

# The Strategy of Investment Decision Making Based on Fundamental Analysis to Evaluate The Fairness Stock Price

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**Abstract:** The purpose general this study are identify and analysis through fundamental analysis as the strategy of investment decision making in the capital market. This research method have used secondary data with purposive sample technique, sample of this study consist of 9 sector index companies for 3 periods from 2015 till 2017 and type this study included of quantitative descriptive research. The analysis used (1). Financial analysis of compare intrinsic value through the Price Earning Ratio approach to market value based on the closing stock price; and (2). Statistical analysis by different test through "the Independent sample t test". The finding of this study that (1) Condition of 8 sector index companies are "overvalued" category, it caused of the intrinsic value is lower that market value. However, the financial sector is "undervalued" category, it caused the intrinsic value is higher than market value. (2) There is "a difference" between intrinsic value to market value and the hypothesis study is accepted. It mean the evaluation of investor should not only to reviewed from the financial factor, but also necessary of various factor.

**Keywords:** intrinsic value, market value, price earning ratio and closing stock price

## 1. Introduction

The Indonesia Stock Exchange noted that total of the retail investors have entered at the capital market were amount 3,000 investors in the first month of 2017, and additional investors were 538,000. At the end of 2016, the investor reached 536,000, it is increased around 104,000 investors compared to the previous year at 432,000 investors of the position at the capital market. While, it was 321,000 investors or 14% in 2013 year. In 2014 year, there were 364,000 investors or 13.3%; In 2015 there were 432,000 investors or 18.6%, and 536,000 investors or 24.07% in 2016 year, (<http://market.bisnis.com>).

In 2017, *Index Harga Saham Gabungan* (IHSG) is assumed to growth in 5 to 10 percent for the ratio of Earning Per Share (EPS) and Price Earning Ratio (PER) is growth in 18 to 19 times or in 5,700 level, of worth 6,000 point, and include of a "moderate" position. There is a change condition and situation, so investors should to consider and evaluate for the share have given the high risk involved in investment. Not all of share are listed on the Stock Exchange could provide optimum results when investors made transactions, so necessary to analysis of minimum the existing risk before decided to buy, sell or hold shares. One of methods often used to analyze the fairness stock price is fundamental analysis through the Price Earning Ratio (PER) approach.

The highest value of market capitalization is Financial sector companies of 1,625,799,772,944,190.00 (IDR) in high value, and Agricultural sector companies, of

134,746,053,592,010.00 (IDR) in low value. However, the best performance of within 1 year is Basic industry sector, of 49.42% and less good performance is Property and real estate sector, of - 3.93% (www.idx.com).

The development of sectoral indices over the past 3 years can be considered of good, except for Agriculture sector companies in the period of Week 4 of April 2017 which has less value compared to 2016. This is also evidenced by the development of the index and market capitalization which experienced an increase in Index Harga Saham Gabungan over a period of 7 years, from the period of 2011 to 2017. However, it has a different performance within 1 day, 3 months, 6 months or 1 year. So that an analysis is needed to minimize the existing risks before it is decided to buy, sell or hold shares before making a stock transaction in the capital market.

In order for the investment decisions made by investors are not wrong, it is necessary to first evaluate the shares to be selected, then it can be determined whether the shares will provide a level of return that is in accordance with what is expected by investors. The problem study are (1). How is reasonable of investment decision based fundamental analysis through the Price Earning Ratio approach of sector index companies listed in the Indonesia Stock Exchange? (2). Is there a significant difference between intrinsic value of the Price Earning Ratio approach to the market value based on closing stock price?

The purpose general study is analyzing empirical that fundamental analysis can used as the strategy of investment decision in the capital market. The objectives study are: (a) analyzing intrinsic value to market value by the Price Earning Ratio approach, (b). analyzing a significant difference between intrinsic value through the Price Earning Ratio approach to market value.

## 2. Literature

The fundamental analysis of this study is used the curent and future of company earning information to evaluate the fairness stock value (Bernard, 1994; Fischer and Jordan, 1995; Penman, 1991; Bauman, 1996; Rielly and Brown, 2002; Jones, 2007 and Bodie, et al, 2009), and compared on market value to determine whether it was possible or not to investment. Dividend depend on a basic assumption is determined of the stock value by discounting the expected dividends of the future cash, (Subramanyam and Venkatachalam, 2007). Thus, the real value of the shares is determined by the present value of the cash dividend, which it is expected as a result of the ownership of the stock (Bodie, et al., 2009).

The using most general ratio is Earning Multiplier Model or P/E Ratio, (Reilly & Brown, 2002; and Faerber, 2008). It is the simplest form of the multiplier model and used widely among securities analysis. The stock price is a multiple of earnings per share,  $P/E \text{ ratio} = \text{Market price of the share} / \text{Earnings per share}$ , and EPS1 is Expected earnings per share for the next period.

The intrinsic value is compared to the market value to determine whether the share have reflected the true or not value (Eliza, 2013). Thus, investors can know the condition of a share, whether it is overvalued, undervalued or correctly valued. So, the

significant difference between intrinsic values to market value can be known. (a) If the intrinsic value is more great than the market value, then share is undervalued conditions, or  $NI > MV$ ; (b). If the intrinsic value is less than the market value, then share is overvalued, considered too expensive considered or  $NI < MV$ , and (c). If the intrinsic value is the same as the market value, then share is correctly value, balaced considered or  $NI = MV$ .

Ahmed, Hasan & Adel (2015) found that the best model can be relied to predict stock prices, is Residual Income "RI". This model proved useful in both the emerging and developed financial markets, because of its high credibility in both of them, and does not require efficient market to implement. Beside that, the Distributions Discounted Models (DDM) have proved more useful than the Discounted Cash Flow Models (DCF) in developed financial markets, and this is finding study by Penman and Sougiannis (1998) and Subramanyam & Venkatachalam,(2007), also Copeland, et al. (1990) confirmed that the DCFM is not characterized by high credibility when it is predicted the share value in future, and compared between DDM and RIM. This study have shown the most credible model is Residual Income "RI", that model is based on accounting data, (Fung, et al., 2010)

Subramanyam and Venkatachalam (2007) stated that the best models to predict stock prices in the markets that are the models in rely of financial ratios (e.g., Cheung, et al., 1997; Chung, et al., 1999 and Chung and Kim, 2001), but these models presuppose that the existence of financial efficiency is a weak efficiency form. Several studies founded that the Residual Income in rely of historical accounting data: the book value and earnings per share have proved their usefulness in emerging markets, specifically in the Egyptian financial market (Ragab & Omran, 2006 and Wafi,et al., 2015).

Panda (2013), in his research on the Comparison of Fundamental Values and Market Values in "Hero Honda" companies, stated that are 2 models used, namely Equity Free Cash Flow and Relative Valuation on P/E ratio. Intrinsic value is calculated in quarterly periods, and market value is calculated based on the average closing share price in the quarterly period. Then intrinsic value compared to market value, the results are percentages value. The analysis in this study uses a different test (t test). The results are Relative Valuation, of P/E ratio which more accurate and practical than use of the Equity Free Cash Flow model.

Gottwald (2012), found that selection and index determination on P / E ratio and share price variables for some investor in different periods, namely 1 year, 5 years and 10 years. The share valuation techniques used are the MizonRichard Test, the Cox-Pesar Test and the Davidson-MacKinnon Test. The finding that P / E ratio is better used to perform a test, and that is not only fundamental analyze but also estimates the intrinsic value of a stock.

Sareewiwatthanana (2014), stated that ratio of PE, PEG, and PERG is used to calculate stock returns that are higher than the average Market value. This study is used data on companies listed in Thailand Stock Exchange, for period 2002 until 2012 of year. PE (Price Earning to Ratio) is a comparison between Price Earning to Earning Per Share. PEG is a comparison between Price Earning to Ratio (PE) and Earning Growth Rate. PERG is a combination of the PEG ratio multiplied by the Risk factor (R). The result that the overall portfolio return rate using a low PE, PEG and PERG ratio is better than the average Market Value. While the testing stated that use of PE ratio is better in the research

Irawan & Wahidahwati (2013), concluded that selling shares of "overvalued" or buying shares "undervalued" is the right decision, because the Market Price is cheaper than the stock price. His research is carried out in 45 LQ companies or 29 companies in the period 2009 to 2011 years. The result is fundamental analysis showed of 19 shares in "overvalued" condition and 10 shares in "undervalued".

### **3. Methodology**

The method used in this study is a comparative method, which is used to find out about the differences between Intrinsic value to Market value variables by collecting data from financial statements and close prices in the period December 2015 to 2017. The design of this

study is using secondary data with purposive sampling technique which possess a positive profit, audited financial statements in 2015, 2016 and 2017 based on the criteria and characteristic of sample. This type of research is quantitative research. The population of this study is consisted of 6 sub-sectors of agriculture, 5 sub-sectors of mining, 9 sub-sectors of basic industry, 7 sub-sectors of various industries, 6 sub-sectors of consumer goods industry, 3 sub sectors of property and real estate, 6 sub-sectors of infrastructure, 6 sub-sectors finance and 9 trade sub-sectors.

The design study describe the Fundamental Analysis to analyze the fairness stock prices in sector index listed on the Indonesia Stock Exchange from 2015 untill 2017. Hence to conclude the share market conditions, whether it is overvalued, undervalued or correctly valued.

Data collection techniques are Field research, through the site [www.idx.co.id](http://www.idx.co.id), and <https://finance.yahoo.com>; and Library research.

The study hypothesis is:

Ho: There is no difference between Instrinsic value through the Price Earning Ratio (PER) approach to Market value

Ha: There is a difference between Instrinsic value through the Price Earning Ratio (PER) approach to Market value

Analysis of this study consist of (1). Financial Analysis. It is analyzing financial ratios with determine the intrinsic value of shares with the Price Earning Ratio approach and assess the share conditions by comparing the Instrinsic value to Market value. (2). Statistical Analysis. It is comparing the average of Instrinsic value and Market value by using “the independent sample t test of 9 sector index companies listed in the Indonesia Stock Exchange whether the difference is truly significant or insignificant with the decision making are:

- If the probability is more than 0.05 or 5%, (Ho accepted)
- If the probability is less than 0.05 or 5%, (Ho non accepted)

## 4. The Result And Discuss

### 4.1 Financial Analysis

The Fundamental analysis is use to determine the intrinsic value of shares with the Price Earning Ratio approach and assess the share conditions by comparing Instrinsic value to Market value. To calculate the expected dividend growth rate (g), calculate estimate of Earning Per Share, DPS, expected return rate (k), PER and the last of calculate the intrinsic value of shares and categorize the share conditions oevervalued, undervalued or correctly valued.

There are 3 provisions that apply: (1). If the Intrinsic value (NI) is greater than the Market value (MV), that mean shares are low considered (undervalued) or  $NI > MV$ ; (2). If the Intrinsic value is smaller than the Market value (MV), that mean shares are high considered (overvalued) or  $NI < MV$ ; and (3). If the Intrinsic value (NI) is same as the Market value (MV), that mean shares are value fair price and balance condition or  $NI = MV$ .

The summarized of financial analysis are:

1. Comparison of market value to intrinsic value in the sector index companies from 2015 to 2017 years that the average market value (based on closing stock price) to intrinsic value of 8 sector index companies are overvalued cathegory, that mean the intrinsic value is lower than market value or  $NI < MV$ , However, the financial sector is undervalued cathegory, because of the  $NI > MV$ , (the calculation result can be seen in the table as attached).

2. The summary of average Market value of 9 Sector Index companies that Agricultural sector have fluctuated; Mining sector have increased; Miscellaneous industrial sector have increased; Basic industry and chemical sector have fluctuated; Consumer goods industry and consumption sector have fluctuated; Property & real estate and building construction sector have increased; Infrastructure, utilities & transportation sector have a decline experienced; Financial sector have an increase experienced; and Trade, services and investment sector have fluctuated experienced, (the chart of result can be seen in the picture as attached).
3. The summary of average Intrinsic value of 9 sector index companies that Agricultural sector have fluctuated; Mining sector have increased; Miscellaneous industrial sector have increased; Basic industry and chemical sector have fluctuated; Consumer goods industry and consumption sector have fluctuated; Property & real estate and building construction sector have fluctuated; Infrastructure, utilities and transportation sector have fluctuated; Financial sector have an increase experienced; and Trade, services and investment sector have fluctuation experienced, (the chart of result can be seen in the picture as attached).

#### 4.2 Statistical Analysis

Statistical analysis is using the different test (t test) which compare the result value of the "Z" count to the "Z" table; and the probability value to the Alfa value at a significant level of 5% for 2 independent groups are intrinsic value and market value variable. The results of the calculations are:

The summary of calculation by the independent t test through normality test are: (the tabulation result can be seen in the attachment)

1. The agricultural sector consist of 66 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.619 > -1.96$  and  $0.536 > 0.05$ . The average of market value to intrinsic value is  $68.56 > 64.44$  that mean there is "a difference" value.
2. The mining sector consist of 105 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.63 > -1.96$  and  $0.528 > 0.05$ . The average of the market value to intrinsic value is  $108.14 > 102.86$  that mean there is "a difference" value.
3. The miscellaneous industrial sector consist of 114 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.618 > -1.96$  and  $0.536 > 0.05$ . The average of market value to intrinsic value is  $117.2 > 111.8$  that mean there is "a difference" value.
4. The basic industry and chemical sector consist of 180 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.754 > -1.96$  and  $0.451 > 0.05$ . The average of market value to intrinsic value is  $184.63 > 176.37$  that mean there is "a difference" value.
5. The consumer goods industry and consumption consist of 99 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.879 > -1.96$  and  $0.379 > 0.05$ . The average of market value to intrinsic value is  $103.08 > 95.92$  that mean there is "a difference" value.
6. The property & real estate and building construction sector consist of 147 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.666 > -1.96$  and  $0.505 > 0.05$ . The average of market value to intrinsic value is  $150.8 > 144.2$  that mean there is "a difference" value.

7. The infrastructure, utilities and transportation sectors consist of 135 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.903 > -1.96$  and  $0.367 > 0.05$ . The average of market value to intrinsic value is  $139.79 > 131.21$  that mean there is "a difference" value.
  8. The financial sector consist of 216 samples that value of the "Z" count is less than the "Z" table and the "probability" count is more than the "Alfa" at 5% significance level or  $-0.908 > -1.96$  and  $0.364 > 0.05$ . The average of market value to intrinsic value is  $221.96 > 211.04$  that mean there is "a difference" value.
  9. The trade, services and investment sector consist of 315 samples that value of the "Z" count is less than the "Z" table and value of the "probability" count is more than the "Alfa" at 5% significance level or  $-0.988 > -1.96$  and  $0.323 > 0.05$ . The average of market value to intrinsic value is  $322.66 > 308.34$  that mean there is "a difference" value.
- As reference the observation results in group 1 can be refered in table 1;

**Table 1.** The summarized of statistical analysis for market value variable

Sector Index	Value of	
	Chisquar e	Asym . Sig
Agriculture	0.260	0.878
Mining	2.331	0.312
Miscellaneous Industry	0.703	0.312
Basic industry and chemical	5.977	0.050
Consumer Goods Industry	1.039	0.595
Property & Real Estate and building Construction	0.307	0.858
Infrastructure, utilities & transportation	0.556	0.757
Financial	1.882	0.390
Trade, service and Investment	0.136	0.934

note: value of the "statistic" table (chi square table) for  $df = 2$  with 5% significance level is 5.991

Table 1 summary that market value variable possess value of the "statistic" count on the chi-square is less than the "statistic" table and value of the "probability" count is more than the "Alfa" at 5% significance level. There is "a difference" of market value for period 2016 till 2017 years in 9 sector index companies. Whilst the observation results in group 2 can be refered in table 2.

**Table 2.** The summarized of statistical analysis for intrinsic value variable

Sector Index	Value of	
	Chisquare	Asym . Sig
Agriculture	0.214	0.898
Mining	1.679	0.432
Miscellaneous industry	1.629	0.730
Basic industry chemical	5.689	0.058

Consumer goods industry	0.734	0.693
Property & real estate and building construction	0.312	0.855
Construction		
Infrastructure, utilities and transportation	0.509	0.775
Financial	2.224	0.329
Trade, service and investment	0.069	0.966

note: value of the "statistic" table (chi square table) for  $df = 2$  with 5% significance level is 5.991

Table 2 summary that group 2 as intrinsic value possess conclusions same as the group 1 as market value. It mean the value of the "statistic" count on the chi-square is less than the "statistic" table and value of the "probability" count is more than the "Alfa" at 5% significance level. There is "a difference" of intrinsic value for period 2016 till 2017 years in 9 sector index companies.

## 5. Conclusion

Based on the observation of financial and statistical analysis are conclude as: (1). The condition of sector index company in listed the Indonesia Stock Exchange are overvalued" category, it caused the intrinsic value is lower than market value. However, the financial sector is "undervalued" category, it caused the intrinsic value is higher than market value. It mean the investor is not necessary invest or not but the share of sector index companies in 2018, because the condition of the stock in the index deposit is in "overvalued" category, but it could invest for financial sector. (2). There is "a difference" between intrinsic value to market value and the hypothesis study is accepted. That caused of value for the "Z" count under the "Z" table; and value of the probability count up the Alfa at 5% of a significant level which intrinsic value variable as " independent group 1" and market value variable as independent group 2.

Whilst, if partially analyzed for each sectoral index there are several companies that are feasible to invest because the condition of the company's shares is in the category of undervalued or "sale", because intrinsic value is higher than the market value. There are also companies that are in correctly valued conditions in Infrastructure, Utility & Transportation sectors, meaning intrinsic value is equal to market value.

Therefore, the assessment of investors to invest shares in the sectoral index companies should not only be viewed from the financial side. But, it is also reviewed from various factors and fields. Unstable economic conditions can trigger intrinsic value of the company that is low, but other factors can be analyzed to make stock investments, such as company performance, intellectual capital, and others. In order to make good investment decisions, it is not only fundamentally but technically it also needs to be done. It is better not only to the economic field which is the basis for conducting analysis but also, in the political and social field can be a comparison as a decision-making strategy

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## References

- [1] Ahmed. S. Wafia, 2015. *Fundamental Analysis Models in Financial Markets - Review Study*. Rome, Italy, 4 th Economics & Finance Conference, London, UK.
- [2] Bauman, P. M., 1996. A review of Fundamental Analysis Research in Accounting. *Journal of Accounting Literature*. Volume 15, pp.1 - 33.
- [3] Bernard, V. L., 1994. Accounting based valuation methods, determinants of market-to-book ratios, and implications for financial statements analysis. *Working paper*. (University of Michigan. Business School. Faculty Research). No. 9401.
- [4] Bodie, Z., Kan, A. and Marcus, J., 2009. *Investments*. 8th Ed. McGraw-Hill Irwin.
- [5] Cheung, J. K., Chung, R. & Kim, J. B., 1997. The profitability of trading strategy based on book value and earnings in Hong Kong: Market inefficiency vs. risk premia. *Journal of International Financial Management Accounting*. Volume 8(3), pp. 204 – 233.
- [6] Chun, H. Y., Kim, J. B. & Lee, B., 1999. Market efficiency anomalies in Korea: Mispricing vs. omitted risk factors. *Asia-Pacific Financial Markets*. Volume 6(4), pp. 311 – 340.
- [7] Chung, H. Y & Kim, J. B., 2001. A structured financial statement analysis and the direct prediction of stock prices in Korea. *Asia Pacific Financial Markets*. Volume 8 (2), pp. 87 - 117.
- [8] Copeland, T., Koller, T. and Murrin, J., 1990. *Valuation: Measuring and managing the value of companies*. John Wiley & sons Co. New York.
- [9] Eliza. 2013. Hubungan Nilai Intrinsik Suatu Saham Terhadap Harga Pasar Saham Tersebut. *Jurnal Ekonomi*. Volume 4(1), pp. 29-37.
- [10] Faerber, E., 2008. *All about stocks*. 3rd Ed. Mc Grow Hill.
- [11] Fisher, D. E. and Jordan, R. J., 1995. *Security Analysis and Portfolio Management*. 6th Ed. Prentice-Hall, New York, N.Y.
- [12] Fung, S. Y., Su, L. N. & Zhu, X. K., 2010. Price Divergence from Fundamental Value and the Value Relevance of Accounting Information. *Contemporary Accounting Research*. Volume 27(3), pp. 829 – 854.
- [13] Gottwald, Radim, 2012. The Use of the P/E Ratio to Stock Valuation. *Grant Journal*. P. 21-24. ISSN 1805-062X.
- [14] Irawan, Repi Putra dan Wahidahwati, 2013. Penerapan Analisis Fundamental dalam Menilai Investasi Saham di Bursa Efek Indonesia. *Jurnal ilmu dan Riset Akuntansi*. Volume 2(11), pp. 1-17.
- [15] Jones, C. P., 2007. *Investment*. 10th Ed. John Wiley & Sons, Inc.
- [16] Panda, Shradhanjali. 2013. Comparison of Fundamental Value and Market Value: A Case Study of Heromotoco. *International Journal of Humanities and Social Science Invention*. Volume 2 (4): pp. 16-20.
- [17] Penman, S. H., 1991. An evaluation of accounting rate-of-return. *Journal of Accounting, Auditing & Finance*. Volume 6(2), pp. 233 – 255.



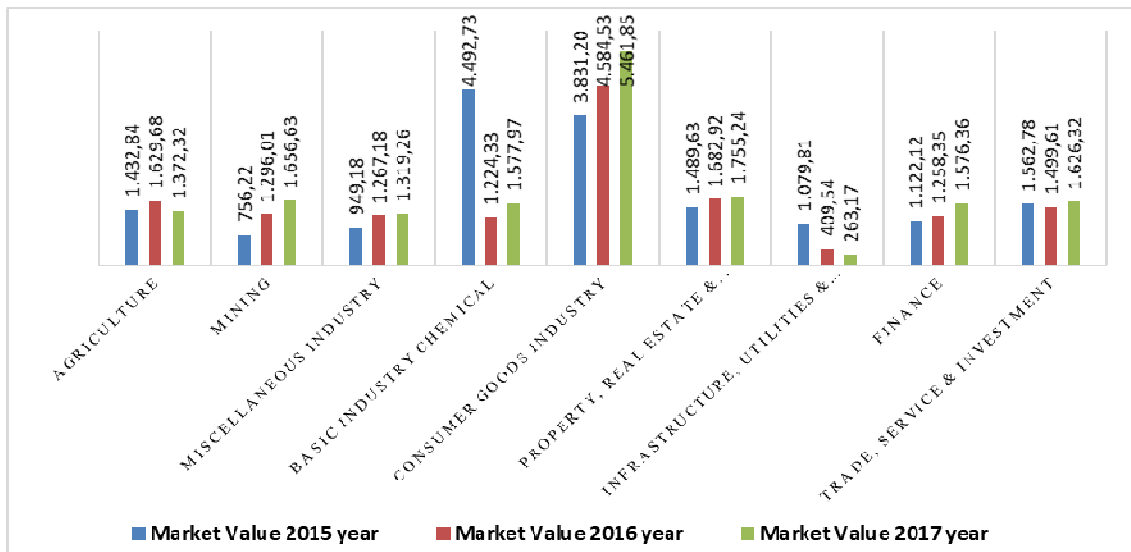
- [18] Penman, S. H & Sougiannis, T., 1998. A comparison of dividend, cash flow, and earnings approaches to equity valuation. *Contemporary Accounting Research*. Volume 15(3), pp. 343 – 383
- [19] Reilly, F. & Brown, K., 2002. Investment Analysis and Portfolio management. 7th Ed. South-Western. Subramanyam, K. R. & Venkatachalam, M., 2007. Earnings, cash flows, and Ex post intrinsic value of equity. *The Accounting Review*. Volume 82(2), pp. 457 – 481
- [20] Tandelilin, Eduardus. 2010. *Portofolio dan Investasi: Teori dan Aplikasi*. Edisi Kedua. Yogyakarta: Kanisius.

### The Attachment

**Table A.** The result of fundamental technical of 9 sector index

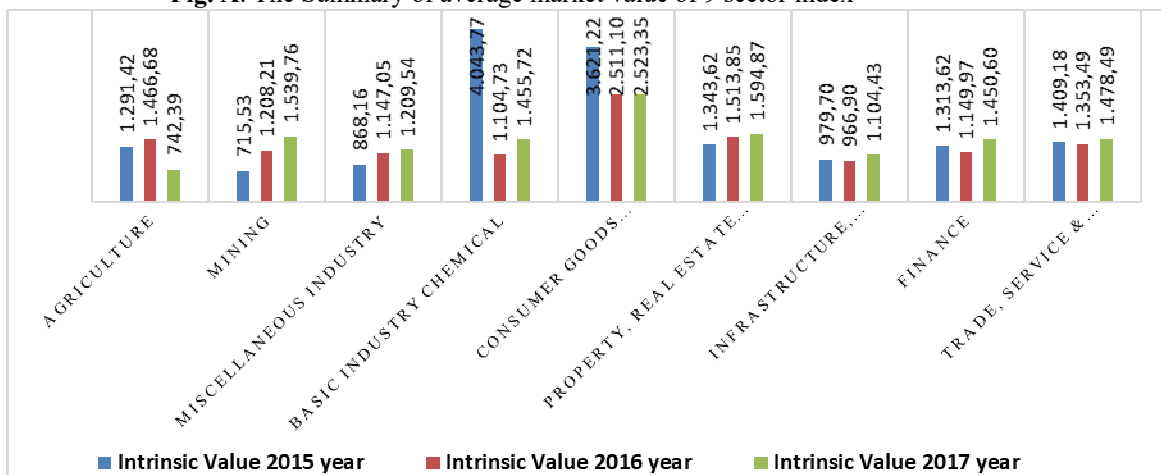
Sectors Index	2015 year		2016 year		2017 year		Conclusion
	Market Value	Intrinsic Value	Market Value	Intrinsic Value	Market Value	Intrinsic Value	
Agriculture	1,432.84	1,291.42	1,629.68	1,466.68	1,372.32	742.39	Overvalued
Mining	756.22	715.53	1,296.01	1,208.21	1,656.63	1,539.76	Overvalued
Miscellaneous Industry	949.18	868.16	1,267.18	1,147.05	1,319.26	1,209.54	Overvalued
Basic Industry	4,492.73	4,043.77	1,224.33	1,104.73	1,577.97	1,455.72	Overvalued
Chemical							
Consumer Goods Industry	3,831.20	3,621.22	4,584.53	2,511.10	5,461.85	2,523.35	Overvalued
Property, Real Estate & Building	1,489.63	1,343.62	1,682.92	1,513.85	1,755.24	1,594.87	Overvalued
Construction							
Infrastructure, Utilities & Transportation	1,079.81	979.70	409.54	966.90	263.17	1,104.43	Overvalued
Finance	1,122.12	1,313.62	1,258.35	1,149.97	1,576.36	1,450.60	Undervalued
Trade, Service & Investment	1,562.78	1,409.18	1,499.61	1,353.49	1,626.32	1,478.49	Overvalued

noted: The reference of the financial analysis (4.1) point 1



noted: The reference of the financial analysis (4.1) point 2

Fig. A. The Summary of average market value of 9 sector index



noted: The reference of the financial analysis (4.1) point 3

Fig. B. The Summary of average intrinsic value of 9 sector index

Table B. The result of statistical analysis of 9 sector index

Caegories	Value of			Sample
	Mean Rank	Z Value	P Value	
Agriculture:		-0.619	0.536	66
Market Value	68.56			
Intrinsic Value	64.44			
Mining:		-0.630	0.528	105

Caegories	Value of			Sample
	Mean Rank	Z Value	P Value	
Market Value	108.14			
Intrinsic Value	102.86			
Miscellaneous Industry:		-0.618	0.536	114
Market Value	117.2			
Intrinsic Value	111.8			
Basic Industry Chemical:		-0.754	0.451	180
Market Value	184.63			
Intrinsic Value	176.37			
Consumer Goods Industry:		-0.879	0.379	99
Market Value	103.08			
Intrinsic Value	95.92			
Property, Real Estate & Building Construction:		-0.666	0.505	147
Market Value	150.8			
Intrinsic Value	144.2			
Infrastructure, Utilities & Transportation:		-0.903	0.367	135
Market Value	139.79			
Intrinsic Value	131.21			
Finance		-0.908	0.364	216
Market Value	221.96			
Intrinsic Value	211.04			
Trade, Service & Investment		-0.988	0.323	315
Market Value	322.66			
Intrinsic Value	308.34			

noted: The reference of the statistical analysis (4.2) point 1 -7