

Factors Affecting the Adoption of FVA: Evidence from Listed Companies in Vietnam

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The purpose of this study is to evaluate the adoption of FVA and the impact of factors on the adoption of fair value. The paper uses the analytical framework of previous studies to identify factors affecting the adoption of fair value. Quantitative research methods were applied and data was collected by sending questionnaires to 127 accountants and directors of listed companies. Particularly, binary logistic regression was conducted to investigate the extent of the impact of each factor on the adoption of fair value. The results showed that human resources has the strongest and most positive impact on the adoption of fair value, and that is followed by the benefits of fair value. Difficulties and markets have negative impacts on the use of fair value. The findings contribute to the guiding of applications of fair value in companies and give recommendations to policy makers in establishing a legal framework for accounting in Vietnam.

Key words: *FVA, measurement, benefits, difficulties, markets, Vietnam.*

Introduction

Fair value has been regulated with international accounting standards by the IASB since the 1990s. However, at that time, the requirements for determining and presenting information of fair value were inconsistent. Therefore, in May 2011, the IASB officially issued IFRS 13 - Fair value measurement. Fair value measurement is the result of a joint project conducted by IASB together with the FASB in accordance with the US GAAP. IFRS 13 sets out a single framework for measuring fair value and provides comprehensive guidance on how to measure and present fair value in financial statements in order to reduce complexity and ensure the alignment of measurement and disclosure requirements between IFRS and US GAAP. IFRS 13 defines fair value as the price that would be received to sell an asset or to transfer a liability in an orderly transaction between market participants at the measurement date. Currently, fair value

accounting (FVA) has been accepted and applied in 147 countries according to a survey from IASB in 2016 for the following reasons:

Firstly, FVA has many advantages: The concept of fair value first appeared in the US in the early years of the 18th century. Today FVA is a basic measurement method which is accepted and used in many countries around the world. FVA helps to overcome shortcomings of other valuation techniques such as historical cost, current value; therefore, it provides more accurate information for investors, as Chen notes (2019). Since fair value reflects the current market prices and changes in market prices of assets or liabilities, it provides early warning signals of inflation. Additionally, FVA helps to provide more accurate information about the values of a company's assets and liabilities and reflects its actual performance at the time of preparing financial statements. It is believed that FVA limits managers' abilities to manipulate net incomes, as noted by Robinson (2018). With FVA, valuations of assets are more accurate as FVA allows assets' value to go up or down according to the market prices. Currently, FVA has been accepted and applied in 147 countries according to a survey from IASB in 2016.

Secondly, historical cost accounting has many limitations: Historical cost was the first measurement technique in accounting and has been applied for a long period of time. Especially during the period from 1940-1975, historical cost remained in use in most accounting systems all over the world. During this period, historical cost accounting allows adjustment of losses to reflect the real value of assets. During hyperinflation in the period from 1979-1986, historical cost failed to reflect the changes of prices (Barlev & Haddad, 2003). In other words, historical cost measurement is criticised due to its lack of timely reporting of value changes. Researchers stated that historical cost measurement fails to reflect the values of current investments if net assets are measured based on historical costs (Kumarasiri & Fisher, 2011). Furthermore, a historical cost basis gives no indication of the current values of the assets, purchasing power or incomes, as stated by Ghosh et al. (2020). Some people supposed that historical cost measurements might cause crises. This is for two reasons: (i) Historical cost accounting can overstate profits since the values of assets are recorded with original prices, especially during inflation period when the overall prices increase dramatically; (ii) Historical cost accounting can mix up holding and operating Gain. In historical cost accounting, gain or loss on an account of holding inventories may be mixed up with operating gain or losses. Holding gain or losses should be segregated from operating gain or losses to determine the true operating performance (Laux & Leuz, 2010).

Thirdly, Vietnam has not yet applied FVA: In Vietnam, historical cost is a basic principle of accounting. Even though the concept of fair value has been applied for more than ten years, there exists certain limitations and differences from international accounting practices and standards. FVA was first introduced in Vietnamese accounting standards under Decision No. 149/2001/QD-BTC issued on December 31, 2001. FVA is used for the initial recognition of

non-monetary transactions relating to fixed assets and revenue recognition. Since then, the term “fair value” has been used extensively in legal documents. The Accounting Law 2015 mentioned the use of fair value measurement to re-evaluate assets and liabilities at the reporting time. However, in Vietnam, FVA is only used for initial measurement, but not for revaluation after initial measurement like in the IAS or IFRS. This leads to differences in the financial statements of Vietnam and other countries. The integration of accounting is an inevitable result of globalisation. However, Vietnam has not used FVA to re-evaluate accounting objects. This leads to difficulties in comparing the financial statements of Vietnam and creates barriers in the process of the economic integration of Vietnam. In order to solve this problem, Vietnam needs to increase the convergence between accounting standards in Vietnam and other countries, especially in terms of using FVA after initial recognition. Currently, the Ministry of Finance of Vietnam is looking forward to furthering the regularisation of international accounting practices, of which the main issue is the application of IFRS. FVA is identified as a challenge in adopting IFRS in Vietnam. Barlev and Haddad (2003) pointed out that the development of the fair value measurement was logical and its adoption process is natural, which reflects the trend of globalisation and international economic integration.

Finally, in the current trend of globalisation, Vietnamese enterprises need to provide financial statements in accordance with international practices. Particularly, information of assets and liabilities, which needs to be presented according to the FVA rather than historical cost accounting. The fact is that there has been not much research on FVA in Vietnam; in particular, there have been no studies on the applications of FVA after initial recognition. Therefore, this study was conducted to:

- (i) Assess the necessity and ability to adopt FVA in listed companies from the perspective of enterprises;
- (ii) Assess the impact of the factors BEN, DIF, PER, LAW, and MAR on the adoption of FVA in listed companies;
- (iii) Propose solutions to overcome difficulties to ensure feasible adoption of FVA and give implications for policy makers in the process of implementing FVA in Vietnam.

Literature Review

FVA has the following advantages: Fair value measurement provides accurate and adequate financial information according to market prices, ensuring comparability among companies. Thereby, users of the information can evaluate the actual values and performance of companies. There has been much research on the applications of FVA. Such research focused on examining the impact of FVA on stock prices, efficiency, and the incomes of enterprises, and investors. Some research tried to answer the question of whether fair value is better than historical cost

in explaining investor reactions. Generally, research proved that using FVA to measure assets and liabilities is appropriate. Specifically:

Research on FVA in China: Hsu et al. (2019) examined real estate companies in China during the period from 2007 to 2011. The findings showed that fair value reporting was not used widely. It raised doubts about the concealing of information. The study also found a negative relationship between fair value reporting and bankruptcy risk, especially in enterprises with strong management systems. Bewley et al. (2018) investigated the applications of FVA in Chinese enterprises through the collection of secondary data from accounting book systems. The results showed that benefits of FVA including national interests, social infrastructure, transparency, and comparability are important driving forces in the application of FVA in China. The study also pointed out the difficulties which lead to the failure of applying FVA in China. These issues include inconsistent legal systems, enterprises' lack of voluntary disclosure of information using FVA, staff qualifications and operating markets. Songlan et al. (2014) stated that China had been applying FVA since 2000 but failed. Companies do not support fair value measurements because they think that fair value measurement is less reliable when the assets are not traded in an active market. Since the financial accounting field of China has many institutional features of a socialist country, research conducted in China can contribute to the foundational theories for other countries in the region. Yichao (2010) examined the advantages of applying FVA in China. FVA is more reliable because it accurately reflects companies' incomes, assets and liabilities. Accurate information can help decision makers and, more importantly, reduce the gap between Chinese and international accounting standards. Furthermore, the study provided other benefits of FVA including increasing reliability, transparency and comparability of financial statements, which enhance investors' confidence in making decisions and create opportunities for companies to attract investment and increase operational efficiency. In addition, challenges of applying FVA include language barriers, accounting proficiency to understand and apply IFRS 13, attitudes and responsibilities of enterprises, issues of active markets, and current legal systems.

Research on FVA in Malaysia: Benjamin et al. (2012) investigated the applications of FVA of 11 real estate companies in Malaysia during the period from 2007 to 2008. Fair value measurement helps them increase the assets' values, attract investment, and facilitates access to capital markets. Difficulties in applying FVA include market problems to determine the fair value of some typical assets, and problems related to skills and attitudes which determine the truthfulness of information on fair value. Ting and Soo (2005) examined FVA in Malaysian enterprises. The results showed that the fair value measurement enables more suitable and reliable accounting information, meets the goals of the financial statements and users, and expands the capital market. As a result, the fair value measurement is widely used in financial statements because such information is considered to be more suitable for investors and creditors than historical cost information. However, it is difficult to determine the reliability of

fair value because it requires subjective judgments and estimates. Especially, in the cases where transactions are not conducted on the market, valuation costs in these cases are often expensive. To increase the reliability of FVA, companies can use expert valuation or financial statements audited by large audit companies. These actions can substantially increase the costs of transactions. As a result, many companies are hesitant to apply FVA.

Research on FVA in the UK: Christensen and Nikolaev (2013) investigated factors affecting the use of FVA in companies in the UK and Germany. The study used logit regression to identify the difficulties and leverages affecting the recognition at fair value. The difficulties examined in this study include high costs of determining fair value, complex techniques to identify fair value, adverse information for companies due to fair value measurement, and easy manipulation of fair value. The results showed that all variables of difficulties and financial leverages have impacted the use of fair value at the significant level of 5% with the mean values ranging from 2.8 to 3.9. Cairns (2011) investigated the use of FVA of 228 listed companies in the UK and Australia during the period of implementing IFRS since 2005. Financial instruments recognition and measurement at fair value (IAS 39) and shared-based payments (IFRS 2) have increased comparability. The optional recognition of assets at fair value (IAS 16) increases comparability and the optional recognition of main assets and other financial liabilities reduces comparability. The options of using FVA with other items (intangible assets, factories, equipment, and investments) are usually not applied. The difficulties when using FVA is subjective in nature, which increases the risk of financial statement fraud. Moreover, the annual cost of determining fair value is much higher than the cost of determining historical cost. Danbolt and Rees (2008) investigated 446 real estate companies in the UK in the period of 1993 - 2002 and found that "under the FVA, incomes are more appropriate than incomes measured at historical cost accounting or incomes measured according to UK GAAP". The fair value of liabilities is appropriate as it reflects debt obligations. Recognition at fair value provides a basis for users to assess the actual value of companies at the time of reporting, strengthens the confidence of domestic and international investors. Aboody et al. (1999) surveyed 738 enterprises in the UK from 1983 to 1995. The results showed that the revaluation of assets and liabilities on the financial statements promote the stock prices and profits of companies. This has helped businesses to access international capital markets more easily, contributing to the process of international accounting convergence. However, if market information is not available, the use of subjective estimates and assumptions can make information less reliable.

Research on FVA in Australia: Sangchan et al. (2020) investigated the real estate industry in Australia and concluded that there is no link between the recognition at fair value and audit costs. However, the study provided that FVA strengthen the confidence of real estate investors. Their current concern is how to determine fair value objectively. Accordingly, the qualifications, skills, and attitudes of people are the key factors that determine the reliability of

fair value data. Chen et al. (2019) examined the effect of the adjustment of fair value for dividend policy of financial companies in Australia. The study found a positive relationship between the adjustment of fair value for financial instruments and the dividend payment of companies. FVA provides basis for information users to evaluate the actual value of businesses at the time of reporting and enhance investor confidence. Fargher (2001) conducted a study based on a sample of 117 observations of the Australian Financial Markets Association. The results showed that 54.6% respondents supported the application of FVA for financial instruments, regardless of banking or commerce. The study also showed that reliability has the strongest impact on the decision to use FVA. Barth and Clinch (1998) conducted a study on 846 companies in Australia between 1991 and 1995. The subjects of study were financial assets, real estates, factories, equipment and intangible assets. The results showed that recognition at fair value for financial assets, fixed assets and intangible assets provided appropriate information in cases where the revaluation of such assets is higher or lower than the historical cost. The dependent variable in this study is the stock price estimated from future earnings and it has a positive relationship with the level of disclosure of fair value. Brown et al. (1992) investigated motives of recognition at fair value of companies in Australia including usefulness, reliability fair value and other control variables. The results showed that FVA enhances international cooperation, the opportunities to access international capital markets, and foreign investment opportunities. The results from the logit regression showed that the ratio of debt/total tangible assets, the ratio of real estate/total fixed assets has an impact on the use of FVA for revaluation.

Research FVA in Europe: Vergauwe and Gaeremynck (2019) investigated real estate companies in Europe during the period from 2007 to 2010. The study found a negative relationship between fair value disclosure and price. The reason is that fair value is heavily influenced by political factors, management practices, accounting rules, auditors and the valuation system. Sundgren et al. (2018) examined fair value disclosure and solvency of European real estate companies. The study investigated the methods of determining the fair value of assets according to IAS 40 and IFRS 13. The results showed that the quality of publications according to IFRS 13 significantly improved, but the amended disclosure requirements in IFRS 13 could not address market imperfections. In order to effectively use FVA, users of financial statements must have certain knowledge about FVA. Tutino and Pompili (2018) investigated the relationship between FVA and income management in the banking sector in the US and Europe in the period of 2011-2016. From the perspective of investors, the FVA is considered relevant and useful. However, from the banks' perspective, there is a strong and negative relationship between FVA and incomes. Dumitru et al. (2013) investigated information disclosures of fair value on financial statements in European listed companies. The results showed that the disclosure of fair value information has a positive impact on the value of enterprises and stock prices. Ghosh et al. (2020) examined the applications of FVA in listed real estate companies in Europe. IAS 40 requires companies to

disclose investment assets at fair value. As a result, fair value information does not reduce comparability and increase liquidity. Additionally, fair value does not contribute to economic crises.

Research on FVA in other Countries

Ijeoma (2014) examined the contribution of FVA to the financial information of companies in Nigeria. The study collected information through questionnaires with 562 observations. Descriptive statistics and Kruskal-Wallis test were conducted. The results showed that fair value measurement provides more useful information to investors than historical cost accounting. Difficulties in applying FVA include capital market structure, and valuation methods. Where the assets and liabilities of the enterprise are specific or the transaction market is inefficient, the determination of fair value is complicated. This complexity is mainly due to the collection of information and the determination of the market price adjustment, identifying assumptions, and input data to measure fair value and the necessary explanatory information presented in the financial statements.

Jung et al. (2013) examined 209 US companies to evaluate the financial directors' adoption of the application of fair value for non-financial assets. The results showed that 19 out of 209 companies (accounting for 9%) supported the use of the FVA to measure non-financial assets. This can be explained by the complexity of the fair value measurement and the high costs of applying FVA. In addition, large enterprises, enterprises with large amount of loans, enterprises with large amount of non-financial assets, and enterprises with extensive experience in fair value measurement are more likely to apply FVA.

Thus, research proved that FVA provides appropriate, useful and reliable information for those who prepare financial statements and the users of such information. FVA has many benefits such as (1) increasing reliability, transparency and comparability; (2) providing a basis for investors and managers to make decisions; (3) increasing the confidence of users of financial statements; (4) increasing business performance, stock price, and income; (5) increasing opportunities to access international capital markets; (6) promoting the process of international accounting convergence. Furthermore, previous studies pointed out difficulties in applying FVA. The subjectivity of FVA leads to issues regarding the reliability of fair value information. Many people are still sceptical about its reliability and argue that FVA increases the risk of fraud. Other challenges of applying fair value includes high costs, human resources, legal and market issues.

Research Methodology

Research Hypotheses

This study uses the research results of previous studies by selecting and analysing suitable factors with specific characteristics relating to Vietnam. Factors examined in this study are (i) benefits of applying FVA; (ii) difficulties of applying FVA; (iii) personnel; (iv) laws; and (v) markets. The measurement scales are shown in table 1 as follows:

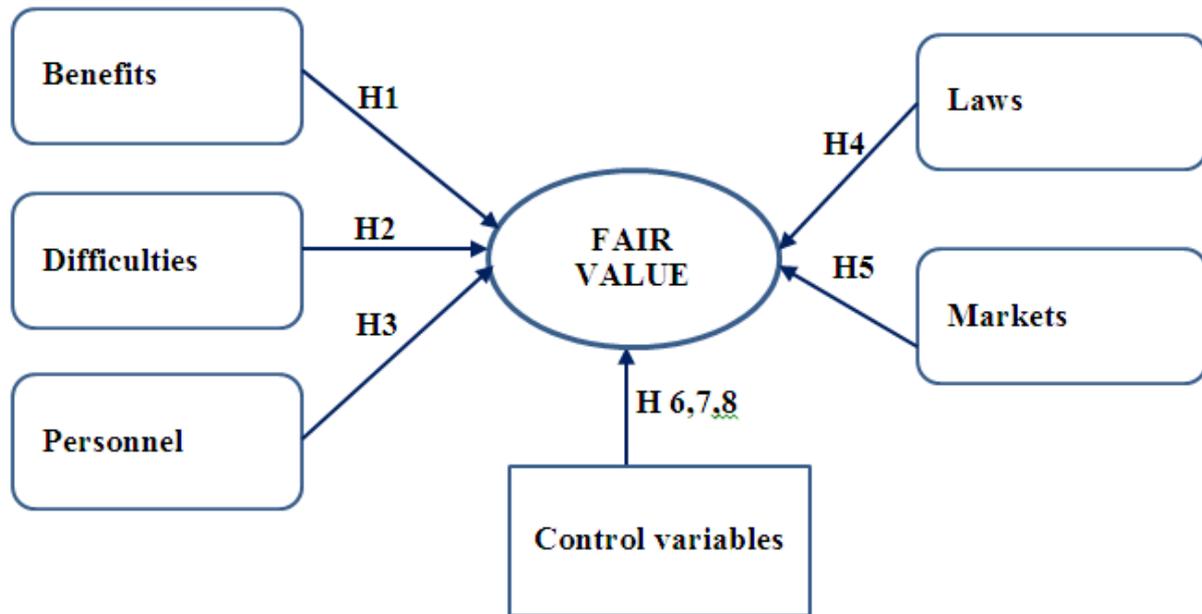
Table 1: Measurement scales

| Factor | Variables | Items | Sources |
|---|-----------|---|---|
| Benefits (BEN) | BEN1 | Increasing reliability, transparency, comparability; providing a basis for investors' and managers' decision making; increasing the confidence of users of financial statements | Chen et al. (2019), Hsu et al. (2019), Bewley et al. (2018), Tutino & Pompili (2018), Yichao (2010), Ting & Soo (2005), Danbolt & Rees (2008), Danbolt & Rees (2008), Benjamin et al. (2012), Barth & Clinch (1998), Brown et al. (1992), Dumitru et al. (2013), Ting & Soo (2005), Fargher (2001), Aboody et al. (1999). |
| | BEN2 | Increasing business performance (increasing stock prices, market opportunities, incomes, market shares, reducing risks) | |
| | BEN3 | Accessing international capital market more easily | |
| | BEN4 | Promoting the regularisation of international accounting practices | |
| <i>H1: The benefits of FVA have positive impacts on the applications of FVA</i> | | | |
| Difficulties (DIF) | DIF1 | Difficulty in determining fair value and it requires subjective judgment | Jung et al. (2013), Songlan et al. (2014), Danbolt & Rees (2008), Ting & Soo (2005), Christensen & Nikolaev (2013), Aboody et al. (1999). |
| | DIF2 | Difficulty in determining reliability of fair value measurements | |
| | DIF3 | Increasing the risk of financial statement fraud. | |
| | DIF4 | High costs of determining fair value | |
| <i>H2: The difficulties of applying FVA have negative impacts on the applications of FVA</i> | | | |

| | | | |
|---|--|---|--|
| Personnel (PER) | PER1 | Knowledge: accountants do not have enough knowledge to apply IFRS 13 effectively. | Sangchan et al. (2020), Bewley et al. (2018), Christensen & Nikolaev (2013), Kumarasiri & Fisher (2011), Sangchan et al. (2020), Ijeoma (2014), Kumarasiri & Fisher (2011), Cairns (2011), Ting & Soo (2005), Danbolt & Rees (2008), Aboody et al. (1999). |
| | PER2 | Skills: IFRS 13 requires complex recognition and adjustments. | |
| | PER3 | Attitude: accountants and managers need to be honest and responsible when determining fair value. | |
| <i>H3: Personnel have a positive impact with the applications of FVA</i> | | | |
| Law (LAW) | LAW1 | FVA is not legalised. | Vergauwe & Gaeremynck (2019), Bewley et al. (2018), Yichao (2010), Cairns (2011), Kumarasiri & Fisher (2011), Richard (2004), Ting & Soo (2005) |
| | LAW2 | Legal environments of valuation activities are not synchronised. | |
| | LAW3 | There exist conflicts in the legal system. | |
| <i>H4: Law has a negative impact on the applications of FVA</i> | | | |
| Market (MAR) | MAR1 | The commodity markets and stock markets are developing. | Bewley et al. (2018), Ijeoma (2014), Songlan et al. (2014), Benjamin et al. (2012), Kumarasiri & Fisher (2011), Cairns (2011), Danbolt & Rees (2008) |
| | MAR2 | Market factors are complicated and changeable. | |
| | MAR3 | There are no technique nor market bases to apply FVA. | |
| <i>H5: The market has a negative impact on the applications of FVA.</i> | | | |
| FVA | 1: have adopted FVA 0: have not adopted FVA | | |

Conceptual Framework

Figure 1: Conceptual framework



Regression Equation

Based on the above hypotheses, a regression equation reflecting the correlation between influential factors and the adoption of FVA can be presented thus:

$$\text{Logit (FV)} = \delta_0 + \delta_1 \cdot \text{BEN}_1 + \delta_2 \cdot \text{DIF}_2 + \delta_3 \cdot \text{PER}_3 + \delta_4 \cdot \text{LAW}_4 + \delta_5 \cdot \text{MAR}_5 + \delta_6 \cdot \text{FIELD}_6 + \delta_7 \cdot \text{YEAR}_7 + \delta_8 \cdot \text{SIZE}_8 + \mu_i$$

In which:

Independent variables: Benefits (BEN); Difficulties (DIF); Personnel (PER); Laws (LAW); Markets (MAR).

Dependent variables: the adoption of FVA (1: have adopted FVA; 0: have not adopted FVA)

$\delta_0, \delta_1, \delta_2, \delta_3, \delta_4, \delta_5, \delta_6, \delta_7, \delta_8$: Parameters

μ_i : error

Research Process

This study applied both qualitative and quantitative research methods:

- **Interview Tool:** This study used in-depth interviews tools and consulted experts to identify factors affecting the adoption of FVA. Particularly, the study conducted three in-depth

interviews with directors and chief accountants of companies in commerce, manufacturing, and services sectors. Then, the study conducted three interviews with experts who are researchers on financial accounting in universities. The purpose of these interviews was to complete measurement scales compiled from the literature review.

- **Questionnaire:** The questionnaire was divided into two parts: (i) factors affecting the adoption of FVA with 17 questions using a 5-point Likert scale (1- strongly disagree; 5- strongly agree); and (ii) information of the respondent and enterprise.
- **Characteristics of Respondents:** Of the 127 respondents, 86 were chief accountants, general accountants, accountant supervisors, and accountants, and 41 were directors and branch managers. Regarding length of operation, there were 16 enterprises which had been operating for over 20 years, 80 enterprises which had been operating from 10 to 20 years and 31 enterprises with less than 10 years of operation. Regarding the business sector, manufacturing was the most common sector (50), which was followed by the commercial sector (45), and the service sector (32).
- **Research Sample:** This study used the convenience sampling method. The sample size was determined according to Hair et al. (2010) based on a minimum sample size of 50 and the number of variables in the model. The formula is as follows:

$$n = \sum_{j=1}^m k * P_j$$

In which:

N is sample size.

M is the number of measurement scales.

K is the ratio of sample size to number of variables (5/1).

P_j is the number of observation variables of measure j.

This research model has 5 variables and selects $k = 5/1$. By using the above formula of Hair et al. (2010), the minimum sample size is 100. In this study, the number of valid answers was 127.

- **Collecting and processing data:** data collected from the survey was classified, cleaned and analysed. This study used techniques including (i) descriptive statistics; (ii) reliability test; (iii) Exploratory Factor Analysis; (iv) correlation analysis; and (v) regression analysis in order to investigate factors affecting the adoption of FVA.

Research Results

Descriptive Statistics

Table 2: Descriptive Statistics

| Variables | Mean | Mean of Adopt FV | Mean of Not Adopt FV |
|-------------|-------------|------------------|----------------------|
| BEN1 | 3.09 | 3.14 | 3.05 |
| BEN2 | 2.76 | 3.02 | 2.50 |
| BEN3 | 2.87 | 3.16 | 2.59 |
| BEN4 | 3.00 | 3.21 | 2.80 |
| <i>BEN</i> | 2.93 | 3.13 | 2.73 |
| DIF1 | 3.01 | 2.97 | 3.05 |
| DIF2 | 2.96 | 2.92 | 3.00 |
| DIF3 | 3.01 | 2.95 | 3.06 |
| DIF4 | 3.00 | 2.94 | 3.06 |
| <i>DIF</i> | 2.99 | 2.94 | 3.04 |
| PER1 | 2.82 | 3.05 | 2.59 |
| PER2 | 2.95 | 3.08 | 2.83 |
| PER3 | 3.17 | 3.46 | 2.87 |
| <i>PER</i> | 2.98 | 3.20 | 2.77 |
| LAW1 | 2.82 | 3.08 | 2.83 |
| LAW2 | 2.95 | 3.46 | 2.87 |
| LAW3 | 3.17 | 3.05 | 2.59 |
| <i>LAW</i> | 2.98 | 3.20 | 2.77 |
| MAR1 | 2.82 | 3.05 | 2.59 |
| MAR2 | 2.95 | 3.08 | 2.83 |
| MAR3 | 2.82 | 3.05 | 2.59 |
| <i>MAR</i> | 2.86 | 3.06 | 2.67 |

Table 2 shows that all factors had mean values ranging from 2.86 to 2.99. This means that the respondents' opinions were not clear on whether to adopt or reject FVA. There are not significant differences in mean values of benefits, difficulties, personnel, laws and markets. Generally, respondents who have adopted FVA rated benefits and disadvantages higher than those who have not adopted FVA. Particularly, the group of respondents who have adopted FVA rated benefits higher (mean = 3.1) than the group who has not adopted FVA (mean = 2.7). However, such differences are not significant.

Comparison by Firm Size

Table 3a: Group Statistics

| | SIZE | N | Mean | Std. Deviation | Std. Error Mean |
|-----------|-----------------|----|------|----------------|-----------------|
| FV | Less 300 people | 30 | .15 | .358 | .046 |
| | More 300 people | 97 | .82 | .389 | .048 |

Table 3b: Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|-----------|-----------------------------|---|------|------------------------------|---------|-----------------|-----------------|-----------------------|---|-------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| FV | Equal variances assumed | 1.075 | .302 | -10.094 | 125 | .000 | -.671 | .066 | -.802 | -.539 |
| | Equal variances not assumed | | | -10.128 | 124.998 | .000 | -.671 | .066 | -.802 | -.540 |

Table 3b shows that F test has a significance value of $0.302 > 0.05$ and significance value is $0.000 < 0.05$. Thus, there is difference in the adoption of FVA by firm size. Particularly, table 3a shows that large enterprises had higher mean value than small and medium-sized enterprises (mean values of 0.82 and 0.15 respectively).

Comparison by Business sector and Length Of Operation

Table 4: Test of Homogeneity of Variances

| FV | Levene Statistic | df1 | df2 | Sig. |
|----------------------------|------------------|-----|-----|------|
| Business sector | 99.899 | 2 | 124 | .000 |
| Length of operation | 66.718 | 3 | 123 | .000 |

Table 4 shows that the significance value is smaller than 0.05. This means there are differences in the variances among groups. Therefore, data is not suitable for ANOVA. Thus, there is not enough evidence to confirm the differences in the adoption of FVA among groups of enterprises by business sector and length of operation.

Cronbach's Alpha

Cronbach's alpha is a measure of internal consistency of items in a group. The reliability test is shown in the following table:

Table 5: Item-Total Statistics

| Factor | Variables | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|-----------|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| Cronbach's Alpha of BEN: 0.729; Number of Items: 4 | BEN1 | 5.85 | 2.536 | .881 | .874 |
| | BEN2 | 5.87 | 2.428 | .697 | .693 |
| | BEN3 | 5.75 | 1.936 | .781 | .574 |
| | BEN4 | 5.62 | 2.269 | .501 | .895 |
| Cronbach's Alpha of DIF: 0.917; Number of Items: 4 | DIF1 | 8.97 | 1.428 | .831 | .885 |
| | DIF2 | 9.02 | 1.444 | .816 | .890 |
| | DIF3 | 8.97 | 1.539 | .839 | .883 |
| | DIF4 | 8.98 | 1.626 | .760 | .909 |
| Cronbach's Alpha of PER: 0.863; Number of Items: 3 | PER1 | 5.65 | 1.643 | .794 | .754 |
| | PER2 | 5.55 | 1.837 | .718 | .827 |
| | PER3 | 5.73 | 1.785 | .708 | .836 |
| Cronbach's Alpha of LAW: 0.872; Number of Items: 3 | LAW1 | 6.18 | 1.769 | .598 | .872 |
| | LAW2 | 6.29 | 1.716 | .695 | .636 |
| | LAW3 | 6.36 | 1.820 | .734 | .628 |
| Cronbach's Alpha of MAR: 0.823; Number of Items: 3 | MAR1 | 6.40 | 2.877 | .711 | .728 |
| | MAR2 | 6.24 | 2.821 | .618 | .822 |
| | MAR3 | 6.33 | 2.810 | .715 | .717 |

Table 5 shows that Benefits of FVA (BEN) had an overall Cronbach's alpha = 0.729 > 0.6. This means that 4 observation variables are internally consistent and reliable. Furthermore, each observation variable BEN1, BEN2, BEN3, BEN4 had Cronbach's alpha > 0.5. Difficulties of applying FVA (DIF) had an overall Cronbach's alpha = 0.917 and all observation variables (DIF1, DIF2, DIF3, DIF4) have Cronbach's alpha coefficients > 0.5. Similarly, personnel (PER) Cronbach's alpha = 0.836 > 0.6 and observation variables had Cronbach's alpha coefficients of 0.708, 0.718 and 0.794 > 0.5. Two variables laws (LAW) and markets (MAR) had Cronbach's alpha coefficients of 0.872 and 0.823 respectively. Thus, 5 factors and 17 observation variables are reliable and suitable for further analysis.

Exploratory Factor Analysis

Table 6: KMO and Bartlett's Test

| | | |
|--|--------------------|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .815 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1599.909 |
| | df | 156 |
| | Sig. | .000 |

Table 6 shows that $KMO = 0.815 > 0.05$. This means that the research data is appropriate for factor analysis. Furthermore, Bartlett's test had a significance value = 0.000, which indicates the appropriateness of exploratory factor analysis. Therefore, we can confirm that the observed variables are correlated with each other in the whole.

Table 7: Total Variance Explained

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | |
|-----------|---------------------|---------------|--------------|-------------------------------------|---------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance |
| 1 | 5.166 | 30.388 | 30.388 | 5.166 | 30.388 |
| 2 | 3.481 | 20.474 | 50.862 | 3.481 | 20.474 |
| 3 | 3.239 | 19.055 | 69.916 | 3.239 | 19.055 |
| 4 | 1.231 | 7.247 | 77.163 | 1.231 | 7.247 |
| 5 | 1.115 | 6.562 | 83.725 | 1.115 | 6.562 |

Table 7 shows that 5 factors with eigenvalues greater than 1 explained 83.73% of the variability of all factors. In other words, they explained about 83.73 % of the underlying factors that influence the adoption of FVA.

Table 8: Rotated Component Matrix

| Variables | Component | | | | |
|-------------|-----------|------|------|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| DIF3 | .916 | | | | |
| DIF1 | .902 | | | | |
| DIF2 | .891 | | | | |
| DIF4 | .867 | | | | |
| MAR2 | | .848 | | | |
| MAR1 | | .798 | | | |
| MAR3 | | .789 | | | |
| LAW2 | | | .781 | | |
| LAW3 | | | .728 | | |
| LAW1 | | | .662 | | |

| | | | | | |
|-------------|--|--|--|------|------|
| BEN3 | | | | .831 | |
| BEN2 | | | | .745 | |
| BEN1 | | | | .715 | |
| BEN4 | | | | .683 | |
| PER2 | | | | | .877 |
| PER1 | | | | | .822 |
| PER3 | | | | | .682 |

Table 8 shows that all factor loadings are greater than 0.5, therefore, 17 observation variables are appropriate. Particularly, DIF1 has the strongest impact on the dependent variable (0.916) and LAW1 has the smallest impact on the dependent variable (0.662). It can be seen from the table that items loading on each component measure a specific variable with loading factors greater than 0.5 creating 5 groups. Therefore, all variables are considered strong and valid, and can be incorporated in the model to investigate factors influencing the adoption of FVA.

Correlation Analysis

Correlation analysis is conducted with 5 independent variables, 3 control variables and dependent variable which is the adoption of FVA. The dependent variable is measured by binary variables: 1=have adopted FVA, 0 = have not adopted FVA. The correlation analysis is shown in the following table.

Table 9: Correlations

| | | FV | BEN | DIF | PER | LAW | MAR | FIELD | YEAR | SIZE |
|------------|---------------------|---------|--------|-------|--------|-------|-----|-------|------|------|
| FV | Pearson Correlation | 1 | | | | | | | | |
| | Sig. (2-tailed) | | | | | | | | | |
| BEN | Pearson Correlation | .344** | 1 | | | | | | | |
| | Sig. (2-tailed) | .000 | | | | | | | | |
| DIF | Pearson Correlation | -.122* | -.051 | 1 | | | | | | |
| | Sig. (2-tailed) | .017 | .572 | | | | | | | |
| PER | Pearson Correlation | .335** | .517** | .000 | 1 | | | | | |
| | Sig. (2-tailed) | .000 | .000 | .996 | | | | | | |
| LAW | Pearson Correlation | .395** | .508** | .000 | .976** | 1 | | | | |
| | Sig. (2-tailed) | .000 | .000 | .996 | .000 | | | | | |
| MAR | Pearson Correlation | -.288** | .554** | -.027 | .937** | .903* | 1 | | | |
| | Sig. (2-tailed) | .001 | .000 | .761 | .000 | .000 | | | | |

| | | | | | | | | | | |
|--------------|---------------------|--------|--------|-------|--------|-------|--------|-------|------|---|
| FIELD | Pearson Correlation | -.168* | .506** | -.103 | .307** | .337* | .357** | 1 | | |
| | Sig. (2-tailed) | .048 | .000 | .247 | .000 | .000 | .000 | | | |
| YEAR | Pearson Correlation | .539** | .005 | -.028 | -.013 | -.023 | -.014 | -.502 | 1 | |
| | Sig. (2-tailed) | .000 | .956 | .759 | .882 | .782 | .876 | .450 | | |
| SIZE | Pearson Correlation | .670** | .336** | .025 | .320** | .320* | .298** | -.066 | .602 | 1 |
| | Sig. (2-tailed) | .000 | .000 | .780 | .000 | .000 | .001 | .461 | .600 | |

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Table 9 shows that all independent variables BEN, DIF, LAW, PER, MAR, FIELD, YEAR, SIZE correlate with the dependent variable since there is a significance value <0.05 . However, the Pearson correlation coefficients between variables are relatively small (<0.7), which reflects poor correlations. Furthermore, two pairs of independent variables, PERT and BEN, and LAW and BEN, are correlated with each other but at a low level, therefore, there is no multicollinearity. Three pairs of independent variables have strong correlations: LAW and PER ($r = 0.976$); MAR and PER ($r = 0.937$); MAR and LAW ($r = 0.903$). Thus, the data is appropriate for binary logistic regression analysis to determine factors affecting the adoption of FVA.

Binary Logistic Regression

The results of binary logistic regression are shown in the following table.

Table 10: Omnibus Tests of Model Coefficients

| | | Chi-square | df | Sig. |
|--------|-------|------------|----|------|
| Step 1 | Step | 96.421 | 7 | .000 |
| | Block | 96.421 | 7 | .000 |
| | Model | 96.421 | 7 | .000 |

In table 10, the chi-square statistic and its significance level illustrates that regression coefficients of independent variables are not equal to 0 at the same time, and that the significance values of Step, Block and Model are equal and greater than 0.05. This means the regression model is statistically significant. It proves the correlation between the independent variables and the dependent variable FV is statistically significant with confidence intervals above 95%.

Table 11: Model Summary

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|----------|---------------------|----------------------|---------------------|
| 1 | 79.630 ^a | .532 | .709 |

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

The -2 log-likelihood is used to compare reduced models. Particularly, models with smaller value of -2 log-likelihood is selected. Cox & Snell R Square and Nagelkerke R Square are pseudo R-squares. Since this study uses the enter method, there is only one model with the explanation of the model of 79.630. The smaller the -2 log-likelihood value is, the better the model is. In this model, the Log-2 likelihood is not high, so the fit is quite good for the overall model. Nagelkerke R Square = 0.709. This means that the model can predict 70.9% of cases.

Table 12: Hosmer and Lemeshow Test

| Step | Chi-square | df | Sig. |
|----------|------------|----|------|
| 1 | 4.840 | 8 | .775 |

Table 12 shows that Sig = 0.775 > 0.05. This means the model is appropriate with the research data.

Table 13: Classification Table^a

| Observed | | Predicted | | | |
|---------------|--------------------|--------------|----------|--------------------|------|
| | | FV | | Percentage Correct | |
| | | Not adopt FV | Adopt FV | | |
| Step 1 | FV | Not adopt FV | 53 | 11 | 82.8 |
| | | Adopt FV | 7 | 56 | 88.9 |
| | Overall Percentage | | | | 85.8 |

a. The cut value is .500

Table 13 shows that 64 observations have not adopted FVA and the model predicts 53 cases which have not adopted FVA. This means the overall percent of cases that are predicted correctly by the model is 82.8%. Furthermore, 83 cases have adopted FVA, and the model predicts 56 cases. This means the prediction is 88.9% accurate. Thus, the average accurate prediction is 85.8%. This value is relatively high.

Table 14: Variables in the Equation

| Variables | | B | S.E. | Wald | df | Sig. | Exp(B) | 95.0% C.I. for | |
|---------------------------|----------|--------|-------|--------|----|------|--------|----------------|---------|
| | | | | | | | | EXP(B) | |
| | | | | | | | | Lower | Upper |
| Step 1^a | BEN | 2.409 | .821 | 8.615 | 1 | .003 | 11.118 | 2.226 | 55.532 |
| | DIF | -1.695 | .716 | 5.600 | 1 | .018 | .184 | .045 | .747 |
| | PER | 2.926 | 1.280 | 5.224 | 1 | .022 | 18.645 | 1.517 | 229.116 |
| | MAR | -1.771 | 1.171 | 2.288 | 1 | .030 | .170 | .017 | .689 |
| | FIELD | -1.056 | .401 | 6.923 | 1 | .009 | .348 | .158 | .764 |
| | YEAR | 1.679 | .852 | 3.886 | 1 | .049 | 5.360 | 1.010 | 28.447 |
| | SIZE | 2.403 | .728 | 10.904 | 1 | .001 | 11.060 | 2.656 | 46.052 |
| | Constant | -9.941 | 3.534 | 7.913 | 1 | .005 | .000 | | |

Variable(s) entered on step 1: BEN, DIF, PER, MAR, FIELD, YEAR, SIZE.

$$\ln\left(\frac{p}{1-p}\right) = -9.941 + 2.409 \cdot \text{BEN} - 1.695 \cdot \text{DIF} + 2.926 \cdot \text{PER} - 1.770 \cdot \text{MAR} - 1.056 \cdot \text{FIELD} + 1.679 \cdot \text{YEAR} + 2.403 \cdot \text{SIZE}$$

Based on the binary logistic analysis in table 14, the Independent variables of the model have Sig. value < 0.05. Therefore, firms who adopt FVA are featured by independent variables (BEN, DIF, PER, MAR) and control variables (FIELD, YEAR, SIZE). The relationship between the adoption of FVA and variables is statistically significant with a general confidence level of over 95%. Therefore, independent variables and control variables are suitable and meaningful. The variable LAW is deleted from the model because it is unsuitable.

Discussion and recommendation

Discussion

The study confirmed hypotheses H1, H2, H3, H5 and rejected hypothesis H4. Details are as follows:

BEN (H1): This study examined the following benefits of FVA: (1) increasing reliability, transparency, comparability; providing a basis for investors' and managers' decision making increasing the confidence of users of financial statements, (2) increasing business performance (increasing stock prices, market opportunities, incomes, market shares, reducing risks), (3) accessing international capital market more easily, (4) promoting the regularisation of international accounting practices. This factor has a positive relationship with the adoption of FVA with $\delta_1 = 2.409$. In this study, the benefits of FVA had the second strongest impact on the adoption of FVA. This finding is consistent with research results from Hsu et al. (2019),

Yichao (2010), Benjamin et al. (2012), Barth and Clinch (1998), Brown et al. (1992), and Dumitru et al. (2013).

DIF (H2): The process of converting from historical costing to FVA is a great revolution for both developed and developing countries. The concept of FVA has been applied by developed countries like the United States and the United Kingdom since the early years of the 18th century, and by Asian countries since the early 21st century. Common difficulties of adopting FVA are (1) difficulty in determining fair value because it is subjective; (2) increasing financial statement fraud; and (3) the high costs of measurement. This factor has a negative impact on the adoption of FVA with $\delta_2 = -1.695$. This result is consistent with the hypothesis and research results from Ting and Soo (2005), Christensen and Nikolaev (2013), Aboody et al. (1999), Jung et al. (2013), and Songlan et al. (2014).

PER (H3): Accountants play an important role in the adoption of FVA. The adoption of FVA is favourable for English-speaking countries. However, the language of FVA is a barrier for accountants of non-English-speaking countries. In this study, personnel are accountants and directors who prepare and are responsible for the published information. Particularly, the study evaluated accountants' knowledge, skills and attitude in applying FVA of IFRS 13. In this study, this factor had a positive and the strongest impact on the adoption of FVA with $\delta_3 = 2.926$. This result is consistent with research in Asia from Bewley et al. (2018), Ting and Soo (2005) and inconsistent with research from other countries by Christensen and Nikolaev (2013), Sangchan et al. (2020), Kumarasiri and Fisher (2011), Danbolt and Rees (2008), and Ijeoma (2014).

LAW (H4): Laws are examined in three aspects: (i) legalisation of FVA requirements, (ii) general legal system regarding FVA, and (iii) synchronisation of legal system. In this study, laws has a low correlation with the dependent variable (Pearson Correlation = 0.395), and high correlations with other independent variables such as BEN (Pearson Correlation 0.508), and PER (Pearson Correlation 0.976). Therefore, this variable is deleted from the model. The hypothesis H4 stated that laws have a negative impact on the adoption of FVA. Currently, Vietnam has not adopted IFRS; therefore, regulations are not legalised. The Finance Ministry of Vietnam recommends listed companies to apply FVA. However, accountants tend to follow regulations specified by the government to avoid risks. Therefore, when FVA is not legalised and synchronised with the legal system, it might hinder the adoption of FVA. Research in Asian countries such as Malaysia, China from Yichao (2010), Cairns (2011), Kumarasiri and Fisher (2011), and Richard (2004), showed a negative relationship between the laws and the adoption of FVA.

MAR (H5): In order to determine fair value, it is important to identify the inputs used to measure fair value. The inputs are categorised into different levels of the fair value hierarchy.

In level 1, inputs are quoted prices in active markets for identical assets or liabilities that the entity can access at the measurement date. In this level, a quoted market price in an active market provides the most reliable evidence of fair value. In level 2, inputs are inputs other than quoted market prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. Such information provides less reliable evidence of fair value compared to inputs in level 1. In level 3, inputs are unobservable for the asset or liability as inputs are not available in the market. In developed countries, commodity markets and stock markets promote the adoption of FVA according to research from Richard (2004), Vergauwe and Gaeremynck (2019), and Sundgren et al. (2018). On the contrary, in developing countries like Vietnam, the commodity markets and stock markets have negative impacts on the adoption of FVA with $\delta_4 = -1.770$. This result is consistent with research from Bewley et al. (2018), Songlan et al. (2014) in China, Benjamin et al. (2012) in Malaysia, and Ijeoma (2014) in Nigeria

Recommendation

Fair value is a new direction of valuation in accounting. Therefore, FVA should be widely adopted in Vietnam. The principles of FVA must be:

- In accordance with international practices to ensure regularisation of international accounting practices;
- Suit specific characteristics of Vietnam regarding the existing business environment, the developing commodity markets, and the legal system of accounting and auditing;
- In accordance with the economic characteristics in each period;
- Accompanied by an appropriate roadmap. The adoption of FVA can be carried out in two stages: (i) Researching and testing of FVA; and (ii) Guiding the adoption of FVA;
- Guidelines explaining FVA and how to measure fair value, as well as how to refine standards to eliminate conflicts and ensure consistency;
- Adjusting accounting laws and common standards in order to prepare for the issue of FVA in Vietnamese accounting laws;
- Issuing regulations about fair value measurement based on IFRS 13 which was issued on 01/01/2013,
- Updating accounting standards in accordance with international practices;
- Issuing necessary standards to facilitate the adoption of FVA in Vietnamese companies;
- Creating a legal avenue for the development of commodity markets for the provision of the inputs necessary for fair value measurement.



Conclusion

FVA has certain advantages compared to other valuation methods, contributing to providing more useful and reliable financial information for decision makers. The process of international integration requires the adoption of FVA in Vietnamese companies in accordance with international practices. The adoption of FVA in Vietnamese companies requires synchronised implementation so that in the near future, FVA will become a primary valuation method in accounting in Vietnam.



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