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Forecast of factors affecting the fair value accounting in Vietnamese listed companies

KIM ANH THI VU[1], NGOC THI BUI[2*]

[1]Trade Union University, Ha Noi, Vietnam,
[2]University of Labour and Social Affair, Ha Noi, Vietnam
*Corresponding Author
Email ID: kimanhvt@dhcd.edu.vn, buithingoc.ldxh@gmail.com

Abstract: This study aims to assess the adoption of fair value accounting in Vietnam, and to forecast factors affecting the fair value (FV) application in Vietnamese listed companies. So, we used multivariate regression analysis to assess the impact of each factor on the application of fair value accounting in Vietnam, by implementing a survey of 203 accountants and directors of Vietnamese listed companies in the period from 2017 to 2019. The research results show that: for both small and medium sized enterprises and large enterprises, human resource factors have the strongest positive impact on FV application, followed by benefit factor. The factors of difficulties negatively affect this application. And, the active market factors have contradictory impacts between these two groups of enterprises. Our findings provide the significant perspectives of applying FV in Vietnamese companies, as well as different recommendations to Vietnamese policy makers in developing the legal accounting framework.
JEL classification: M41, Q56

Keywords: Accounting, benefits, difficulties, fair value, law, markets, Vietnam.

INTRODUCTION

The fair value (FV) is defined by the International Accounting Standards Board (IASB) in international accounting standards since the 1990s. However, the requirements for determining FV as well as presenting FV information is inconsistent at that time. Therefore, until May 2011, IASB officially issued IFRS 13 - Measurement of FV. The application of FV has opened a new era that changed the way of recognition, measurement and presentation financial statements, thereby increasing the comparability of financial information and the quality of information provided to users. So far, many countries have adopted FV at different levels. Vietnam has been studying to apply the fair value accounting (FVA), specifically:

Firstly, in terms of method of determining fair value: FV is defined as the price received for selling an asset or paying a liability in an orderly transaction between market participants at the measurement date (IFRS 13, 2011). FV is measured on the basis of market factors, not on the method of each unit. For each asset and liability, market transactions may be observable; or market information may be available; or may not be available, unobservable. In order to determine FV, enterprises use valuation techniques that are appropriate to their situation and have enough input data. IFRS 13 offers three widely used valuation techniques such as: the market approach, the cost approach and the income approach. In order to enhance the consistency and comparability in the determination of FV, IFRS 13 establishes the hierarchy of inputs of the techniques for determining FV by three priority levels. The method and regulations for determining the recognition method are very strict, so the recognition method has gradually proved to be a convincing measurement framework in accounting to enhance the suitability and reliability of the financial statements.

Secondly, in terms of benefits of FV application: The FV reflects market price, by capturing market changes, thereby giving warning signals and inflation risks. FV recognizes the value of assets and liabilities of the enterprise at the time of preparation of the financial statements. Therefore, the recognition according to FV reflects the potential and financial situation of the firm. So, it increases the honesty, comparability of financial information, by improving the quality of information provided to investors, by reducing the investment risks, increasing the market efficiency and minimizing capital costs. Also, some other opinions postulate that FV reduces behaviors of managers in manipulating firm income. In the FV approach, net assets of the enterprise are flexible figures according to the market, because it reflects not only the asset value at initial recognition but also after this initial recognition.

Thirdly, concerning the FV accounting in Vietnam: The Vietnamese accounting system is developed on the basis of rules-based accounting standards with strict rules, specifically from vouchers, accounts, accounting books to financial statements. Accordingly, the original cost is prescribed as a basic principle of accounting. The concept

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of FV has been mentioned for more than ten years, but with many limitations and differences in comparing with the actual international accounting standards and practices. The first FV appeared in 2001 and was used for initial recognition of non-monetary transactions related to fixed assets and revenue recognition. The scope of application of FV is used for initial measurement such as determining the cost of business combination, initial recognition of sales, fixed assets, or determining exchange value, for initial allocation which does not apply to initial measurement such as IAS/IFRS. Regarding investment real estate, VAS 05 has required businesses to present FV, for various reasons such as no transaction market, real estate prices are not reliable enough as well as no circulars. Specific guidance on how to determine FV should almost financial statements (FSs) of businesses with investment properties also do not present this content. Although the 2015 Accounting Law mentioned the use of FV to re-evaluate assets and liabilities at the reporting date, there were no specific instructions in the by-laws. Thus, the application of FV in Vietnam at the present is only at the introductory level and there is not yet an official and unified guide on the method of determination, presentation and recognition FV in accounting. Moreover, cost and quality of valuation are also considered as the biggest challenges in the implementation of FV due to incomplete market activities and inadequate regulations and guidelines.

In the current period of globalization, Vietnam integrates deeply into the global market with the participation of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and the ASEAN Economic Community (AEC), etc. Vietnam economy in general and Vietnamese enterprises in particular will benefit from economic integration such as capital accessibility, maintenance of competitiveness and sustainable development, development of high-quality auditing and accounting human resources. This requires Vietnamese enterprises to use the FV measure in preparing and presenting the financial statements. That is in line with international trends and practices. Currently, Vietnam has not applied FV recognition, so the research on FV in Vietnam is still quite modest, especially, there have been no studies going into FV application after initial recognition. Therefore, this study was conducted to:

(i) Assessing the necessity and ability to apply FVA in listed companies under two types of enterprises: small and medium sized enterprises (SMEs) and large enterprises (LEs);

(ii) Forecasting the determinants (namely: benefits, difficulties, personnel, law, and market) of the FVA application in Vietnamese listed companies; both SMEs and LEs;

(iii) Comparing the impact level and trends applied by 2 groups of enterprises including (1) SMEs and (2) LEs;

(iv) Proposing some recommendations for encouraging and guiding the application of FVA, supporting Vietnamese policymakers to have more practical framework to build the legal system and apply FVA effectively.

LITERATURE REVIEW

In the world, the term of FV appeared in the 1990s and was standardized in 2001 by the American Financial Accounting Standards Board (FASB) in SFAS 141- Business consolidation and SFAS 142 - goodwill and other intangible assets. In 2011, IASB was officially issued IFRS 13 - Determining FV. In the world today, FV is applied in almost all transactions, especially financial investments, intangible assets, inventories, revenues and expenses. The study of FVA is conducted in many countries in many branches and fields, specifically:

2.1.Researches on fair value accounting in manufacturing industry

Ijeoma (2014) examined the contribution of FVA on corporate financial reporting in Nigeria. The method of data collection used in this study was field survey method involving the use of questionnaire administered to 562 samples. The method of data analysis was the Kruskal-Wallis rank sum test statistic. The analysis results show that the implementation of FVA provides more useful Information to investors than historical cost reporting. Thus, it was investigated that the Nigeria capital market structure would pose a challenge to implementation of FVA. In the case if the assets and liabilities of the enterprise are specific or the market is inefficient, the determination of FV is quite complicated. This complexity is mainly due to the collection of information and the determination of the market price adjustment, the assumptions, the input data of FV calculation models and the necessary explanatory information presented in the financial statement notes.

Jung et al. (2013) studied a sample of 209 CFOs of U.S. firms by asking them whether they would choose the fair value option for non-financial assets and investigates the determinants of CFOs' responses to the option. The results showed that only 19/209 companies (accounting for 9%) supported the application of FV to non-financial assets. The reason for this result is the complexity of measurement and the high cost of applying FV. In addition, the authors also mentioned the characteristics of businesses that affect the choice of FV, namely: large enterprises, enterprises with high loan rates, businesses with non-financial assets and businesses with extensive experience. FV measures, preferring to apply FV over other businesses. At the same time, research also shows the benefits including FVA helps to access the global business market more easily; accepted by many countries in the world, easily accessible to international capital markets; easy to raise capital from abroad. However, difficulties in adoption FV, including, not being accepted globally; subjective; It is expensive to determine FV, easy to lose control when the market is volatile.

Rajni et al. (2012) studied the benefits and drawbacks of using FV in Fiji through two subjects of users and

preparers of financial reports. The results showed that both subjects have similar understanding of FVA. Some measurement techniques identified were the use of active markets, independent valuations and referrals to cost. Some benefits identified were better disclosure and information that is more relevant. Proxies also identified limitations of the method in terms of costs of valuation, training and hiring of professionals, and the application of subjective judgment. The proxies predict prominence of FVA in the long run.

Researches on fair value accounting in real estate industry

Sangchan et al. (2020) research in the Australian real estate industry and conclude that there is no link between FV recognition and audit fees, without significantly increasing the audit risk. The authors also noted that FV has helped to strengthen the confidence of real estate investors. Their current concern is how to determine if FV is really objective. Accordingly, the issues of qualifications, skills, and attitudes of people are the vital factors that determine the reliability of FV data.

Hsu et al. (2019) researched in real estate investment companies from 2007 to 2011 in China. Using a sample of publicly traded firms that held investment property from 2007 through 2011 in China, the research found that firms that recognized investment property at fair value in China experienced an increase in crash risk. In additional analysis, they found evidence showing a negative inverse relationship between FV reporting and bankruptcy risk, especially in enterprises with strong corporate governance. Thus, FV has affirmed its benefits indirectly.

Sundgren et al. (2018) researched FV announcements and solvency of European real estate companies. They studied the disclosure of the methods and significant assumptions applied in determining FV of investment properties under IAS 40 and IFRS 13. The results showed that disclosure quality is significantly higher under IFRS 13. The result indicated that the revised disclosure requirements in IFRS 13 did not solve any market imperfections. In order to use FV effectively, people using financial statements must have certain knowledge about FV.

Benjamin et al. (2012), investigating the application of FV accounting by 11 real estate investment companies in Malaysia in 2007-2008. FV recognition helps them increase asset valuation, attract investment, access capital markets more easily. Their difficulty is the market issue to determine the FV of some typical assets, the issue of human skills and attitudes that determine the truthfulness and impartiality of the information about FV.

Researches on fair value accounting in banking industry

Pompili & Tutino (2019) studies the correlation between FVA and the ability to make money. The results show a strong and negative relationship between FV and the ability to make money for US banks. These results show new considerations of FV reliability regarding the ability to manipulate alerts for administrators.

Tutino & Pompili (2018) exams the relationship between FVA and management opportunism on earnings management in the banking sector in the US and Europe over the period 2011-2016. From an investor's perspective, FV is considered relevant and helpful. However, from the bank's perspective, it shows a negative and strong relationship between FVA and earning quality for US banks; results for European listed banks do not provide any strong evidence.

Yao et al. (2018) use the data collected by 210 international banks during the period 2009 to 2013, investigating financial assets measured at FV, is associated with earnings persistence and whether the reliability of fair value measurements influences earnings persistence. The results suggest that the use of fair values for balance sheet financial instruments enhances earnings persistence. The degree of earnings persistence depends on the level of FV determination. If FV is measured at level 1 (measured with observable inputs) are positively associated with earnings persistence, whereas the Level 2 assets (measured with indirectly observable inputs) and Level 3 assets (measured using unobservable inputs) are not associated with earnings persistence. In addition, the study also shows evidence of the close relationship between factors that reflect the institutional structure of the nation and the predictability of income. The research also provides further evidence that there is a strong association between factors reflecting countrywide institutional structures and the predictive power of fair values based on discretionary measurement inputs. Additional tests suggest that the association between fair value estimates and earnings persistence is moderated by the classification of fair value assets (that is, through profit and loss versus other comprehensive income) and the reliability of FA estimates.

Researches on fair value accounting regarding global financial crisis

Ghosh et al. (2020) studied the application of FV in listed real estate companies in the EU. IAS 40 required firms to disclose the FV of their investment properties. As a result, information on FV does not reduce comparative value and higher liquidity, FV does not contribute to the economic crisis.

Haswell & Evans (2018) studied the relationship between FV and the global financial crisis in 2008-2009, the case of Enron. The results show a link between the collapse of Enron and the adjustments to FV accounting in the middle of 2000.

Masoud & Daas (2014) examined the role of FVA in the financial crisis in the middle of 2007 and into 2009. The research is used the value-relevance of fair-value reported under FAS 157 that estimates assets and liabilities in terms of a simple theoretical and empirical analysis literature framework. This empirical study proposed is a global crisis that not a normal cyclical crisis of capitalism, but FVA may have amplified the crisis. Future

research is needed to meet up-to-date information regarding the nature of capital markets and financial institutions.

FVA application

Assessing the orientation of applying FV and IFRS in Vietnam, our research has inherited the results of the previous authors such as Hsu et al. (2019), Tutino & Pompili (2018), Yichao (2010), Benjamin et al. (2012), Barth and Clinch (1998), Brown et al. (1992), Bewley et al. (2018), Ting & Soo (2005), Christensen & Nikolaev (2013) and Sangchan et al. (2020). These studies were conducted in countries where FV have been used in general IFRS application. The roadmap for applying FV varies from country to country in terms of plan, time, content, scope, subject, method, field and purpose. We have conducted a review of Vietnam's FV roadmap in three aspects:

Firstly, duration of FV application: From experience in applying FV in countries, it is shown that the time required for FV application is considered at the following milestones: (i) under 3 years, (ii) from 3 to 5 years; (iii) from 5 to 10 years.

Secondly, subjects of FV application: A common trend of countries around the world is to apply FV accounting in advance to public companies, then to encourage enterprises and finally to force enterprises to apply it.

Thirdly, scope of FV application: Partial FV application through the selection of appropriate contents such as financial assets, goodwill, inventories, fixed assets, revenue, etc.

Thus, the researches previous proved that FV is an appropriate, useful and reliable value for information users and presenters. FV brings many benefits such as increasing reliability, strengthening shareholders' confidence, ensuring transparency and comparability of financial statements; supporting investors and businesses have reliable bases to make decisions; increasing confidence of financial statements users; increasing the efficiency of businesses, increasing stock prices, income; creating lots of opportunities for businesses to access international capital markets easier and contributing to promoting the process of international accounting convergence. In addition to the benefits, the studies also point out the difficulties in FV application, such as: the reliability of FV information depending on the subjective opinions; the skeptical reliability because some people believe that FV increases the fraud risk of financial statements; and the high cost of determining FV. The authors also mentioned many issues related to FV determination and recognition such as personnel issues, capital markets, the legal system and valuation techniques. In the context of an active market, the FV determination of the assets and liabilities is objective and reliable. For countries where the stock market and the capital market are underdeveloped, the FV determination will be difficult and unreliable. Therefore, the benefits of FV have not been recorded. Overall, the studies concluded that the FV of assets and liabilities is appropriate.

RESEARCH METHODOLOGY

Research hypotheses

Researching the factors that influence the choice of applying FV inherited the results of the review, we selected and analyzed the factors that were appropriate to the characteristics of Vietnam. Specifically (i) Benefits of applying FV; (ii) Difficulties in applying FV; (iii) Personnel; (iv) Law; and (v) Active market. Details of the scales are summarized in Table 1 (See Appedix):

Conceptual framework

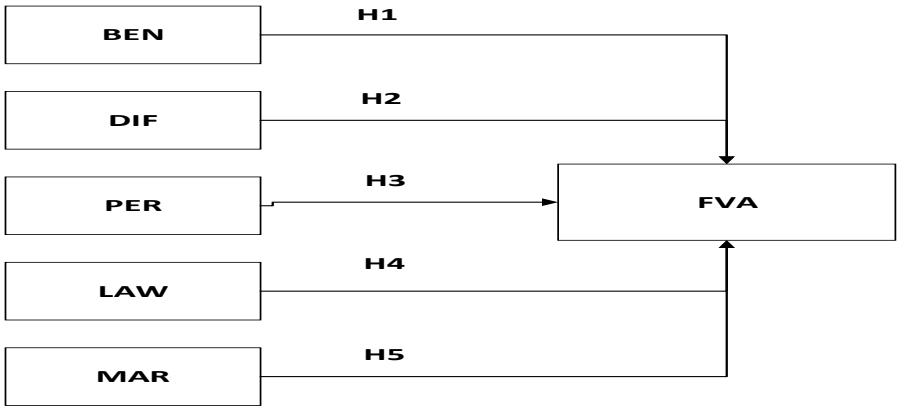

Fig.1: Conceptual framework

Hypotheses

Based on the literature review and conceptual framework, the research hypotheses are proposed as follows:

Hypothesis H1: The benefits have positive impacts on the application of FVA

Hypothesis H2: The difficulties have negative impacts on the application of FVA

Hypothesis H3: Personnel have a positive impact with the application of FVA

Hypothesis H4: Law has a positive impact on the application of FVA

Hypothesis H5: The market has a negative impact on the application of FVA

Regression equation

Based on the above hypotheses, regression equations reflecting the correlation between influential factors and the adoption of FVA in SMEs and LEs as follows:

$FVA_{SME} = \alpha + \beta_1*BEN_{SMEi} + \beta_2*DIF_{SMEi} + \beta_3*PER_{SMEi} + \beta_4*LAW_{SMEi} + \beta_5*MAR_{SMEi} + \varepsilon_{SMEi}$ (1)

$FVA_{LE} = \alpha + \beta_1*BEN_{LEi} + \beta_2*DIF_{LEi} + \beta_3*PER_{LEi} + \beta_4*LAW_{LEi} + \beta_5*MAR_{LEi} + \varepsilon_{Lei}$ (2)

In which:

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

Dependent variables: Fair value accounting (FVA)

α: A constant

β_i: Coefficient of each variable

ε_i: Residual error

Research process

This study applied both qualitative and quantitative research methods:

Firstly, the study was conducted by qualitative method through using a tool of expert interview to identify the factors affecting FVA in listed companies. The interview subjects are directors, chief accountants, and university lecturers. The purpose of the interviews is to complete the gathered scales through the literature review. In this study, a total of 8 in-depth interviews were conducted.

Next, the study was conducted by quantitative methods: through the technique of collecting primary data sources from questionnaires sent to respondents at sample businesses that listed companies on Vietnam stock market in the period of 2018 - 2019. The main means of conducting the survey is to send questionnaires directly, or via mail and google docs.

Study sample size: This study uses convenience sampling method. The sample size is determined by Hair et al. (2010) based on minimum sample size (minimum size of 50) and number of variables in the model. The research model of this paper has 5 variables, so the minimum sample size is 100. To carry out the study, we distributed 500 questionnaires and collected 253 responses. After cleaning the data, the number of valid responses for analysis is 203. This is the number of votes suitable for multiple linear regression analysis.

Survey implementation: First, we conducted a test survey on 20 people (10 people per group). After receiving feedback from the test survey participants, the content of the questionnaire was edited; the questions that are unclear, duplicate and easily misleading were eliminated. The official survey was conducted from 2018 to 2019.

Processing survey results: We sorted and cleaned up the data collected, then used analytical tools for: (i) calculating the average value of each variable and the variables; (ii) testing the reliability of the scale, (iii) Exploratory Factor Analysis (EFA); (iv) correlation analysis; and (v) multivariate regression analysis. Based on the analysis results, we conduct discussions and make recommendations on the application of FVA to the companies listed on Vietnam's stock market for the period of 2020-2030.

RESEARCH RESULTS

Descriptive statistics

Our sample includes 203 respondents; among them, 107 were chief accountants, general accountants, accountant supervisors, and accountants and 96 were directors and branch managers. These are responsible for preparing the financial statements of enterprises. Regarding companies participating in the survey, characteristics examined in this study include: (i) length of operation, (ii) business sector, and (iii) firm size. There were 53 enterprises which had been operating for over 20 years (26.10%), and that was followed by group of enterprises which had been operating from 10 to 20 years (102; 50.25%), and group of enterprises with less than 10 years of operation (48; 23.65%). Regarding business sector, manufacturing was the most common sector (78, 38.42%), which was followed by commercial sector (72, 35.47%), and service sector (53, 26.11%). Regarding firm size, SMEs with less than 300 employees accounted for a small proportion (103; 50.74%), the rest were LEs (100, 49.26%). The distribution of enterprises by size also reflects one characteristic of Vietnam's stock market with mainly SMEs.

Small and medium-sized enterprises:

According to Table 2 (see Appendix), the factors affecting FVA adoption have mean values from 2.59 to 3.25 (lower than those of LEs). In particular, the factors of the difficulties (DIF) and the law (LAW) reach the highest mean value (3.15 and 3.25 respectively). The assessments of benefits (BEN), personnel (PER) and market (MAR) are all lower and there are no significant differences. In general, for SMEs, the mean values do not have significant difference in assessing the factors affecting the application of FVA.

Large enterprises:

The assessments of LEs on the factors affecting the FVA application are higher than those of SMEs, the mean values of from 3.0 to 3.33. In particular, the factor of law (LAW) has the highest mean value (reaching 3.33) and the market factor (MAR) has the lowest mean one (only 3.0). This is because the characteristics of LEs that they have many advantages in size, capital, market, and operating time, so they all rate advantages and disadvantages

at a higher level.

Comparison between two groups of enterprises

The statistical results show that there is a similar assessment between the two groups of enterprises on the lowest mean value of the market factor (MAR) and the highest mean value of the legal factor (LAW). These are considered as the important factors that have a great impact on the FVA of listed companies. Active market supports the FV of assets and liabilities of the businesses. The law is a macro environment that governs all activities of social life in general and accounting in particular. For the factor of difficulties (DIF), both enterprise groups have the same mean value (3.13). The main difficulties that businesses face include: FV is difficult to identify and subjective; the reliability of financial statements is reduced; fraud risk of financial statements increases; and identifying FV is costly. As for the factor of benefits (BEN), the two groups of enterprises have conflicting assessments. LEs value the benefits higher than SMEs because they have more opportunities, especially the ability to attract investment, increasing operational efficiency, increasing stock price and easily having access to the international capital market; thereby promoting the convergence of international accounting.

Cronbach's alpha

Table 3 (see Appendix) shows that the Cronbach's Alpha of SMEs is 0.798 and that of LEs is 0.812; and is composed of five observed variables. Table 4 (see Appendix) shows the Item-Total correlation of the variables of BEN, DIF, PER, LAW, and MAR for each enterprise group. For SMEs, Cronbach's Alpha if Item Deleted reaches 6.39 to 9.21; for LEs, Cronbach's Alpha if Item Deleted reaches from 6.76 to 9.11. The dependent variable of FVA reaches from 0.746 and 0.826 corresponding to two types of enterprise size. All of them satisfy the condition of Item-Total correlation greater than 0.6, thereby ensuring the reliability statistics.

Studying the scale of each variable shows that the variable of benefits (BEN) has four component variables, namely BEN1, BEN2, BEN3, and BEN4; Cronbach's Alpha coefficients are respectively 0.756, 0.819, 0.826, and 0.735. These values satisfy the condition of Item-Total correlation greater than 0.5. The factor of difficulties (DIF) consists of four observed variables, and the component variables with the α coefficient from 0.895 to 0.954, greater than 0.5. Similarly, the variable of personnel (PER) have component variables with Item-Total correlation of 0.615, 0.689 and 0.655, greater than 0.5. Therefore, the PER variable is constituted by three observed variables, including PER1, PER2, and PER3. The variable of legal system (LAW) and active market (MAR) variables have component variables that meet the conditions. The variables of LAW and MAR have six observed variables. Thus, this study has 5 independent variables with 17 scales.

Exploratory factor analysis

Table 5 (see Appendix) indicates that the KMO coefficients of SMEs and LEs are 0.826 and 0.798, greater than 0.05, showing that the factor analysis table is consistent with the research data. Further, the Bartlett test in Table 5 shows the Sig. value of 0.000 is significant, indicating that Exploratory Factor Analysis (EFA) is appropriate. Therefore, the observed variables are correlated with each other in the population. According to Table 6 (see Appendix), the Initial Eigenvalues of SMEs is 75.78%, and that of LEs is 77.75%. Therefore, the five factors extracted can explain at least 75.78% of the data variation in the two enterprise groups. In addition, both KMO and Bartlett test results are consistent with the testing standards.

In table 7 (see Appendix), the factor loading coefficients are all greater than 0.6, so 17 observed variables of 5 factors are accepted. The factors do not change, but the order of the variables in each factor changes. The results of Exploratory Factor Analysis are consistent with the original research design. This proves that the scales ensure convergent and discriminant values. The comparison results by enterprise size show that, for SMEs, the variable of PER2 has the greatest impact on the dependent variable (0.926), and the variable of BEN3 has the weakest impact on the dependent variable (0.679). For LEs, the variable of PER2 has the greatest impact on the dependent variable (0.932), LAW2 is the variable having the weakest impact on the dependent variable (0.616). These are initial predictions of the influence in the multivariate regression equation.

Correlation analysis

We conducted a correlation test between the five independent variables and the dependent variable of FVA adoption. The dependent variable (FVA) is measured by three observed variables, namely FVA1, FVA2, and FVA3. The mean values and correlation test result of 5 independent variables and 1 dependent variable (FVA) are as follows:

According to the table 8 (see Appendix), when considering the correlation with the dependent variable of FVA, the independent variables of BEN, DIF, LAW, PER, and MAR all have Sig. values greater than 0.01. Therefore, the independent variables are correlated with the dependent variable. Pearson correlation coefficients of the variables ranges from 0.4 to 0.8, indicating the positive and quite close correlation between the independent variables and dependent variable. For both groups of enterprises, the variable of PER has the largest correlation coefficient, and the variable of BEN has the smallest one. The variable of DIF is negatively correlated, at a low level with the dependent variable. Some independent variables such as PER and BEN; MAR and DIF; LAW and PER; and MAR and LAW are correlated with each other but at a low level (0.01 - 0.03), so it is difficult to have multicollinearity. The results of the correlation between the independent variables and dependent variable show that it is sufficient to

conduct multivariate regression analysis to predict the influence of factors on the FVA adoption.

Multiple regression analysis

The multiple regression analysis is conducted between independent variables (BEN, DIF, LAW, PER, MAR) with the dependent variable (FVA). The results obtained in table 9 (see Appendix) shows that the R2 of SMEs is 0.846 and that of LEs is 0.811. Adjusted R Square of each model indicates that the independent variables explain 83.8% and 80% of the variation of the factors affecting the FVA application. Thus, in addition to the factors of BEN, DIF, LAW, PER, and MAR, the application of FV depends on other factors as well.

After that, the research conducts multiple linear regression analysis and use the Stepwise selection method by putting the independent variables in turn into the model and removing the inappropriate variables themselves. In this study, five independent variables are accepted in the regression model. In Table 10 (see Appendix), the Sig. values of the two models in the ANOVA table is 0,000, less than 0.05, indicating the models' suitability. This means that the factors of BEN, DIF, LAW, PER, and MAR have different levels of impact on the application of FVA.

After testing the model suitability, we analyze and test how each factor in the model affects FVA. According to Table 11 **(**see Appendix**)**, the Sig. values of the two models show that the regression parameters are significant with the confidence level of 95%, the Sig. less than 5% is significant. Therefore, the application of FVA depends on the following factors and the regression equation predicting these factors is as follows:

$FVA_{SMEs} = 0.275 + \beta_1*0.271 - \beta_2*0.167 + \beta_3*0.623 + \beta_4*0.343 + \beta_5*0.121$ (1)

$FVA_{LEs} = 0.348 + \beta_1*0.239 - \beta_2*0.129 + \beta_3*0.952 + \beta_4*0.244 - \beta_5*0.269$ (2)

Hypothesis testing

Testing for autocorrelation: It is shown from the table 9 that Durbin - Waston of SMEs= 1.525 and LEs = 1.604 which indicates that there is no autocorrelation.

Testing for multicollinearity: Table 11 **(**see Appendix**)** shows that VIF coefficient < 2.0, so there is no multicollinearity

Testing errors based on normal distribution; the results are as follows:

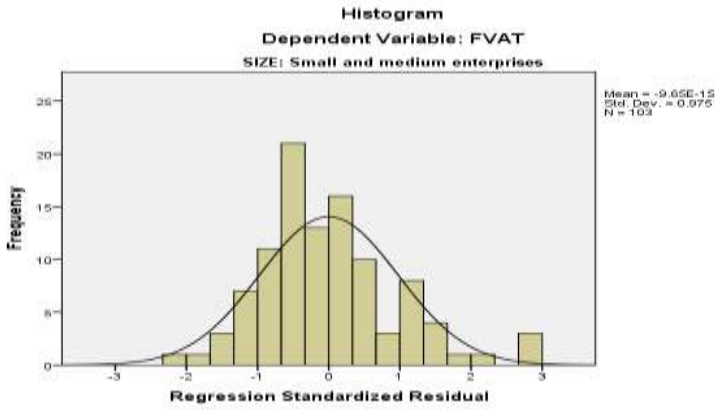

Fig.2a: Regression Standardized Residual of SMEs

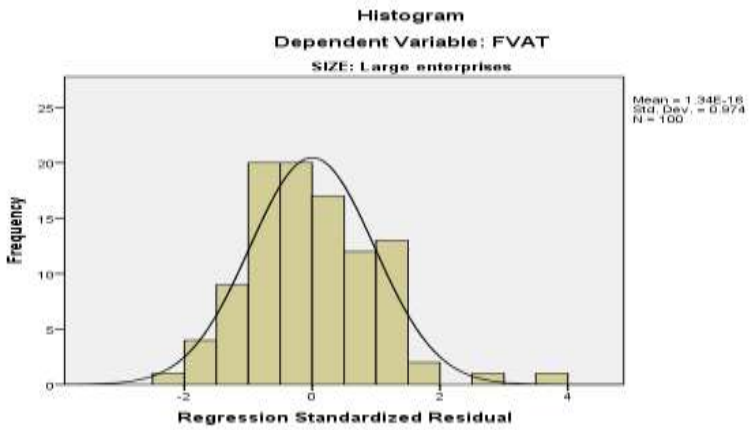

Fig.2b: Regression Standardized Residual of LEs

The results show that in Finger 2a Std.Dev = 0.975, Finger 2b Std.Dev = 0.974 so hypothesis Ho is accepted, it means the errors have a normal distribution.

Testing for heteroskedasticity

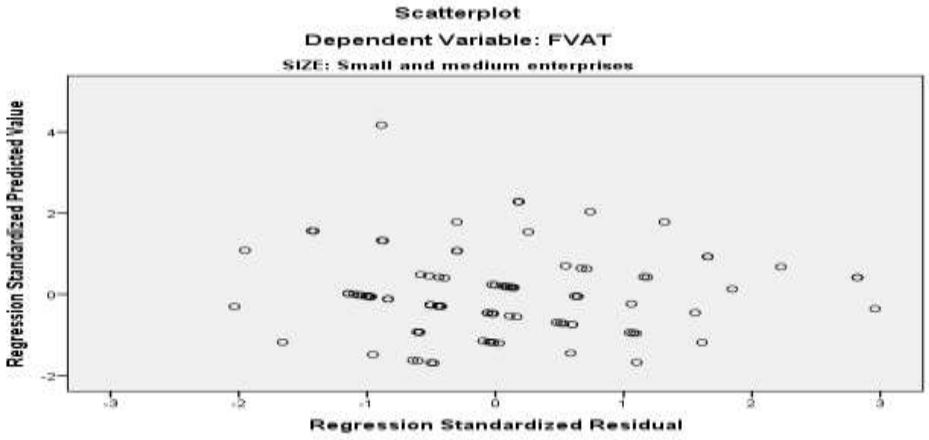

Fig.3a: Scatterplot between regression standardized residual and regression standardized predicted value

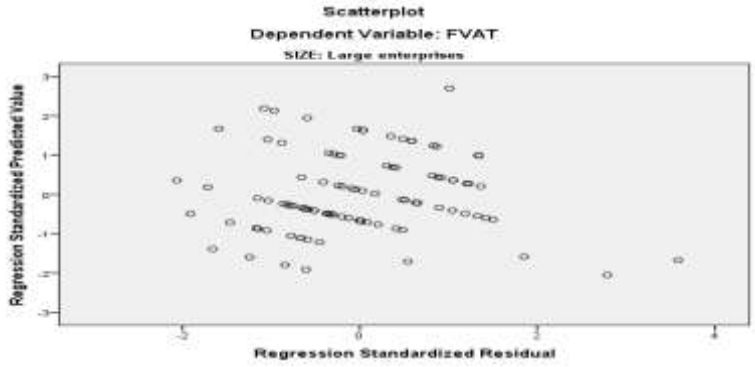

Fig.3b: Scatterplot between regression standardized residual and regression standardized predicted value

Figure 3a and 3b below shows the relationship between standardized residuals and predicted values, we find that the residuals are relatively evenly distributed around their mean value of the zero. Therefore, there is no heteroskedasticity in this model.

DISCUSSION AND RECOMMENDATION

Discussion

The results of the regression analysis indicate that the hypotheses of H1, H2, H3, H4, and H5 are all accepted. Specifically:

Benefits (BEN): In this study, the factor of BEN has a positive impact on the dependent variable in both models (1) and (2). Its impact on FVA of SMEs is 0.271 and LEs is 0.239. The impact coefficients of the two enterprise groups are not significantly different; however, the benefits for each group are different. SMEs assess the benefits of applying FVA in some aspects: 83.5% of the respondents think that FVA ensures the reliability and provides relevant and comparable information. In addition, the benefits such as "increasing the confidence of users of financial statements" and "the quality of the report are higher than that of the original report" also receive high assessment, respectively 79.6% and 77.9%. The group of LEs assesses the benefits in terms of: Increasing share prices, reducing risks for businesses (81.4%); help businesses access international capital markets more easily (85%) and contribute to the process of international accounting convergence. The results of this study are consistent with the research findings of Hsu et al. (2019), Benjamin et al. (2012) and Yao et al. (2018).

Difficulties (DIF): This factor has a negative impact on the application of FVA. The research results show that, in model (1), the difficulties that hinder the application of FVA of small and medium-sized enterprises have the coefficient of - 0.167. These difficulties are the difficulty in identifying FV because it is subjective (75%); the high cost of determining FV because it depends on the active market of assets and liabilities (85%). In model (2), the factors affecting FVA of LEs have the coefficient of - 0.129. According to LEs, the biggest difficulty is the difficulty in determining the reliability of FV (73%); increasing fraud risk of financial statements, and the high cost of determining FVA (83%). The survey results also show that, despite the difficulties and high costs of

applying FVA, accountants still tend to support FVA because FVA will increase the transparency of financial statements; at the same time support the management of cash flow, capital and assets. Therefore, it will increase the confidence of the shareholders, especially international investors. The results of this study are consistent with the hypothesis proposed and previous studies of Haswell & Evans (2018), Jung et al. (2013), Songlan et al. (2014), Ting & Soo (2005), and Christensen & Nikolaev (2013).

Personnel (PER): One of the important factors in the process of applying FV accounting is personnel, especially accountants and business directors. This study examines three aspects related to human resources, namely knowledge, skills and attitudes. The personnel need to be knowledgeable because the FV concept is quite complex, even for developed countries. In order to apply FVA, businesses have to spend large initial costs for training and improving the qualifications of the accounting team, rebuilding the system of collecting, processing and presenting financial information. Concerning skills, we evaluate the accountants' skills in dealing with FV issues because IFRS 13 requires quite complex recording and adjustment. Concerning attitude, we evaluate the attitude of positivity, honesty and responsibility when determining and presenting FV. Actually, there are many controversial point of views in the world about the impact of personnel factor on the application of FVA. In this study, the factor of personnel has a positive impact on the dependent variable of FVA with the strongest impact level. The impact coefficient for SMEs is 0.623, and for LEs is 0.952. LEs have a professional process of training personnel which is updated with new knowledge and changes in accounting law. Also, these enterprises have many opportunities to cooperate with foreign corporations. So, most of the accountants in these enterprises are given many learning opportunities. SMEs often have difficulty in training accountants, bringing the learning opportunities of accountants as well as retaining good employees. However, for listed companies which are appreciated their working environment with many good opportunities, the personnel are more qualified. These are the reasons why the factor of PER has a positive impact on the application of FVA. This result is consistent with previous studies of Ting & Soo (2005). However, it is contrary to the studies of Sangchan et al. (2020), Ijeoma (2014), Christensen & Nikolaev (2013) and Rajni et al. (2012).

Law (LAW): The Vietnamese legal system is set by the State. The State promulgates the accounting laws through the legal documents to control the aspects: measurement, evaluation, drafting and presentation of financial statements. Currently, Vietnam has not allowed the application of FVA, so the regulations have not been legalized. The Ministry of Finance of Vietnam is planning to encourage listed and joint venture enterprises to voluntarily apply IFRS, so the FVA will also be applied. In this study, in order for the LAW factor to have a positive impact on the application of FVA, it is necessary to: (i) legalize the issues related to FVA; (ii) build a legal environment for valuation activities to ensure consistency; and (iii) synchronize the legal system for reducing conflicts and overlap. Because accounting in Vietnam has a common practice following the circulars and the guidance of the State; so, the legal system needs to be enacted early, clear and easy to understand for promoting the application of FVA. In the study design, we propose hypothesis H4: "Law has a positive impact on the application of fair value accounting" with the approaches such as: legalize the issues related to FVA; build a legal environment for valuation activities to ensure consistency; and synchronize the legal system for reducing conflicts and overlap. These issues are fixed to encourage the application of FVA. The impact coefficient of this factor for SMEs is 0.343 and for LEs is 0.244 (the impact level is strong after that of personnel factor).The results of this study are contrary to the findings of Sangchan et al. (2020) and Christensen & Nikolaev (2013).

The market (MAR): To recognize assets and liabilities at FV, it is important to identify the FV on the basis of active market. This is a difficulty for Vietnam because the market economy is still new, developed from the last years of the 20th century. Currently, Vietnam's capital market is one of the youngest markets in the world. This market has not yet guaranteed its important role in the economy, only within the country, not connected with the international capital market. In this study, the factor of MAR is considered in three aspects: (i) Vietnam's commodity market and stock market are underdeveloped; (ii) Market factors are complex and often fluctuate, and (iii) There are no techniques and market for applying FV. Therefore, the hypothesis H5 proposed is: "The market has a positive impact on the application of FVA". The research results indicate two distinct trends. For SMEs, the positive impact coefficient is 0.121. For this group of enterprises, their assets and liabilities are things that are common and available in the market; so, the evaluation of FV is easy. This result is consistent with some studies in countries where commodity markets and stock markets have developed such as Pompili & Tutino (2019), Sundgren et al. (2018) and Yao et al. (2018). For LEs, the negative impact coefficient is -0.269. This group of enterprises with a wide range of unique and distinctive goods and services requires a more diverse market. In the current context of Vietnam, the market has not been able to meet these conditions. This result is consistent with research findings in developing countries, with underdeveloped commodity markets and stock markets, so the market factor often has a negative impact on FVA adoption, namely: Bewley et al. (2018), Songlan et al. (2014) (China); Benjamin et al. (2012) (Malaysia); and Ijeoma (2014) (Nigeria).

FV has recently been considered but is a new trend of accounting valuation. The application of FVA has many outstanding advantages compared to other valuation frameworks, contributing to making financial information more appropriate to the need to use information in the context of developing the market economy. The

advantages of FVA have been proven in previous studies and this study. Therefore, based on international experience and empirical research, fair value should be widely applied in Vietnam through the following principles:

Firstly, the application of FVA must be in line with international practices to ensure the integration and uniformity of Vietnam's accounting system and standards. The international integration requires the application of FVA in Vietnamese accounting in accordance with international practices, since becoming a valuation framework in accounting.

Secondly, FV will become the main valuation framework in accounting in order to meet the requirements of Vietnam's international integration. The application of FVA in Vietnam requires a uniform implementation in each specific period.

Thirdly, the application of FVA should be in accordance with the characteristics of Vietnam; the current business environment; the growing commodity market; the legal system of accounting and auditing; and price appraisal gradually developing in accordance with international practices. However, the application of FVA should be appropriate to the economic characteristics of each period.

Recommendation

Proposing a roadmap for applying FVA in Vietnam

(i): Building the legal system of FVA: The Ministry of Finance should soon issue instructions on explaining FV, levels, and methods for determining fair value for ensuring the balance between quality characteristics and pricing standards. Vietnam needs to improve the standards issued to create consistency in pricing. Vietnam should promulgate accounting standards on FV measurement. At the same time, the State of Vietnam needs to promulgate missing accounting standards, developed in accordance with international practices, for facilitating the application of FVA.

(ii): Propagating and training on FVA through seminars and professional associations to raise the awareness of accountants and managers for enhancing the FV adoption of accountants, managers and those who use the information. This is the core of any innovation process. Therefore, universities, professional organizations, and businesses need to work together to conduct regular training in theoretical and practical knowledge about FVA.

(iii): Improving the commodity market and creating a legal framework for the development of new commodity markets to meet the need for reference information in FV measurement.

(iv): Implementing FVA in two stages, the first stage applies to listed enterprises, large enterprises, and enterprises with public interests; the second stage applies to all businesses.

CONCLUSION

The FV is an advantageous valuation framework in comparison with the other ones. It contributes to making financial information more appropriate for users in developing market economy. In general, there is a strong support for FVA in Vietnam. Accountants and managers all appreciate the benefits that FV could bring to their businesses. In particular, the biggest benefit from FVA is that the enterprises provide reliable and comparable financial statements, thereby facilitating Vietnamese enterprises to participate in the global capital market. The international integration process requires the FVA application in Vietnam to be in line with the international practices. This requires synchronous implementation in specific periods by following strict principles and clear roadmap. The FV could become a main accounting valuation framework for Vietnam to meet the requirements of international integration process.

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APPENDIX

Table 1: Measurement scales

Factor	Variables	Items	Sources
Benefits (BEN)	BEN1	FV increases the reliability and comparability of businesses' financial statements, thereby helping users have reliable information to make decisions.	Yichao (2010), Ting & Soo (2005), Danbolt & Rees (2008), Fargher (2001)
	BEN2	Recording by FV creates confidence for investors, leading to businesses' an increase in stock price and improved business results.	Hsu et al. (2019), Yichao (2010), Benjamin et al. (2012), Brown et al. (1992), Tutino & Pompili (2018), Yao et al. (2018)
	BEN3	Recording by FV is a trend that is being internationalized, which will allow	Yichao (2010), Benjamin et al. (2012), Danbolt & Rees (2008)

		businesses to access the international capital markets more easily.	
	BEN4	Recording by FV accelerates the process of international accounting convergence, contributing to the accounting harmony with developed countries.	Yichao (2010), Ting & Soo (2005), Danbolt & Rees (2008)
Difficulties (DIF)	DIF1	FV is subjective and difficult to determine if capital markets are underdeveloped.	Ting & Soo (2005), Christensen & Nikolaev (2013), Haswell & Evans (2018), Jung et al. (2013)
	DIF2	The subjectivity of FV reduces the reliability of the financial statements.	Songlan et al. (2014), Haswell & Evans (2018), Jung et al. (2013)
	DIF3	The subjectivity of FV increases the risk of fraud in the financial statements by exaggerating values.	Songlan et al. (2014), Christensen & Nikolaev (2013), Haswell & Evans (2018), Jung et al. (2013)
	DIF4	Recording by FV is a routine activity, so it is expensive to value and record.	Ting & Soo (2005), Christensen & Nikolaev (2013), Danbolt & Rees (2008)
Personnel (PER)	PER1	Human knowledge, including the professional qualifications of accountants and the knowledge of administrators about FV, must be clear to apply in practice.	Christensen & Nikolaev (2013), Sangchan et al. (2020), Kumarasiri & Fisher (2011)
	PER2	Skills: IFRS 13 requires complicated recording and adjustment, which requires accountants to have good skills and experience.	Ting & Soo (2005), Danbolt & Rees (2008), Sangchan et al. (2020), Ijeoma (2014), Rajni et al. (2012), Kumarasiri & Fisher (2011)
	PER3	Attitude: Accountants and directors need to have a positive, honest and responsible attitude in determining FV.	Sangchan et al. (2020), Kumarasiri & Fisher (2011)
Law (LAW)	LAW1	Fair value accounting should be legalized.	Yichao (2010), Kumarasiri & Fisher (2011), Richard (2004)
	LAW2	Building the legal environment of valuation activities aims to ensure the uniformity.	Ting & Soo (2005), Kumarasiri & Fisher (2011)
	LAW3	The legal system needs to ensure uniformity to reduce conflicts and overlap.	Richard (2004)
Market (MAR)	MAR1	Commodity market and stock market are underdeveloped	Benjamin et al. (2012), Ijeoma (2014), Kumarasiri & Fisher (2011), Songlan et al. (2014)
	MAR2	Market factors are complex and often fluctuate.	Benjamin et al. (2012), Ijeoma (2014), Rajni et al. (2012)
	MAR3	There are no techniques and market to apply FV.	Danbolt & Rees (2008), Ijeoma (2014)
Fair value Accounting (FVA)	FVA1	Application time: It takes 1-3 years for preparation.	Hsu et al. (2019), Tutino & Pompili (2018), Benjamin et al. (2012), Yichao (2010), Barth and Clinch (1998).
	FVA2	Subject: applying to public companies first, then encouraging businesses to apply, and finally forcing all businesses to apply.	Bewley et al. (2018), Yichao (2010), Danbolt & Rees (2008), Ting & Soo (2005), Brown et al. (1992).
	FVA3	Scope: Partial application of FV through selection of appropriate contents such as financial assets, commercial advantages, inventories, fixed assets, revenue.	Sangchan et al. (2020), Christensen & Nikolaev (2013), Kumarasiri & Fisher (2011).

Table 2: Descriptive statistics

Size Code		**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**	**Skewness**	
		Statistic	**Statistic**	**Statistic**	**Statistic**	**Statistic**	**Statistic**	**Std. Error**
Small and medium-sized enterprises (Valid N=103)	BEN	103	1.75	3.75	2.6748	.45352	.742	.238
	DIF	103	2.75	3.50	3.1529	.18268	-.782	.238
	PER	103	2.00	5.00	2.7346	.60022	.870	.238

	LAW	103	2.00	4.67	3.2557	.43085	.030	.238
	MAR	103	2.00	5.00	2.5987	.60743	1.330	.238
Large enterprises (Valid N=100)	BEN	100	2.75	4.50	3.3100	.38455	1.184	.241
	DIF	100	2.25	4.25	3.1350	.59184	.142	.241
	PER	100	2.00	4.33	3.1400	.52583	.316	.241
	LAW	100	2.33	4.67	3.3300	.46781	.488	.241
	MAR	100	2.00	4.00	3.0000	.61955	.106	.241

Table 3: Reliability Statistics

SIZE	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
Small and medium-sized enterprises	.798	.758	5
Large enterprises	.812	.790	5

Table 4: Item-Total Statistics

Size Variables		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Small and medium-sized enterprises	BEN	11.0966	3.052	.498	.784
	DIF	10.7274	4.067	-.144	.921
	PER	11.0452	2.105	.898	.639
	LAW	11.0452	2.105	.898	.639
	MAR	11.1822	2.131	.862	.653
Large enterprises	BEN	12.3663	2.819	.480	.815
	DIF	12.4861	4.007	-.034	.911
	PER	12.3385	2.420	.892	.684
	LAW	12.3385	2.420	.892	.684
	MAR	12.4774	2.166	.873	.676
Small and medium-sized enterprises	FVA	10.5644	3.445	.367	.746
Large enterprises	FVA	11.6240	2.949	.989	.826

Table 5: KMO and Bartlett's Test

Type of enterprises		Small and medium-sized enterprises	Large enterprises
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.826	.798
Bartlett's Test of Sphericity	Approx. Chi-Square	1889.256	1795.365
	df	378	402
	Sig.	.000	.000

Table 6: Total Variance Explained

Small and medium-sized enterprises						Large enterprises					
Code	Component					Code	Component				
	1	2	3	4	5		1	2	3	4	5
PER3	.926					MAR1	.921				
PER2	.926					MAR3	.921				
PER1	.902					MAR2	.861				
DIF1		.857				PER2		.932			
DIF2		.857				PER2		.884			
DIF4		.703				PER2		.830			
DIF3		.742				DIF21			.832		
BEN2			.857			DIF41			.824		
BEN1			.857			DIF41			.814		
BEN4			.778			DIF41			.743		
BEN3			.679			BEN3				.889	
MAR3				.742		BEN3				.811	
MAR1				.723		BEN4				.656	
MAR2				.712		BEN1				.636	
LAW1					.884	LAW2					.769
LAW2					.816	LAW2					.723

LAW3					.760	**LAW2**					.616

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization

Table 7: Rotated Component Matrixa,b

Small and medium-sized enterprises						**Large enterprises**					
Code	**Component**					**Code**	**Component**				
	1	**2**	**3**	**4**	**5**		**1**	**2**	**3**	**4**	**5**
PER3	.926					**MAR1**	.921				
PER2	.926					**MAR3**	.921				
PER1	.902					**MAR2**	.861				
DIF1		.857				**PER2**		.932			
DIF2		.857				**PER2**		.884			
DIF4		.703				**PER2**		.830			
DIF3		.742				**DIF21**			.832		
BEN2			.857			**DIF41**			.824		
BEN1			.857			**DIF41**			.814		
BEN4			.778			**DIF41**			.743		
BEN3			.679			**BEN3**				.889	
MAR3				.742		**BEN3**				.811	
MAR1				.723		**BEN4**				.656	
MAR2				.712		**BEN1**				.636	
LAW1					.884	**LAW2**					.769
LAW2					.816	**LAW2**					.723
LAW3					.760	**LAW2**					.616

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Table 8: Correlations

SIZE			**FVA**	**BEN**	**DIF**	**PER**	**LAW**	**MAR**
Small and medium-sized enterprises (N=103)	**FVA**	Pearson Correlation	1					
		Sig. (2-tailed)						
	BEN	Pearson Correlation	.410**	1				
		Sig. (2-tailed)	.000					
	DIF	Pearson Correlation	-.281**	-.165	1			
		Sig. (2-tailed)	.004	.096				
	PER	Pearson Correlation	.882**	.281**	-.185	1		
		Sig. (2-tailed)	.000	.000	.061			
	LAW	Pearson Correlation	.622**	.179	-.014	.142**	1	
		Sig. (2-tailed)	.000	.071	.891	.000		
	MAR	Pearson Correlation	.810**	.557	.122**	.921	.388	1
		Sig. (2-tailed)	.000	.216	.000	.735	.640	
Large enterprises (N=100)	**FVA**	Pearson Correlation	1					
		Sig. (2-tailed)						
	BEN	Pearson Correlation	.508**	1				
		Sig. (2-tailed)	.000					
	DIF	Pearson Correlation	-.376**	-.007	1			
		Sig. (2-tailed)	.000	.943				

	PER	Pearson Correlation	.847**	.059	.158	1		
		Sig. (2-tailed)	.000	.557	.117			
	LAW	Pearson Correlation	.646**	.073	.002	.176	1	
		Sig. (2-tailed)	.000	.471	.987	.079		
	MAR	Pearson Correlation	-.697**	.023	.147	.920	.136**	1
		Sig. (2-tailed)	.000	.821	.145	.121	.000	
**. Correlation is significant at the 0.01 level (2-tailed).								
*. Correlation is significant at the 0.05 level (2-tailed).								

a. Predictors: (Constant), PER, DIF, LAW, BEN, MAR
b. Dependent Variable: FVA
c. Predictors: (Constant), MAR, BEN, DIF, LAW, PER

Table 9: Model Summaryb

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
.920[a]	.846	.838	.20524	1.525
.900[c]	.811	.800	.21378	1.604

Table 10: ANOVAa

SIZE	Model		Sum of Squares	df	Mean Square	F	Sig.
Small and medium-sized enterprises	1	Regression	22.406	5	4.481	106.380	.000[b]
		Residual	4.086	97	.042		
		Total	26.492	102			
Large enterprises	1	Regression	18.375	5	3.675	80.417	.000[c]
		Residual	4.296	94	.046		
		Total	22.671	99			
a. Dependent Variable: FVA							
b. Predictors: (Constant), PER, DIF, LAW, BEN, MAR							
c. Predictors: (Constant), MAR, BEN, DIF, LAW, PER							

Table 11: Coefficientsa

SIZE	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
			B	Std. Error	Beta			Tolerance	VIF
Small and medium-sized enterprises	1	(Constant)	.275	.036		5.632	.000		
		BEN	.217	.055	.296	7.316	.002	.659	1.518
		DIF	-.167	.117	-.124	-5.575	.004	.910	1.099
		PER	.623	.090	.733	6.931	.000	.946	1.058
		LAW	.343	.053	.290	6.500	.000	.798	1.253
		MAR	.121	.091	.226	6.235	.001	.734	1.458
Large enterprises	1	(Constant)	.348	.012		8.844	.001		
		BEN	.239	.024	.259	5.937	.000	.957	1.045
		DIF	-.129	.037	-.156	-1.788	.033	.966	1.035
		PER	.952	.119	1.046	7.995	.000	.718	1.462
		LAW	.244	.056	.238	4.381	.000	.680	1.470
		MAR	-.269	.094	-.348	-2.872	.005	.637	1.691
a. Dependent Variable: FVA									