-19 period (estimated coefficients of -0.785 versus -1.290) and FVL3 not being value relevant in the COVID-19 period. Also, there is a decrease in FVA1 and an increase in FVL2 (estimated coefficients of -0.391 and 0.505, respectively). Contradictions to Table 5, 6, and 7 are FVA2 not being significantly different from 1 in the Pre-COVID-19 period, FVL1 not being significantly different from -1 in both periods, FVL1 not being value relevant in the Pre-COVID-19 period

and FVL1 not being value relevant in the COVID-19 period. Also, there is a decrease for FVA2 significant at the 10% level (estimated coefficient of -0.145).

TABLE 8
Value Relevance of Fair Value Hierarchy Small Banks 2012-2019

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.163	0.426	7.426	0.000***				
<i>NFVA</i>	1.029	0.036	28.519	0.000***	0.658	0.417		
<i>FVA1</i>	1.509	0.099	15.290	0.000***	26.57	0.000***		
<i>FVA2</i>	1.029	0.036	28.992	0.000***	0.682	0.409		
<i>FVA3</i>	0.566	0.200	2.835	0.005**	4.712	0.003*		
<i>NFVL</i>	-1.041	0.039	-26.861	0.000***			1.113	0.292
<i>FVL1</i>	2.296	7.042	0.326	0.744			0.219	0.640
<i>FVL2</i>	-0.171	0.660	-0.259	0.796			1.580	0.209
<i>FVL3</i>	-0.813	0.177	-4.590	0.000***			1.122	0.290
<i>NI</i>	3.358	0.418	8.042	0.000***				
n	3,488							
Adj. R2	52.60%							
Year Fixed Effects	Yes							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for small banks. Firms are classified as small banks based on the median value of total assets. Year fixed effects are included. The sample consists of 3,488 firm quarters from the Pre-COVID-19 period (2012-2019). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 9
Value Relevance of Fair Value Hierarchy Small Banks 2020

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	-1.052	0.535	-1.965	0.050*				
<i>NFVA</i>	0.985	0.056	17.462	0.000***	0.071	0.790		
<i>FVA1</i>	1.287	0.183	7.024	0.000***	2.449	0.118		
<i>FVA2</i>	1.038	0.055	18.750	0.000***	0.474	0.491		
<i>FVA3</i>	0.080	0.239	0.334	0.739	14.779	0.000***		
<i>NFVL</i>	-1.000	0.061	-16.409	0.000***			0.000	0.999
<i>FVL1</i>	-5.256	0.653	-8.047	0.000***			42.455	0.000***
<i>FVL2</i>	-2.233	0.268	-8.330	0.000***			21.155	0.000***
<i>FVL3</i>	0.068	4.338	0.016	0.987			0.061	0.806
<i>NI</i>	1.551	0.548	2.830	0.005**				
n	676							
Adj. R2	71.86%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for small banks. Firms are classified as small banks based on the median value of total assets. Year fixed effects are included. The sample consists of 676 firm quarters from the COVID-19 period (2020). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 10**Differences Value Relevance of Fair Value Hierarchy Pooled Regression Small Banks***Dependent Variable = Share Price*

Independent Variables	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value
<i>Intercept</i>	3.163	0.409	7.724	0.000***
<i>NFVA</i>	1.029	0.035	29.687	0.000***
<i>FVA1</i>	1.509	0.095	15.914	0.000***
<i>FVA2</i>	1.028	0.034	30.179	0.003**
<i>FVA3</i>	0.561	0.192	2.925	0.000***
<i>NFVL</i>	-1.040	0.037	-27.960	0.000***
<i>FVL1</i>	2.363	6.768	0.349	0.727
<i>FVL2</i>	-0.172	0.634	-0.271	0.786
<i>FVL3</i>	-0.808	0.170	-4.752	0.000***
<i>NI</i>	3.396	0.399	8.517	0.000***
<i>Dummy2020</i>	-4.217	0.817	-5.161	0.000***
<i>NFVA*Dummy2020</i>	-0.044	0.082	-0.530	0.596
<i>FVA1*Dummy2020</i>	-0.222	0.260	-0.855	0.393
<i>FVA2*Dummy2020</i>	0.010	0.081	0.120	0.904
<i>FVA3*Dummy2020</i>	-0.481	0.370	-1.300	0.194
<i>NFVL*Dummy2020</i>	0.040	0.089	0.453	0.651
<i>FVL1*Dummy2020</i>	-7.618	6.823	-1.117	0.264
<i>FVL2*Dummy2020</i>	-2.060	0.726	-2.838	0.005 **
<i>FVL3*Dummy2020</i>	0.884	5.731	0.154	0.877
n	4,164			
Adj. R2	55.60%			
Year Fixed Effects	Yes			

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables for small banks. Firms are classified as small banks based on the median value of total assets. This is a pooled sample of 4,164 firm quarters (2012-2020). Year fixed effects are included. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Dummy2020 is a dummy variable for 2020. This table provides the coefficient estimates and t-statistic testing whether the estimated coefficients for both non-fair value assets and liabilities and fair value assets and liabilities are different from 0, and statistical testing on coefficient differences by interacting the independent variables with the dummy variable. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 11
Value Relevance of Fair Value Hierarchy Big Banks 2012-2019

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.235	0.615	5.260	0.000***				
<i>NFVA</i>	0.564	0.038	14.770	0.000***	130.170	0.000***		
<i>FVA1</i>	0.785	0.052	14.996	0.000***	16.953	0.000***		
<i>FVA2</i>	0.626	0.041	15.358	0.000***	84.260	0.000***		
<i>FVA3</i>	0.025	0.103	0.244	0.807	89.538	0.000***		
<i>NFVL</i>	-0.535	0.043	-12.523	0.000***			118.3	0.000***
<i>FVL1</i>	-1.411	0.434	-3.248	0.001**			0.894	0.345
<i>FVL2</i>	-0.706	0.067	-10.583	0.000***			19.372	0.000***
<i>FVL3</i>	-0.951	0.421	-2.258	0.024*			0.013	0.908
<i>NI</i>	6.537	0.636	10.273	0.000***				
n	3,488							
Adj. R2	58.75%							
Year Fixed Effects	Yes							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for big banks. Firms are classified as big banks based on the median value of total assets. Year fixed effects are included. The sample consists of 3,488 firm quarters from the Pre-COVID-19 period (2012-2019). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 12
Value Relevance of Fair Value Hierarchy Big Banks 2020

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.777	0.803	4.705	0.000***				
<i>NFVA</i>	0.825	0.051	16.072	0.000***	11.670	0.001***		
<i>FVA1</i>	0.946	0.080	11.892	0.000***	0.454	0.501		
<i>FVA2</i>	0.860	0.054	16.033	0.000***	6.794	0.009**		
<i>FVA3</i>	0.887	0.115	7.706	0.000***	0.973	0.324		
<i>NFVL</i>	-0.848	0.057	-14.953	0.000***			7.131	0.008**
<i>FVL1</i>	-2.108	0.969	-2.175	0.030**			1.307	0.253
<i>FVL2</i>	-0.783	0.155	-5.055	0.000***			1.952	0.163
<i>FVL3</i>	-0.393	1.125	-0.349	0.727			0.291	0.590
<i>NI</i>	1.662	0.335	4.958	0.000***				
n	676							
Adj. R2	58.74%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for big banks. Firms are classified as big banks based on the median value of total assets. The sample consists of 676 firm quarters from the COVID-19 period (2020). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 13

Differences Value Relevance of Fair Value Hierarchy Pooled Regression Big Banks

Dependent Variable = Share Price

Independent Variables	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value
<i>Intercept</i>	3.235	0.601	5.380	0.000***
<i>NFVA</i>	0.564	0.037	15.106	0.000***
<i>FVA1</i>	0.785	0.051	15.337	0.000***
<i>FVA2</i>	0.626	0.040	15.707	0.000***
<i>FVA3</i>	0.025	0.101	0.250	0.802
<i>NFVL</i>	-0.535	0.042	-12.808	0.000***
<i>FVL1</i>	-1.411	0.425	-3.321	0.001***
<i>FVL2</i>	-0.706	0.065	-10.823	0.000***
<i>FVL3</i>	-0.951	0.412	-2.309	0.021*
<i>NI</i>	6.537	0.622	10.506	0.000***
<i>Dummy2020</i>	0.542	1.099	0.493	0.622
<i>NFVA*Dummy2020</i>	0.261	0.070	3.739	0.000***
<i>FVA1*Dummy2020</i>	0.162	0.105	1.547	0.122
<i>FVA2*Dummy2020</i>	0.234	0.073	3.196	0.001**
<i>FVA3*Dummy2020</i>	0.861	0.166	5.190	0.000***
<i>NFVL*Dummy2020</i>	-0.313	0.077	-4.052	0.000***
<i>FVL1*Dummy2020</i>	-0.697	1.189	-0.586	0.558
<i>FVL2*Dummy2020</i>	-0.077	0.189	-0.408	0.683
<i>FVL3*Dummy2020</i>	0.558	1.354	0.412	0.680
n	4,164			
Adj. R2	55.60%			
Year Fixed Effects	Yes			

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables for big banks only. Firms are classified as big banks based on the median value of total assets. This is a pooled sample of 4,164 firm quarters (2012-2020). Year fixed effects are included. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Dummy2020 is a dummy variable for 2020. This table provides the coefficient estimates and t-statistic testing whether the estimated coefficients for both non-fair value assets and liabilities and fair value assets and liabilities are different from 0, and statistical testing on coefficient differences by interacting the independent variables with the dummy variable. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 14
Value Relevance of Fair Value Hierarchy Low Tier 1 Banks 2012-2019

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	2.453	0.586	4.188	0.000***				
<i>NFVA</i>	0.999	0.035	28.293	0.000***	0.001	0.973		
<i>FVA1</i>	1.433	0.077	18.621	0.000***	31.676	0.000***		
<i>FVA2</i>	0.996	0.036	27.347	0.000***	0.010	0.922		
<i>FVA3</i>	0.638	0.123	5.197	0.000***	8.704	0.003**		
<i>NFVL</i>	-1.001	0.038	-26.021	0.000***			0.000	0.981
<i>FVL1</i>	-1.943	0.481	-4.040	0.000***			3.843	0.050
<i>FVL2</i>	-1.130	0.065	-17.354	0.000***			3.996	0.046*
<i>FVL3</i>	-0.317	0.527	-0.602	0.547			1.678	0.195
<i>NI</i>	7.287	0.558	13.049	0.000***				
n	3,312							
Adj. R2	65.01%							
Year Fixed Effects	Yes							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for banks with a low tier 1 capital ratio. Firms are classified as low tier 1 capital banks based on the median value of tier 1 capital ratios. Year fixed effects are included. The sample consists of 3,312 firm quarters from the Pre-COVID-19 period (2012-2019). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 15
Value Relevance of Fair Value Hierarchy Low Tier 1 Banks 2020

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	-1.154	0.514	-2.244	0.025*				
<i>NFVA</i>	0.982	0.053	18.494	0.000***	0.113	0.737		
<i>FVA1</i>	1.131	0.161	7.009	0.000***	0.661	0.417		
<i>FVA2</i>	1.011	0.053	19.212	0.292	0.044	0.834		
<i>FVA3</i>	0.236	0.224	1.054	0.000***	11.582	0.001***		
<i>NFVL</i>	-0.995	0.057	-17.316	0.000***			0.008	0.929
<i>FVL1</i>	-4.831	0.593	-8.143	0.000***			41.701	0.000***
<i>FVL2</i>	-2.024	0.247	-8.204	0.000***			17.234	0.000***
<i>FVL3</i>	-1.616	9.233	-0.175	0.861			0.005	0.947
<i>NI</i>	1.670	0.518	3.227	0.001**				
n	610							
Adj. R2	75.07%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for banks with a low tier 1 capital ratio. Firms are classified as low tier 1 capital banks based on the median value of tier 1 capital ratios. Year fixed effects are included. The sample consists of 610 firm quarters from the COVID-19 period (2020). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 16

Differences Value Relevance of Fair Value Hierarchy Pooled Regression Low Tier 1 Banks

Dependent Variable = Share Price

Independent Variables	Coeff.	Std. Err.	t-stat	
			Coeff. = 0	p-value
<i>Intercept</i>	2.453	0.553	4.434	0.000***
<i>NFVA</i>	0.999	0.033	29.954	0.000***
<i>FVA1</i>	1.433	0.073	19.714	0.000***
<i>FVA2</i>	0.996	0.034	28.952	0.000***
<i>FVA3</i>	0.638	0.116	5.502	0.000***
<i>NFVL</i>	-1.001	0.036	-27.548	0.000***
<i>FVL1</i>	-1.943	0.454	-4.277	0.001***
<i>FVL2</i>	-1.130	0.062	-18.372	0.000***
<i>FVL3</i>	-0.317	0.498	-0.637	0.524
<i>NI</i>	7.287	0.527	13.815	0.000***
<i>Dummy2020</i>	-3.607	1.045	-3.452	0.000***
<i>NFVA*Dummy2020</i>	-0.017	0.097	-0.171	0.864
<i>FVA1*Dummy2020</i>	-0.302	0.287	-1.050	0.294
<i>FVA2*Dummy2020</i>	0.015	0.097	0.150	0.881
<i>FVA3*Dummy2020</i>	-0.401	0.404	-0.994	0.320
<i>NFVL*Dummy2020</i>	0.006	0.105	0.057	0.955
<i>FVL1*Dummy2020</i>	-2.888	1.119	-2.582	0.010**
<i>FVL2*Dummy2020</i>	-0.894	0.430	-2.081	0.037*
<i>FVL3*Dummy2020</i>	-1.299	15.920	-0.082	0.935
n	3,922			
Adj. R2	66.72%			
Year Fixed Effects	Yes			

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables for banks with a low tier 1 capital ratio. Firms are classified as low tier 1 capital banks based on the median value of tier 1 capital ratios. This is a pooled sample of 3,922 firm quarters (2012-2020). Year fixed effects are included. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Dummy2020 is a dummy variable for 2020. This table provides the coefficient estimates and t-statistic testing whether the estimated coefficients for both non-fair value assets and liabilities and fair value assets and liabilities are different from 0, and statistical testing on coefficient differences by interacting the independent variables with the dummy variable. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 17
Value Relevance of Fair Value Hierarchy High Tier 1 Banks 2012-2019

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.418	0.522	4.188	0.000***				
<i>NFVA</i>	0.894	0.039	28.293	0.000***	7.460	0.006**		
<i>FVA1</i>	1.053	0.070	18.621	0.000***	0.584	0.445		
<i>FVA2</i>	0.967	0.042	27.347	0.000***	0.618	0.432		
<i>FVA3</i>	0.551	0.119	5.197	0.000***	14.169	0.003***		
<i>NFVL</i>	-0.912	0.043	-26.021	0.000***			4.151	0.042
<i>FVL1</i>	-0.045	0.823	-4.040	0.957			1.345	0.246
<i>FVL2</i>	-1.290	0.126	-17.354	0.000***			5.212	0.022*
<i>FVL3</i>	-0.637	0.110	-0.602	0.000***			10.897	0.001***
<i>NI</i>	3.803	0.516	13.049	0.000***				
n	3,312							
Adj. R2	53.91%							
Year Fixed Effects	Yes							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for banks with a high tier 1 capital ratio. Firms are classified as high tier 1 capital banks based on the median value of tier 1 capital ratios. Year fixed effects are included. The sample consists of 3,312 firm quarters from the Pre-COVID-19 period (2012-2019). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 18
Value Relevance of Fair Value Hierarchy High Tier 1 Banks 2020

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.533	0.869	4.066	0.000***				
<i>NFVA</i>	0.777	0.054	14.368	0.000***	16.987	0.000***		
<i>FVA1</i>	0.662	0.096	6.897	0.000***	12.384	0.000***		
<i>FVA2</i>	0.822	0.057	14.551	0.000***	9.872	0.002**		
<i>FVA3</i>	0.832	0.118	7.035	0.000***	2.012	0.157		
<i>NFVL</i>	-0.795	0.060	-13.272	0.000***			11.748	0.000***
<i>FVL1</i>	-1.034	1.007	-1.028	0.305			0.001	0.973
<i>FVL2</i>	-0.785	0.158	-4.974	0.000***			1.859	0.173
<i>FVL3</i>	-0.267	1.143	-0.234	0.815			0.411	0.522
<i>NI</i>	1.642	0.342	4.808	0.000***				
n	610							
Adj. R2	57.89%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables only for banks with a high tier 1 capital ratio. Firms are classified as high tier 1 capital banks based on the median value of tier 1 capital ratios. Year fixed effects are included. The sample consists of 3,312 firm quarters from the COVID-19 period (2020). FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 19

Differences Value Relevance of Fair Value Hierarchy Pooled Regression High Tier 1 Banks

Dependent Variable = Share Price

Independent Variables	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value
<i>Intercept</i>	3.418	0.518	6.601	0.000***
<i>NFVA</i>	0.894	0.038	23.311	0.000***
<i>FVA1</i>	1.053	0.069	15.174	0.000***
<i>FVA2</i>	0.967	0.041	23.394	0.000***
<i>FVA3</i>	0.551	0.118	4.664	0.000***
<i>NFVL</i>	-0.912	0.043	-21.192	0.000***
<i>FVL1</i>	-0.045	0.817	-0.055	0.956
<i>FVL2</i>	-1.290	0.125	-10.289	0.000***
<i>FVL3</i>	-0.637	0.109	-5.843	0.000***
<i>NI</i>	3.803	0.512	7.424	0.000***
<i>Dummy2020</i>	0.115	1.047	0.109	0.913
<i>NFVA*Dummy2020</i>	-0.117	0.068	-1.715	0.086
<i>FVA1*Dummy2020</i>	-0.391	0.122	-3.204	0.001**
<i>FVA2*Dummy2020</i>	-0.145	0.072	-2.007	0.045*
<i>FVA3*Dummy2020</i>	0.281	0.171	1.640	0.101
<i>NFVL*Dummy2020</i>	0.117	0.076	1.538	0.124
<i>FVL1*Dummy2020</i>	-0.990	1.333	-0.742	0.458
<i>FVL2*Dummy2020</i>	0.505	0.207	2.435	0.015*
<i>FVL3*Dummy2020</i>	0.370	1.202	0.308	0.758
n	3,922			
Adj. R2	54.50%			
Year Fixed Effects	Yes			

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables for banks with a high tier 1 capital ratio. Firms are classified as high tier 1 capital banks based on the median value of tier 1 capital ratios. This is a pooled sample of 3,922 firm quarters (2012-2020). Year fixed effects are included. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Dummy2020 is a dummy variable for 2020. This table provides the coefficient estimates and t-statistic testing whether the estimated coefficients for both non-fair value assets and liabilities and fair value assets and liabilities are different from 0, and statistical testing on coefficient differences by interacting the independent variables with the dummy variable. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

6 Conclusion

The COVID-19 pandemic brought great uncertainty, and global markets became highly unpredictable and volatile. Theory predicts that this uncertainty leads to less reliability. Investors will be reluctant because of the volatility in times of crisis, and fair values become harder to predict. This research investigates whether this uncertainty and more difficult predictions during the COVID-19 pandemic impact the information relevance of FVA for banks. This is done by a descriptive analysis on the data to see if there is a difference in the usage of the different levels of the fair value hierarchy during the COVID-19 pandemic, the main test for information relevance in the two periods, and lastly, robustness tests to see if the results hold when incorporating different bank characteristics such as size and tier 1 capital ratio.

Using financial data from all financial institutions in the United States over a period from 2012 to 2020, the following results are found. Overall, the results are very mixed. On the one hand, the results from the main test suggest that investors place more weight on level 1 fair value assets during the Pre-COVID-19 period than in the COVID-19 period and less weight on level 3 fair value assets during the Pre-COVID-19. The results also suggest that investors put more weight on level 2 fair value liabilities in the Pre-COVID-19 period than in the COVID-19 period. The same evidence is found when using a dummy variable to test for coefficient differences, where the decrease of FVA1 and increase of FVL2 is significant at the 5 and 10% level, respectively. On the other hand, incorporating bank characteristics, the only consistent result throughout the robustness checks is FVA3 losing its value relevancy in the COVID-19 period. Investors placing more weight on FVA1 during the Pre-COVID-19 period than in the COVID-19 period is not robust for large banks. Investors placing less weight on level 3 fair value assets and more weight on level 2 fair value liabilities during the Pre-COVID-19 is only robust for large and high tier 1 capital ratio banks. The decrease in FVA1 and increase of FVL2 from Table 7 are only robust for high tier 1 capital banks.

Based on previous research, a decreased R2 was expected. However, the R2 increased a little bit in the COVID-19 period (2020) compared to the Pre-COVID-19 (2012-2019) period. An increase in the R2 indicates an increase in the ability of the model to predict the share price. This means that the split in fair value and non-fair value assets does not lose its explanatory power during the COVID-19 pandemic.

These mixed results make it hard to interpret the outcomes of the different tests, but an answer to the main research question can be given. The value relevance of the fair value hierarchy has indeed changed during the COVID-19 pandemic. The results suggest that companies not only look at market prices (level 1 of the fair value hierarchy) but are motivated to change their valuation techniques because of the COVID-19 pandemic. At least for the level 3 fair value assets and the level 2 fair value liabilities. For level 3 fair value liabilities, the results suggest that these are less used. Investors had less trust in fair values based on quoted prices in active markets because these prices were less reliable due to the volatility and unpredictability of the

financial markets during the COVID-19 pandemic. This is at least true for small banks, independent of their tier 1 capital ratio. Investors perceived FVA3 as less relevant and FVL2 as more relevant for large and high tier 1 ratio banks. A possible explanation for the results being inconsistent through bank size and tier 1 capital ratio, is that investors still trust the large and high tier 1 capital ratio banks to come up with the proper valuation of level 1 fair values, because they have more resources available to value these fair values. It is also hard to say whether FVA3 losing its value relevance during the COVID-19 period is truly due to the COVID-19 pandemic. The year-wise regressions (Appendix A) show us that this was already the case in the years leading up to 2020. Contrary to what was found during the 2008 financial crisis, not all value relevance of each fair value hierarchy went down. This could be due to the update on the standard of FVA, ASC 820. ASC 820 added more guidelines on disclosures, which could have led to the fair value hierarchy being more value relevant even during this time of crisis. Overall, the results suggest that the changes in the information relevance of the fair value hierarchy are dependent on bank characteristics

The results of this research are relevant for scholars and standard setters because there is not much empirical information on the topic of information relevance of the fair value hierarchy during times of crisis. This research showed that the information relevance of the fair value hierarchy was better preserved during the COVID-19 crisis than during the 2008 financial crisis. It also shows where the possible strengths and weaknesses are of the fair value hierarchy during a time of crisis. This study is subject to a few caveats. First, the sample used for this research is limited to the United States. The results might not be generalizable to other parts of the world. Second, there are undoubtedly other confounding factors that have impacted the use and value relevance of the fair value hierarchy. Using year fixed effects and robustness tests for size and tier 1 capital ratio, this research minimized confounding factors. However, things like policy changes, corporate governance, and CEO behavior are not captured within the model. Future research could focus on these confounding factors to see whether the observable effects on the information relevance of the fair value hierarchy during 2020 were truly due to the COVID-19 pandemic. Also, this research could be generalized to other parts of the world if data was used from different parts of the world.

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Appendix A - Year-wise regressions for the Pre-COVID-19 period (2012-2019)

TABLE 20
Value Relevance of Fair Value Hierarchy 2012

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	6.812	0.547	12.445	0.000***				
<i>NFVA</i>	0.685	0.066	10.433	0.000***	22.937	0.000***		
<i>FVA1</i>	1.272	0.115	11.021	0.000***	5.538	0.019*		
<i>FVA2</i>	0.690	0.068	10.202	0.000***	20.955	0.000***		
<i>FVA3</i>	0.700	0.223	3.136	0.002**	1.804	0.180		
<i>NFVL</i>	-0.689	0.072	-9.578	0.000***			18.718	0.000***
<i>FVL1</i>	-7.949	1.771	-4.487	0.000***			15.388	0.000***
<i>FVL2</i>	-0.423	0.142	-2.973	0.003**			16.437	0.000***
<i>FVL3</i>	-1.580	0.940	-1.682	0.093			0.382	0.537
<i>NI</i>	4.850	0.763	6.353	0.000***				
n	844							
Adj. R2	50.51%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 844 firm quarters from 2012. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 21
Value Relevance of Fair Value Hierarchy 2013

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	5.793	0.586	9.880	0.000***				
<i>NFVA</i>	0.905	0.072	12.622	0.000***	1.756	0.186		
<i>FVA1</i>	1.533	0.134	11.412	0.000***	15.730	0.000***		
<i>FVA2</i>	0.941	0.076	12.461	0.000***	0.611	0.435		
<i>FVA3</i>	0.787	0.200	3.940	0.000***	1.141	0.286		
<i>NFVL</i>	-0.916	0.079	-11.542	0.000***			1.106	0.293
<i>FVL1</i>	-4.378	1.411	-3.103	0.002**			5.732	0.017*
<i>FVL2</i>	-0.882	0.145	-6.102	0.000***			0.667	0.414
<i>FVL3</i>	-1.250	0.886	-1.410	0.159			0.079	0.778
<i>NI</i>	0.985	0.650	1.517	0.130				
n	872							
Adj. R2	51.37%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 872 firm quarters from 2013. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 22
Value Relevance of Fair Value Hierarchy 2014

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.874	0.581	6.669	0.000***				
<i>NFVA</i>	0.951	0.062	15.419	0.000***	0.639	0.424		
<i>FVA1</i>	1.378	0.095	14.560	0.000***	15.973	0.000***		
<i>FVA2</i>	0.980	0.064	15.260	0.000***	0.099	0.753		
<i>FVA3</i>	0.839	0.239	3.510	0.000***	0.453	0.501		
<i>NFVL</i>	-0.970	0.066	-14.597	0.000***			0.200	0.655
<i>FVL1</i>	0.351	1.956	0.179	0.858			0.477	0.490
<i>FVL2</i>	-1.267	0.185	-6.846	0.000***			2.075	0.150
<i>FVL3</i>	-0.906	0.206	-4.389	0.000***			0.208	0.648
<i>NI</i>	7.795	1.041	7.488	0.000***				
n	872							
Adj. R2	59.26%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 872 firm quarters from 2014. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 23
Value Relevance of Fair Value Hierarchy 2015

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.627	0.678	5.346	0.000***				
<i>NFVA</i>	0.990	0.075	13.294	0.000***	0.016	0.898		
<i>FVA1</i>	1.236	0.109	11.360	0.000***	4.696	0.031*		
<i>FVA2</i>	1.028	0.077	13.290	0.000***	0.129	0.720		
<i>FVA3</i>	0.592	0.238	2.492	0.013*	2.940	0.087		
<i>NFVL</i>	-1.000	0.082	-12.142	0.000***			0.000	0.996
<i>FVL1</i>	-2.028	1.999	-1.014	0.311			0.264	0.607
<i>FVL2</i>	1.085	0.200	-5.426	0.000***			0.182	0.670
<i>FVL3</i>	-0.713	0.216	-3.293	0.001**			1.762	0.185
<i>NI</i>	4.058	1.135	3.574	0.000***				
n	872							
Adj. R2	56.93%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 872 firm quarters from 2015. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 24
Value Relevance of Fair Value Hierarchy 2016

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	2.485	0.764	3.255	0.001**				
<i>NFVA</i>	0.882	0.078	11.360	0.000***	2.321	0.128		
<i>FVA1</i>	1.366	0.117	11.713	0.000***	9.841	0.002**		
<i>FVA2</i>	0.917	0.080	11.480	0.000***	1.086	0.298		
<i>FVA3</i>	0.512	0.512	2.512	0.012*	5.713	0.017*		
<i>NFVL</i>	-0.859	0.086	-9.986	0.000***			2.689	0.101
<i>FVL1</i>	-1.535	2.357	-0.651	0.515			0.051	0.821
<i>FVL2</i>	-1.105	0.238	-4.648	0.000***			0.196	0.658
<i>FVL3</i>	-0.614	0.188	-3.265	0.001**			4.197	0.041*
<i>NI</i>	1.342	1.106	1.213	0.225				
n	872							
Adj. R2	57.05%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 872 firm quarters from 2016. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 25
Value Relevance of Fair Value Hierarchy 2017

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	1.351	0.777	1.739	0.082				
<i>NFVA</i>	0.746	0.072	10.420	0.000***	12.646	0.000***		
<i>FVA1</i>	0.958	0.117	8.214	0.000***	0.131	0.718		
<i>FVA2</i>	0.793	0.074	10.701	0.000***	7.807	0.005**		
<i>FVA3</i>	0.306	0.288	1.062	0.288	5.789	0.016*		
<i>NFVL</i>	-0.711	0.074	-8.964	0.000***			13.305	0.000***
<i>FVL1</i>	-1.455	1.599	--0.910	0.363			0.081	0.776
<i>FVL2</i>	-0.910	0.291	-3.128	0.002**			0.096	0.757
<i>FVL3</i>	-1.310	1.184	-1.107	0.269			0.069	0.793
<i>NI</i>	8.427	1.199	7.027	0.000***				
n	872							
Adj. R2	62.05%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 872 firm quarters from 2017. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 26
Value Relevance of Fair Value Hierarchy 2018

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	3.250	0.718	4.524	0.000***				
<i>NFVA</i>	0.674	0.067	10.086	0.000***	23.834	0.000***		
<i>FVA1</i>	0.864	0.102	8.503	0.000***	1.794	0.181		
<i>FVA2</i>	0.756	0.070	10.873	0.000***	12.332	0.000***		
<i>FVA3</i>	0.143	0.241	0.592	0.554	12.623	0.000***		
<i>NFVL</i>	-0.691	0.073	-9.520	0.000***			18.102	0.000***
<i>FVL1</i>	-0.203	1.567	-0.130	0.897			21.613	0.611
<i>FVL2</i>	-1.100	0.387	-2.841	0.005**			0.067	0.796
<i>FVL3</i>	-0.654	1.083	-0.604	0.546			0.102	0.750
<i>NI</i>	19.019	1.510	12.595	0.000***				
n	872							
Adj. R2	67.28%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 872 firm quarters from 2018. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

TABLE 27
Value Relevance of Fair Value Hierarchy 2019

Dependent Variable = Share Price

Independent Variables	(A)				(B)		(C)	
	Coeff.	Std. Err.	t-stat Coeff. = 0	p-value	F-stat Coeff. = 1	p-value	F-stat Coeff. = -1	p-value
<i>Intercept</i>	2.708	0.811	3.339	0.001***				
<i>NFVA</i>	0.712	0.072	9.889	0.000***	16.077	0.000***		
<i>FVA1</i>	0.777	0.108	7.197	0.000***	4.264	0.039*		
<i>FVA2</i>	0.770	0.074	10.458	0.000***	9.802	0.002**		
<i>FVA3</i>	0.601	0.245	2.450	0.014*	2.645	0.104		
<i>NFVL</i>	-0.720	0.077	-9.331	0.000***			13.148	0.000***
<i>FVL1</i>	3.651	1.828	1.998	0.046*			6.477	0.011*
<i>FVL2</i>	-2.058	0.430	-4.782	0.000***			6.045	0.014*
<i>FVL3</i>	0.061	1.296	0.047	0.963			0.670	0.413
<i>NI</i>	15.287	1.979	7.724	0.000***				
n	900							
Adj. R2	62.87%							

This table provides the OLS regression result of share price as the dependent variable and non-fair values and fair value assets and liabilities as independent variables. The sample consists of 900 firm quarters from 2019. FVA1, FVA2, and FVA3 indicate levels 1, 2, and 3 of assets in the fair value hierarchy. FVL1, FVL2, and FVL3 indicate levels 1, 2, and 3 of liabilities in the fair value hierarchy. NFVA indicates the non-fair value assets, and NFVL indicates the non-fair value liabilities. NI stands for net income before extraordinary items. Column (A) provides the coefficient estimates and t-statistic testing whether the estimated coefficients for non-fair value assets and liabilities and fair value assets and liabilities are different from 0. Column (B) provides F-statistics testing whether the coefficient estimates for the different levels of fair value assets and the non-fair value assets are different from 1. Column (C) provides F-statistics testing whether the coefficient estimates for the different levels of fair value liabilities and the non-fair value liabilities are different from -1. ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

