International Journal of Science and Research (IJSR)
ISSN (Online): 2319-7064
Index Copernicus Value (2016): 79.57 | Impact Factor (2017): 7.296

Valuation of Banking Stocks (BUMN) Included in LQ45 in 2013-2017 using Relative Valuation Methods: Price Earning Ratio and Price-Book Value

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Abstract: ***Sitting in the LQ 45 range is an honor for a banking company, because it indicates if the capital market participants believe and also have admitted if the level of liquidity and market capitalization of the company is good. For issuers who have entered into the LQ 45 index does not mean to be able to relax, but must still work hard to maintain its position because these shares will continue to be monitored by the Indonesia Stock Exchange (BEI). This research will calculate PER and PBV of the banking sector that stands still in LQ45 within 5 years (2011-2016) and provide a comparable result whether there is a significant difference between the result of calculation of fair share by both methods and comparable stock valuation within banks that persisted in LQ 45 index for 5 years. The data used in the form of secondary data i.e. financial statements and data of dividend distribution company in cash. Data collection gathered are secondary data taken from www.idx.com, www.e-bursa.com, Bloomberg, ICMD, and yahoo finance. Hypothesis testing is done byKolmogorov Smirnov normality test, and t-test i.e. independent samples t-test used to determine whether two samples unrelated to each other have different mean values. The purpose of t-test in this study are to compare stock price as a dependent variable andprice earnings ratio as an independent variable, whether there are significant differences or not on the stock prices, and as price-book value become independent variable then stock price as dependent variable, whether there are significant differences or not on the results.***

Keywords: LQ 45 Index, Banking Industry, Valuation, PER, PBV

1. Introduction

The development of the financial sector, especially changes in the banking structure in Indonesia, is expected to bring positive changes to the national economy, because financial institutions, especially banks have a very important role to the movement of the economy of Indonesia. When the country is in the process of economic recovery, most banks are still not optimal in performing its main function as an international financial intermediary institution that describes the ratio of the ratio of credit to third parties.

The banking industry after so long without a significant competitor now has a formidable challenger of financial technology. The presence of a new challenger for the banking industry was very difficult given the industry entry barrier is strong enough. The banking industry is a capital-intensive industry with very strict regulations and also requires a long journey to become a trustworthy financial institution of society.

However, now technology-based innovations are able to address the needs of the community through easy, fast and low cost financial services. The presence of financial tech has become a pressure for banks to change their business model so as to provide competitive services and products. The frequency of bank branch transactions continues to decline. Therefore the number of tellers will certainly decline in the coming years. The emergence of this financial tech also supports making spoiled people want it all practical, fast and cheap. This change makes the rate of money in the bank did not increase significantly. Especially now financial tech offers non-bank transactions that can be accessed by all circles.

In the end, technological developments have opened the door to non-banking institutions to provide technology-based financial services as well as shifting consumer habits that ultimately change consumer preferences in choosing financial products and services. In the midst of these challenges of course the banking needs to respond with strategic steps, especially realizing the real digital banking.

Investment decisions in a stock must be preceded by a process of analysis of the variables that are expected to affect the price of a stock due to the nature of the stock is very sensitive to changes that occur, both due to internal and external factors. Internal factors come from within the company, ie in the form of company performance (financial performance and performance management), company conditions, and prospects. Especially, if trader new in the stock investment. Must often learn, practice, trial and error. The goal is to find the right instinct and sense in stock investing.

2. Literature Review

Ananda (2014) conducted a study entitled "Valuing fair value of stock price using Relative Valuation Techniques for PT Bank Mandiri and PT Bank BRI" using Price earnings ratio (PER) and price-book value (PBV) to know the significance of fair difference of stock of independent bank and bank bri which is assessed using both methods. as a result it is found that the stock price in 2009 to 2012 is the price of the fair price. and the Price Book Value Ratio on the share price at PT Bank MandiriTbk. And at PT Bank Rakyat Indonesia, Tbk. and There is also a significant difference between the price of the stock which is assessed by Price Earnings Ratio and Price Book Value Ratio to stock price.

Asiah (2015) conducted a study entitled "Valuation of Property and Real Estate Companies listed on the BEI Year 2011-2013" conducted with 2 methods of dividend discount model (DDM) and Price earnings ratio (PER). as a result For 2011, valued using dividend discount model, stock prices of property and real estate companies listed on BEI, 6 companies rated undervalued (cheap) and 7 companies overvalued (expensive), For 2012, valued using dividend discount model, and real estate companies listed on BEI, 5 companies rated undervalued (cheap) and 10 companies overvalued (expensive), For 2013, valued using dividend discount model, 5 companies rated undervalued (cheap) and 8 companies overvalued (expensive), Property and real estate firms assessed using the Price Earnings Ratio method for the period 2011-2013 are only one company that has overvalued stock positions (expensive) which is PT. Jaya Real Property Tbk.

Dima (2012) conducted a research entitled "Initial valuation of PT Bank Pembangunan Daerah JawaTimur (Bank Jatim) Tbk" valuation is done through 2 methods, namely dividend discounted model (DDM) and price earnings ratio (PER). Consequently the initial stock should be in the range of Rp 808.01 - Rp 2,252.33. But in fact the stock price at the IPO is at a price of Rp 430 resulting in underpricing because the intrinsic value of stocks tend to be higher than the current market price of the prime and the price of shares sold by the company underpricing.

Muttaqim (2013) conducted a study of "Valuing fair value of stock price of PT ADHI KARYA (PERSERO) TBK" using Discounted Cash Flow (DCF) method. Consequently the fair price of shares of PT. AdhiKaryaTbk amounted to Rp.714 per share, with the company's value while the stock market price amounted to Rp.764.61 per share and the fair market value of Rp 1,285,830,933,205.00. PT. AdhiKaryaTbk has grown greater opportunities forthe future.

Based on previous studies, there are a gap among the results from the research that already conducted. Hence, hypothesis of the research is proposed as follow:

HA1: There is a significant effect of price of the shares of PT Bank Mandiri, Tbk, PT Bank Rakyat Indonesia, Tbk and PT Bank Negara Indonesia for the period 2013-2017 from calculation using price earnings ratio of the stock price.
HA2: There is a significant effect of price of the shares of PT Bank Mandiri, Tbk, PT Bank Rakyat Indonesia, Tbk and PT Bank Negara Indonesia for the period 2013-2017 from calculation using price book value of the stock price.

3. Methodology

This research is quantitative descriptive research where quantitative descriptive research includes data collection to test the hypothesis or answer questions related to the subject under study. And quantitative method is used to observe population or specific sample, gather data through research instrument, and analyze statistical data, for testing the hypothesis. And this method often called positivism philosophy by research based where the research considers reality/symptom/phenomenon could be classified, comparatively fixed, concrete, observed, measurable, and the symptom is relationship causal.

Population in this research is banking company that listed on the LQ 45 index during January 2013 – December 2017 period. This research uses purposive sampling which can be grouped as nonprobability sampling design. Research sample on the research is 3 stocks. The sampling phase of this research is based on the criteria which are banks that stay in LQ45 index in the last 5 years. Where there are 4 banks that listed in the last 5 years but only 3 banks that persisted.

These research variables are consisted of price earnings ratio and price-book value. Then, the detailed analysis technique and hypothesis testing of the analysis on differentiations between these two variables, price earnings ratio with stock price and price-book value with stock price is stated as follows:

a) **Price earnings ratio**
The price-earnings ratio is the ratio of the market price per share to the earnings per share:
PE = Market price per share/Earnings per share

The PE ratio is consistently defined, with the numerator being the value of equity per share and the denominator measuring earnings per share, which is a measure of equity earnings that stated on (Damodaran, 2001: 468).

$$PER=\frac{D_t/E_t}{(k-g)}$$

Dt/Et = the ratio of dividend payout to earnings (called dividend payout ratio)
k = Expected return
g = normal dividend growth rate

1) **Earnings per share**
Net Income t / Average share outstanding

2) **Return on Equity (ROE) and Dividend payout ratio (DPR)**
Dividend payout ratio (DPR) calculated by dividing dividend payment with the net income. And Return on equity (ROE) was calculated by dividing net income with shareholder's average equity (SAE).

3) **Retention ratio (b)**
Retention ratio is the proportion of income saved in a business as retained earnings.
b2013 = 1-DPR2012

4) **Growth rate (g)**
Growth rate is a percentage change of a particular variable within a given time period and given a specific context. Growth rate is done by calculating ROE x retention ratio (b).

5) **Discount rate (k)**
The discount rate is the interest rate charged to commercial banks and other depository institutions for loans received from the discount window.
k2013= (estimated div.2013 / closed price2013) + g2013

Price-book value
(Closed price each year (2013~2017))/ (Book value per share (BVPS))

6) **Book value per share (BVPS)**
Book value per share is collected by dividing equity by the average share outstanding of each company.

a) Define Null-Hypothesis (H0) and Alternative Hypothesis (Ha),
Ho: The fair price of stock with Price Earnings Ratio and Price Book Value Ratio do not have significant difference to stock price.
Ha1: There is a significant effect of price of the shares of PT Bank Mandiri, Tbk, PT Bank Rakyat Indonesia, Tbk and PT Bank Negara Indonesia for the period 2013- 2017 from calculation using price earnings ratio of the stock price.
Ha2: There is a significant effect of price of the shares of PT Bank Mandiri, Tbk, PT Bank Rakyat Indonesia, Tbk and PT Bank Negara Indonesia for the period 2013- 2017 from calculation using price book value of the stock price.

b) Hypothesis Testing
Kolmogorov Smirnov normality test is to compare the distribution of data (which will be tested normality) with the normal standard distribution. The standard normal distribution is data that has been transformed into Z-Score and assumed to be normal. So in fact Kolmogorov Smirnov test is a different test between the data tested normality with normal raw data. Furthermore, if the significance above 0.05 then there is no significant difference between the data to be tested with the normal raw data, that is, yes. Means that the data we tested normally is not different from the normal standard.

4. Result and Discussion

The different test of t-test in this study compare the fair price of the stock assessed by Price Earnings Ratio and Price Book Value Ratio to banking stock prices that survived indexed LQ45 period 2013-2017, whether has a significant difference or not.

Table 4.1: Result of Kolmogorov Smirnov test of price earnings ratio and price book value with stock prices of Bank Mandiri, Bank Negara Indonesia and Bank Rakyat Indonesia 2013 – 2017

One-Sample Kolmogorov-Smirnov Test			
		Intrinsic	PBV
N		15	15
Normal Parameters[a,b]	Mean	4440.67	2554.20
	Std. Deviation	1929.453	1458.504
Most Extreme Differences	Absolute	0.130	0.126
	Positive	0.130	0.126
	Negative	-0.078	-0.096
Test Statistic		0.130	0.126
Asymp. Sig. (2-tailed)		.200[c,d]	.200[c,d]

From table 4.1 above we can see that Asymp. Sig. (2-Tailed) from the fair value of the stock valued by the Price Earnings Ratio is 0.200 or greater than 0.05 (20.0%> 5%) indicating that the data is normally distributed. And the fair price of PT. Bank Mandiri, Tbk assessed by Price Book Value Ratio is 0,200 or greater than 0.05 (20.0%> 5%) indicating that the data is normally distributed.

Table 4.2: Result of t-test of price earnings ratio with stock prices of Bank Mandiri, Bank Negara Indonesia and Bank Rakyat Indonesia 2013 – 2017

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
value	Equal variances assumed	0.000	0.998	0.001	28	0.999	0.533	705.111	-1443.822	1444.888
	Equal variances not assumed			0.001	28.000	0.999	0.533	705.111	-1443.822	1444.889

Table 4.21 shows Sig. on Levene's Test for Equality of Variances of 0.998 which is greater than 0.05 (99.8%> 5%) as appropriate with the criteria that have been made, that the assumption of the variance of the population of the two samples is equal (equal variances assumed). Next look at Sig. (2-tailed) on assumed equal variances whose result is 0.999 or greater from 0.05 (99.9% >5%) which can be interpreted that H0 is accepted i.e. "The fair price of stock with Price Earnings Ratio do not have significant difference to stock price".

Table 4.3: Result of t-test of price book value with stock prices of Bank Mandiri, Bank Negara Indonesia and Bank Rakyat Indonesia 2013 – 2017

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
value	Equal variances assumed	0.968	0.334	3.018	28	0.005	1887.000	625.149	606.440	3167.560
	Equal variances not assumed			3.018	26.041	0.006	1887.000	625.149	602.086	3171.914

Table 4.3 shows Sig. on Levene's Test for Equality of Variencesof 0.334 which is greater than 0.05 (33.4%> 5%) as appropriate with the criteria that have been made, that the assumption of the variance of the population of the two samples is equal (equal variances assumed). Next look at Sig. (2-tailed) on assumed equal variances whose results are 0.005 or less from 0.05 (0.5% <5%) which can be interpreted that H1 is accepted ie"There is a significant

difference of price of the shares of PT Bank Mandiri, Tbk, PT Bank Rakyat Indonesia, Tbk and PT Bank Negara Indonesia for the period 2013-2017 from calculation using price book value of the stock price".

5. Conclusion

Based on the results of research that has been done then it can be concluded that:

1) The value of banking stocks that persisted in the LQ 45 index for 5 years calculated using the method of price earnings ratio value fluctuated each year, and stock position calculated by comparing intrinsic value with market price of stock shows the average stock is in both overvalued (7) and undervalued (7).While the value of banking stocks that persisted in the LQ 45 index for 5 years calculated using the price book value method are all stated overvalued.
2) Based on the results of the analysis described in the previous chapter can be summarized as follows:
   a) The PBV variable has significant differences on stock prices of banks that have survived in the LQ 45 index over the last 5 years (2013-2017). Where t-test shown that PBV has difference mean than the stock price, can concluded that valuation using PBV does not represent the stock prices itself.
   b) The PER variable has no significant differences on stock prices of banks that have persisted in the LQ 45 index over the last 5 years (2013-2017). As PBV could not represent current stock price it is better to do valuation using PER. Actually, there are differences between PER and stock prices but not significantly different, that's why PER is much closer for an investor to take as a reference in term of the investment decision making.
3) Based on the conclusions of this research that has been stated above then here are some suggestions that the writer has:
   a) Stock position can provide more convincing results should potential investors also pay attention to external factors and detailed analysis of the effect of external conditions on company performance.
   b) For further research, it is advisable to add other variables that influence stock prices

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