Analysis of investment strategy in Indonesian consumer goods industry: Benjamin Graham's approach

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Abstract

Shares price fluctuations cause investors to take irrational actions. An assessment of investment valuation is needed to deal with market fluctuations to reduce investment risk. Benjamin Graham Formula is an investment strategy that compares the fair value of the share's with the shares price to help investors make investment decisions. Benjamin Graham's value investing strategy is valuing shares whose actual value is higher than market value, thereby finding significant returns over the long term. This research is quantitative descriptive. Based on the selection criteria for the Benjamin Graham method, the researcher suggests buying ADES shares. The firm's share price is currently undervalued. CEKA shares have an undervalued value. This can be used as an alternative consideration in making investment decisions.

Keywords

shares valuation; market price; Benjamin Graham method; undervalued; overvalued

INTRODUCTION

Indonesia’s gross domestic product growth in recent years has been conducive. The Consumer Goods sector recorded fluctuating growth in recent years at 7% to 8% (Badan Pusat Statistik, 2021). The growth of the consumer goods sector is still above the average national gross domestic product level of 5%. The consumer goods sector is one of the contributing sectors of the growth of gross domestic product, which is classified as a defensive sector that tends to be more stable and resistant to economic turmoil (Caesario, 2019).

Indonesia’s gross domestic product growth in the consumer goods sector is engaged in the movement of a sectoral index, especially the Consumer Goods sectoral index. In recent years, the consumer goods sectoral indexes decreased an average of 9.20% (Indonesia Stock Exchange, 2022).

Increases and decreases in sectoral indices cause share price fluctuations. Shares price fluctuations that occur in the shares market have an impact on irrational actions for investors. Shares price fluctuations are contrary to investment theory which states that investors and management have information related to the firm’s future prospects. This makes the information symmetrical. However the information in the market tends to be asymmetrical making investors rely more on the information provided by the firms (Rakim, 2018).

Prices can affect the psychology of investing; the information circulating in the market can quickly affect share prices. The trend that investors often do in the market is to buy shares when the index is low and sell shares when the index is high, but the conditions for these movements cannot be predicted with certainty. Husnan (2015) suggests that in the market there is also a mispriced shares condition (the shares price is wrong, too high or too low). Assessment of the feasibility of investing in shares is necessary in the face of fluctuations in movement to reduce the risk of investing. Wira (2014) explains that there are two analytical techniques commonly used to determine whether a shares is worth buying at a certain time or not, namely fundamental analysis and technical analysis.

Fundamental analysis is one of the strategies to gain insight into the firm's performance by reviewing the financial statements published by the firms (Subramanyam, 2012). Fundamental analysis can be used by investors in determining the
valuation of share prices in the current market, whether they are too overvalued (expensive), or too undervalued (cheap). Comparing the fair value of the shares and the share price in the market can help investors to make investment decisions, namely buying and selling.

Feasibility assessment in investing in shares could be by the value investing method. The value investing concept was initiated by Benjamin Graham. Benjamin Graham’s investment strategy is a shares assessment strategy whose actual value is higher than the market value, thus finding significant returns in the long run (Sitorus et al., 2017). The value investing concept assesses simple screening rules as a consideration in conducting assessments it can be adopted by all shareholders, such as: financial ratios, historical trading, business models, and corporate governance (Sareewiwatthana, 2011).

Academic studies have been conducted to determine that the implementation of value investing strategies in developed countries obtain annual returns beat the market yields. Wirawan et al (2021), Rani (2019), Jahan et al (2016) suggest that the investment portfolio strategy model built using the Benjamin Graham method criteria can produce annual returns that outperform market returns. Yulita et al. (2019) stated that the valuation of shares using the Benjamin Graham method in accordance with the valuation criteria, including: PT Arthavest Tbk, PT Bayu Buana Travel Service Tbk, PT Jakarta International Hotels and Development Tbk, PT Setiabudi Internasional Tbk, PT MNC Land Tbk, PT Destinations Tirta Nusantara Tbk, and PT Hotel Sahid Jaya Internasional Tbk. Kartikasari et al. (2018) suggest shares valuation analysis using the Benjamin Graham method on shares of PT Sat Nusapersada, Tbk, including undervalued and recommends “hold” based on the firm shares research has met 4 of the 8 criteria of the Benjamin Graham method.

Shares fluctuations and information circulating in the market very quickly affect share prices, so it has an irrational action for investors. A assessing the feasibility of investing in shares is necessary in dealing with fluctuations in share price movements to reduce the risk of investing. Comparing the fair value of the shares and the share price in the market can help investors to make investment decisions. Based on this, it is necessary to analyze the fair price of a firm’s shares using the Benjamin Graham method to help investors make the right investment decisions and minimize the potential risk of an investment decision taken by investors.

LITERATURE REVIEW

Signalling theory

Signaling theory assumes investors and managers have information related to the firm’s prospects, which makes the information symmetrical. However, the information in the market tends to be asymmetrical making investors rely more on the information provided by the firms (Rakim, 2018). Signaling theory arises when a firm gives a signal to investors by disclosing information causing fluctuations in share price changes, thus indicating to investors that the firm has promising prospects in the future or signaling a bad signal for the information provided.

Intrinsic valued

Signaling theory is a theory that assumes investors and managers have information related to the firm’s prospects, which makes the information symmetrical. However, the information in the market tends to be asymmetrical making investors rely more on the information provided by the firms (Rakim, 2018). Signalling theory arises when a firm gives a signal to investors in the form of information disclosure, causing fluctuations in share price changes, thus indicating to investors that the firm has promising prospects in the future or signaling a bad signal for the information. Assessment of intrinsic value has several methods (TICMI, 2020), including an earning-based approach, relative valuation models, and assets-based models.

The earning-based approach tests the intrinsic value of the shares to determine the current market value of the shares by discounting all incoming and outgoing cash flows that will be received in the future (Tandellilin, 2010). The method of analyzing the intrinsic value of the earning-based approach include 1) dividend discount model no growth, 2) dividend discount model: Gordon model, 3) dividend discount model: holding periods, 4) discount cash flow: free cash flow to firms, 5) discount cash flow: free cash flow to equity.

The relative valuation models test the intrinsic value of shares to determined if the current market value of shares is proxied by financial performance, and compared with similar industrial sectors. Methods of analyzing
the intrinsic value of price multiple models, including 1) price-earnings method, 2) price-sales method, 3) price-book valued method, 4) price-cashflow method.

The assets-based models test the intrinsic value of shares to determine if the current market value of shares is proxied by financial performance. The method of analyzing the intrinsic value of the asset-based model include 1) net assets value method, 2) fair market value method, 3) value investing method.

**Benjamin Graham’s formula models**

Benjamin Graham’s investment strategy is a shares valuation strategy whose actual value is higher than the market value, thus finding significant returns in the long term (Graham, 2016). Shares valuation analysis by researchers uses shares selection criteria to measure risk and reward, based on the criteria for determining the Benjamin Graham method, which Oppenheimer modified (1984). The selection criteria for Benjamin Graham’s method which has been modified by Oppenheimer (1984), shows that the more criteria a firm’s shares meet, the more shares can be used as a recommendation to make a purchase.

This paper develops the valuation of a share Oppenheimer (1984). Modification model Oppenheimer (1984) shown in Table 1. Previous studies showed different results in predicting the value of shares valuations. Nurjati (2019) suggests that the investment portfolio strategy model using the Benjamin Graham method criteria is cannot consistently generate annual returns that outperform market returns in predicting share valuations. However, a study by Wirawan et al. (2021), Rani (2019), Yulita et al. (2019), Jahan et al. (2016) suggests an investment portfolio strategy model using the Benjamin Graham method criteria can achieve annual returns that outperform market returns in predicting shares valuation values. In this paper, we estimate that the Benjamin Graham Formula strategy has no difference in predicting shares valuation.

### METHODS

This research is a quantitative descriptive research, which will describe the situation or conditions that occur at present systematically and factually. The population in this study is the shares of a firm that are included in the Consumer Goods sector in Indonesia which are traded on the Indonesia Shares Exchange. The sample used in this study with the following criteria: (1) firm listed on the IDX Composite index and have consistently published financial reports, (2) firm that is sampled in this study are those that included in the Consumer Goods sectoral index, (3) firm the research sample is a firm that meets the criteria based on the Benjamin Graham method, (4) the firms has complete data information including historical firms shares prices, historical EPS (earnings per share), has a relatively high average firms growth positive, corporate bond yield data, government bond yield data, equity, and total assets.

The type of data used in this study is secondary data. The data used are financial statement data taken from the sample firm's

### Table 1. Oppenheimer’s development criteria

| Criteria | Description |
|----------|-------------|
| Criteria 1 | earnings-to-price of at least twice the interest rate of bonds with an AAA rating |
| Criteria 2 | current price-to-earnings (P/E) below 40% P/E ratio the highest in the last 5 years |
| Criteria 3 | dividend yield of at least two-thirds of the AAA interest rate |
| Criteria 4 | share price below two-thirds of tangible book value per share |
| Criteria 5 | share price below two-thirds of net current assets per share |
| Criteria 6 | the value of debt is less than the book value of equity |
| Criteria 7 | the total current debt is less than twice the net current asset value |
| Criteria 8 | the current ratio is greater than two |
| Criteria 9 | the profit growth over the previous 10 years is at least 7% per year income growth is stable so that its growth does not decrease more than 2 times the decline which the percentage decline is greater than 5% or more in the last 10 years |
| Criteria 10 | earnings-to-price of at least twice the interest rate of bonds with an AAA rating |

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websites, the Indonesia Shares Exchange, ibpa.co.id and Google Finance websites, as well as other sources that support research obtained through literature review or literature study in the form of journals, books, articles and previous research.

Benjamin Graham's investment strategy is a shares valuation strategy whose actual value is higher than the market value, thus finding significant returns in the long term (Graham, 2016). The data analysis method used in this research is Benjamin Graham's shares valuation method with the development criteria of Oppenheimer's (1984). Oppenheimer (1984) development criteria used are: (1) earnings-to-price of at least twice the interest rate of bonds with an AAA rating, (2) current price-to-earnings (P/E) below 40% P/E ratio the highest in the last 5 years, (3) dividend yield of at least two-thirds of the AAA interest rate, (4) share price below two-thirds of tangible book value per share, (5) share price below two-thirds of net current assets per share, (6) the value of debt is less than the book value of equity, (7) the total current debt is less than twice the net current asset value, (8) the current ratio is greater than two, (9) the profit growth over the previous 10 years is at least 7% per year, (10) income growth is stable so that its growth does not decrease more than 2 times the decline which the percentage decline is greater than 5% or more in the last 10 years.

RESULTS AND DISCUSSION

Historical data used in this study is EPS sourced from the issuer’s financial statements from 2010 to 2020. Using the Benjamin Graham method, this data is used to determine the firm’s growth rate in valuing shares. Firms’ growth in this study was calculated using the Compound Annual Growth Rate (CAGR) method. The average growth rate of BUDI, ADES, SKLT, and STTP issuers has the highest average growth rate compared to that of similar sector firms.

Risk-free rate or risk-free yield used in this study is constant 7. The yield data for
government bonds used in this study is 7.45%, and the yield data for corporate bonds with an AAA rating used in this study is 11.88%.

Based on the processing and analysis of shares valuation data using the Benjamin Graham method, the fair value of a share for each issuer can be explained in Table 2.

Table 2. 
Results of Benjamin Graham methods Oppenheimer modification

| Criteria | Description | Firms |
|----------|-------------|-------|
| 1        | Earnings-To-Price at least twice the Interest of AAA-Rated Bonds | ADES AISA BUDI CEKA INDF WIIM TSPC |
| 2        | Price To Earning (P/E) Ratio is currently below 40% Highest P/E ratio over the Last 5 Years | AISA |
| 3        | Dividend Yield minimum two-thirds of AAA Bond Yield | BUDI CEKA MLBI GGRM HMSP TSPC |
| 4        | Shares Price below two-thirds of tangible book value per shares | BUDI, CINT |
| 5        | Share price below two-thirds of net current assets per share | BUDI |
| 6        | Debt value less than book value equity | ADES CEKA DLTA MYOR ROTI SKLT MERK SIDO STTP ULTJ GGRM HMSP WIIM DVLA KLBF TSPC TCID CINT |
| 7        | Current ratio at least twice | ADES DLTA ICBP MYOR ROTI MERK SIDO STTP ULTJ HMSP WIIM DVLA KLBF TSPC TCID CINT |
| 8        | Current assets at least twice the value of debt | ADES DLTA MERK SIDO HMSP WIIM DVLA KLBF TSPC TCID CINT |
| 9        | Profit growth during the previous 10 years at least about 7% per year | ADES BUDI ICBP INDF MYOR SKLT STTP ULTJ KLBF KING |
| 10       | Income growth is stable so that its growth does not fall more than 2 times, where the decline in percentage decline is 5% or more in the last 10 years | ICBP INDF MYOR ROTI SKLT STTP ULTJ KLBF TSPC UNVR |

Based on the selection criteria of the Benjamin Graham method, TSPC shares met the criteria at most, but the firms shares price was classified as overvalued. Researchers suggest buying ADES issuers. The firm's shares price is also undervalued; this shows that the shares price is far below the fair price of the shares. Shares of WIIM and CEKA issuers also have an undervalued value which can also be used as another alternative to be considered in making investment decisions.

The research findings are in line with Wirawan et al (2021); Rani (2019); Yulita et al. (2019); (Sitorus et al, 2017); Jahan et al (2016). Shares valuation strategies in determining investment decisions or portfolios strategies using the Benjamin Graham Formula investment strategy can help investors make investment decisions, thus finding significant returns in the long run, with minimizing the potential risk of an investment decision.
CONCLUSION

Benjamin Graham Formula is an investment strategy that compares the fair value of the shares with the shares price to help investors make investment decisions. The selection criteria for the Benjamin Graham method show that the more criteria that are met by a firm's shares, the more shares can be used as a recommendation to make a purchase. The fair price valuation analysis of shares using the Benjamin Graham method with modifications of Oppenheimer (1984) obtained the results that TSPC shares met 6 out of 10 criteria, ADES, as well as BUDI shares meet 5 out of 10 criteria. The shares of WIIM, HMSP, CINT, MYOR, ULTJ, and KLBF firms have met 4 of the 10 criteria.

Based on the Benjamin Graham's method selection criteria, the research suggests buying ADES shares. The firm's shares price is currently classified as undervalued. This shows that the share price is far below the fair price of the shares. The shares of CEKA issuers have an undervalued value, this can be used as another alternative to be considered in making investment decisions.

This paper has several limitations. The limitations of this study include the scope of research data. The research data used in this paper covers the companies included in the consumer goods sectoral index. Future studies are expected to develop different research objects so that they are expected to provide a broader description of the implementation of this strategy. Future studies are also expected to develop other valuation methods, such as the dividend discount model, discount cash flow, Altman Z-Score, and Greenblatt formula.

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Appendix

Appendix 1.
Distribution of Sampling

| Criteria                                         | Total |
|-------------------------------------------------|-------|
| consumer goods sector on the JCI index          | 52    |
| Incomplete data firms                           | (10)  |
| Firms data has negative growth                  | (18)  |
| Final Firms total                               | 24    |

Appendix 2.
List of research sample

| Code  | Firms Name                                          |
|-------|-----------------------------------------------------|
| ADES  | Akasha Wira Internasional Tbk                       |
| BUDI  | Budi Starch & Sweetener, Tbk                        |
| CEKA  | Wilmar Cahaya Indonesia, Tbk                        |
| DLTA  | Delta Djakarta, Tbk                                 |
| ICBP  | Indofood CBP Sukses Makmur, Tbk                      |
| INDF  | Indofood Sukses Makmur, Tbk                          |
| MLBI  | Multi Bintang Indonesia, Tbk                         |
| MYOR  | Mayora Indah, Tbk                                   |
| ROTI  | Nippon Indosari Corpindo, Tbk                        |
| SKLT  | Sekar Laut, Tbk                                     |
| AISA  | Tiga Pilar Sejahtera, Tbk                           |
| TSPC  | Tempo Scan Pacific, Tbk                              |
| KINO  | Kino Indonesia, Tbk                                  |
| TCID  | Mandom Indonesia, Tbk                                |
| UNVR  | Unilever Indonesia, Tbk                              |
| PYFA  | Pyridam Farma, Tbk                                   |
| SIDO  | Industri Jamu & Farmasi Sido Muncul, Tbk             |
| STTP  | Siantar Top, Tbk                                     |
| ULTJ  | Ultrajaya Milk Industry & Trading Co, Tbk            |
| GGRM  | Gudang Garam, Tbk                                    |
| HMSP  | Hanjaya Manalar Sampoerna, Tbk                       |
| WIIM  | Wismilak Inti Makmur, Tbk                            |
| DVLA  | Darya Varia Labolatoria, Tbk                         |
| KLBF  | Kalbe Farma, Tbk                                     |

Appendix 3a.
Fundamental ratio ADES

| Year | EPS  | PER  | DER  | PBV  | CR   | Price   |
|------|------|------|------|------|------|---------|
| 2016 | 95.00| 10.53| 1.00 | 1.53 | 3.93 | 1,000.00|
| 2017 | 65.00| 13.62| 0.99 | 1.23 | 3.43 | 885.00  |
| 2018 | 90.00| 10.22| 0.83 | 1.13 | 1.39 | 920.00  |
| 2019 | 142.00| 7.36| 0.45| 1.09| 2.00| 1,045.00|
| 2020 | 230.00| 6.35| 0.36| 1.22| 2.97| 1,460.00|
### Appendix 3b.
**Fundamental ratio BUDI**

| Year | EPS | PER | DER | PBV  | CR  | Price |
|------|-----|-----|-----|------|-----|-------|
| 2016 | 7.70| 10.30| 1.63| 0.36 | 1.00| 87.00 |
| 2017 | 9.13| 8.99 | 1.57| 0.38 | 1.01| 94.00 |
| 2018 | 10.68| 7.57 | 1.90| 0.38 | 1.00| 96.00 |
| 2019 | 14.00| 15.71| 1.44| 0.39 | 1.00| 103.00|
| 2020 | 6.45 | 15.35| 1.14| 0.36 | 1.15| 99.00 |

### Appendix 3c.
**Fundamental ratio CEKA**

| Year | EPS   | PER | DER | PBV  | CR  | Price |
|------|-------|-----|-----|------|-----|-------|
| 2016 | 420.00| 3.21| 0.61| 0.90 | 2.19| 1350.00|
| 2017 | 181.00| 7.13| 0.53| 0.83 | 2.22| 1290.00|
| 2018 | 156.00| 8.81| 0.2 | 0.84 | 5.11| 1375.00|
| 2019 | 362.00| 4.61| 0.23| 0.88 | 4.80| 1670.00|
| 2020 | 305.50| 5.84| 0.24| 0.84 | 4.67| 1,785.00|

### Appendix 3d.
**Fundamental ratio DLTA**

| Year | EPS   | PER | DER | PBV  | CR  | Price |
|------|-------|-----|-----|------|-----|-------|
| 2016 | 317.00| 15.77| 0.18| 3.97 | 2.85| 5,000.00|
| 2017 | 349.00| 13.15| 0.17| 3.22 | 2.66| 4,590.00|
| 2018 | 422.00| 13.03| 0.18| 3.44 | 2.89| 5,500.00|
| 2019 | 397.00| 17.12| 0.17| 4.50 | 2.91| 6,800.00|
| 2020 | 154.74| 28.43| 0.20| 3.46 | 7.50| 4,400.00|

### Appendix 3e.
**Fundamental ratio ICBP**

| Year | EPS   | PER | DER | PBV  | CR  | Price |
|------|-------|-----|-----|------|-----|-------|
| 2016 | 309.00| 27.75| 0.59| 5.69 | 2.40| 8,575.00|
| 2017 | 326.00| 27.30| 0.57| 5.30 | 2.43| 8,900.00|
| 2018 | 392.00| 26.65| 0.53| 5.63 | 1.95| 10,450.00|
| 2019 | 432.00| 25.81| 0.47| 5.13 | 2.54| 11,150.00|
| 2020 | 570.85| 16.77| 2.51| 3.79 | 2.25| 9,575.00|

### Appendix 3f.
**Fundamental ratio INDF**

| Year | EPS   | PER | DER | PBV  | CR  | Price |
|------|-------|-----|-----|------|-----|-------|
| 2016 | 600.00| 13.21| 0.87| 1.58 | 1.50| 7,925.00|
| 2017 | 586.00| 13.01| 0.88| 1.43 | 1.50| 7,625.00|
| 2018 | 565.00| 13.18| 0.93| 1.31 | 1.06| 7,450.00|
| 2019 | 672.00| 11.79| 0.77| 1.28 | 1.27| 7,925.00|
| 2020 | 732.80| 9.34 | 2.84| 1.41 | 1.37| 6,850.00|
### Appendix 3g.  
**Fundamental ratio MLBI**

| Year | EPS  | PER  | DER  | PBV  | CR   | Price  |
|------|------|------|------|------|------|--------|
| 2016 | 466.00 | 25.20 | 1.76 | 30.16 | 0.67 | 11,750.00 |
| 2017 | 627.00 | 21.79 | 1.36 | 27.18 | 0.83 | 13,675.00 |
| 2018 | 581.00 | 27.52 | 1.47 | 28.81 | 0.77 | 16,000.00 |
| 2019 | 572.00 | 27.10 | 1.52 | 28.40 | 0.73 | 15,500.00 |
| 2020 | 135.56 | 71.56 | 1.02 | 14.26 | 0.88 | 9,700.00 |

### Appendix 3h.  
**Fundamental ratio MYOR**

| Year | EPS  | PER  | DER  | PBV  | CR   | Price  |
|------|------|------|------|------|------|--------|
| 2016 | 62.11 | 25.92 | 1.06 | 5.74 | 2.26 | 1,610.00 |
| 2017 | 72.94 | 27.69 | 1.03 | 6.14 | 2.38 | 2,020.00 |
| 2018 | 74.74 | 33.27 | 1.05 | 6.85 | 2.65 | 2,620.00 |
| 2019 | 91.21 | 22.47 | 0.92 | 4.62 | 3.42 | 2,050.00 |
| 2020 | 92.09 | 29.42 | 0.79 | 5.50 | 3.69 | 2,710.00 |

### Appendix 3i.  
**Fundamental ratio ROTI**

| Year | EPS  | PER  | DER  | PBV  | CR   | Price  |
|------|------|------|------|------|------|--------|
| 2016 | 45.00 | 33.17 | 1.03 | 6.44 | 2.96 | 1,500.00 |
| 2017 | 22.00 | 58.27 | 0.61 | 2.80 | 0.22 | 1,275.00 |
| 2018 | 21.00 | 58.37 | 0.50 | 2.54 | 3.57 | 1,200.00 |
| 2019 | 38.00 | 34.00 | 0.51 | 2.60 | 1.68 | 1,300.00 |
| 2020 | 38.86 | 35.00 | 0.37 | 2.60 | 3.83 | 1,360.00 |

### Appendix 3j.  
**Fundamental ratio SKLT**

| Year | EPS  | PER  | DER  | PBV  | CR   | Price  |
|------|------|------|------|------|------|--------|
| 2016 | 30.00 | 10.20 | 0.92 | 0.71 | 1.31 | 305.00 |
| 2017 | 33.00 | 33.07 | 1.07 | 2.47 | 1.26 | 1,100.00 |
| 2018 | 46.00 | 32.42 | 1.20 | 3.05 | 1.22 | 1,500.00 |
| 2019 | 65.00 | 24.74 | 1.07 | 2.92 | 1.29 | 1,610.00 |
| 2020 | 63.39 | 24.68 | 0.89 | 2.38 | 1.53 | 1,565.00 |

### Appendix 3k.  
**Fundamental ratio AISA**

| Year | EPS  | PER  | DER  | PBV  | CR   | Price  |
|------|------|------|------|------|------|--------|
| 2016 | 184.00 | 10.55 | 1.17 | 2.18 | 2.37 | 1,945.00 |
| 2017 | (1,626.00) | (0.29) | (1.59) | (0.68) | 0.21 | 476.00 |
| 2018 | (38.00) | (4.38) | 1.52 | 0.23 | 0.15 | 168.00 |
| 2019 | 352.00 | 0.47 | (2.12) | (0.48) | 0.41 | 168.00 |
| 2020 | 129.40 | 3.02 | 1.42 | 88.95 | 0.81 | 390.00 |
Appendix 3l.  
Fundamental ratio TSPC

| Year | EPS  | PER  | DER  | PBV  | CR  | Price   |
|------|------|------|------|------|-----|---------|
| 2016 | 119.00 | 16.55 | 0.42 | 1.91 | 2.65 | 1,970.00 |
| 2017 | 121.00 | 14.87 | 0.46 | 1.59 | 2.52 | 1,800.00 |
| 2018 | 114.00 | 12.19 | 0.45 | 1.15 | 2.51 | 1,390.00 |
| 2019 | 123.00 | 11.17 | 0.45 | 1.06 | 2.74 | 1,375.00 |
| 2020 | 180.00 | 7.77  | 0.50 | 10.28| 2.95 | 1,400.00 |

Appendix 3m.  
Fundamental ratio KINO

| Year | EPS  | PER  | DER  | PBV  | CR  | Price   |
|------|------|------|------|------|-----|---------|
| 2016 | 126.00 | 24.05 | 0.69 | 2.24 | 1.53 | 3,030.00 |
| 2017 | 77.00  | 27.53 | 0.58 | 1.50 | 1.65 | 2,120.00 |
| 2018 | 105.00 | 26.67 | 0.64 | 1.83 | 1.50 | 2,800.00 |
| 2019 | 364.00 | 9.42  | 0.73 | 1.81 | 1.35 | 3,430.00 |
| 2020 | 76.64  | 35.50 | 1.09 | 1.54 | 1.19 | 2,720.00 |

Appendix 3n.  
Fundamental ratio TCID

| Year | EPS  | PER  | DER  | PBV  | CR  | Price   |
|------|------|------|------|------|-----|---------|
| 2016 | 806.00 | 15.51 | 0.23 | 1.41 | 5.25 | 12,500.00 |
| 2017 | 891.00 | 20.09 | 0.27 | 1.94 | 4.91 | 17,900.00 |
| 2018 | 861.00 | 20.03 | 0.24 | 1.76 | 5.76 | 17,250.00 |
| 2019 | 722.00 | 15.24 | 0.26 | 1.09 | 5.37 | 11,000.00 |
| 2020 | (272.43)| (23.80)| 0.24 | 0.69 | 10.25| 6,475.00 |

Appendix 3o.  
Fundamental ratio UNVR

| Year | EPS  | PER  | DER  | PBV  | CR  | Price   |
|------|------|------|------|------|-----|---------|
| 2016 | 166.80 | 46.52 | 2.56 | 62.94| 0.53 | 7,760.00 |
| 2017 | 183.60 | 60.89 | 2.65 | 82.45| 0.73 | 11,180.00 |
| 2018 | 238.00 | 38.15 | 1.75 | 46.91| 0.73 | 9,080.00  |
| 2019 | 193.80 | 43.34 | 2.90 | 60.67| 0.65 | 8,400.00  |
| 2020 | 189.47 | 38.88 | 3.15 | 56.79| 0.66 | 7,350.00  |

Appendix 3p.  
Fundamental ratio PYFA

| Year | EPS  | PER  | DER  | PBV  | CR  | Price   |
|------|------|------|------|------|-----|---------|
| 2016 | 9.62  | 20.79 | 0.58 | 1.01 | 2.19 | 200.00   |
| 2017 | 13.32 | 13.74 | 0.48 | 0.92 | 3.52 | 183.00  |
| 2018 | 15.79 | 11.96 | 0.57 | 0.85 | 2.76 | 189.00  |
| 2019 | 17.46 | 11.34 | 0.53 | 0.85 | 3.53 | 198.00  |
| 2020 | 40.54 | 24.07 | 0.44 | 3.31 | 2.93 | 975.00  |
### Appendix 3q.
Fundamental ratio SIDO

| Year | EPS  | PER   | DER  | PBV  | CR    | Price  |
|------|------|-------|------|------|-------|--------|
| 2016 | 16.25| 16.00 | 0.08 | 2.83 | 8.32  | 260.00 |
| 2017 | 17.95| 15.18 | 0.09 | 2.82 | 7.81  | 273.00 |
| 2018 | 22.30| 18.83 | 0.15 | 4.34 | 4.20  | 420.00 |
| 2019 | 27.15| 23.48 | 0.15 | 6.24 | 4.12  | 637.00 |
| 2020 | 31.13| 25.85 | 0.19 | 7.52 | 3.66  | 805.00 |

### Appendix 3r.
Fundamental ratio STTP

| Year | EPS  | PER   | DER  | PBV  | CR    | Price  |
|------|------|-------|------|------|-------|--------|
| 2016 | 133.18| 23.95 | 1.01 | 3.61 | 1.65  | 3,190.00 |
| 2017 | 165.16| 26.40 | 0.70 | 4.16 | 2.64  | 4,360.00 |
| 2018 | 194.81| 19.25 | 0.60 | 3.01 | 1.85  | 3,750.00 |
| 2019 | 368.41| 12.21 | 0.35 | 2.78 | 2.85  | 4,500.00 |
| 2020 | 479.76| 19.80 | 0.30 | 4.71 | 2.40  | 9,500.00 |

### Appendix 3s.
Fundamental ratio ULTJ

| Year | EPS  | PER   | DER  | PBV  | CR    | Price  |
|------|------|-------|------|------|-------|--------|
| 2016 | 60.75| 18.81 | 0.22 | 3.88 | 4.84  | 1,142.50 |
| 2017 | 61.00| 21.23 | 0.24 | 3.66 | 4.19  | 1,295.00 |
| 2018 | 60.00| 22.50 | 0.17 | 3.35 | 4.40  | 1,350.00 |
| 2019 | 89.00| 18.80 | 0.17 | 3.50 | 4.44  | 1,680.00 |
| 2020 | 24.43| 65.49 | 0.74 | 3.11 | 2.40  | 1,600.00 |

### Appendix 3t.
Fundamental ratio GGRM

| Year | EPS  | PER   | DER  | PBV  | CR    | Price  |
|------|------|-------|------|------|-------|--------|
| 2016 | 3,470.00 | 18.41 | 0.59 | 3.11 | 1.94  | 63,900.00 |
| 2017 | 4,030.00 | 20.79 | 0.58 | 3.82 | 1.94  | 83,800.00 |
| 2018 | 4,050.00 | 20.65 | 0.54 | 3.56 | 2.06  | 83,625.00 |
| 2019 | 5,655.00 | 9.37  | 0.54 | 2.00 | 2.06  | 53,000.00 |
| 2020 | 3,974.00 | 7.59  | 0.33 | 0.99 | 2.70  | 30,200.00 |

### Appendix 3u.
Fundamental ratio HMSP

| Year | EPS  | PER   | DER  | PBV  | CR    | Price  |
|------|------|-------|------|------|-------|--------|
| 2016 | 110.00| 34.82 | 0.59 | 13.03| 5.23  | 3,830.00 |
| 2017 | 109.00| 43.39 | 0.58 | 16.12| 5.27  | 4,730.00 |
| 2018 | 116.00| 31.98 | 0.53 | 12.20| 4.30  | 3,710.00 |
| 2019 | 118.00| 17.80 | 0.54 | 6.85 | 0.32  | 2,100.00 |
| 2020 | 73.76 | 20.33 | 0.64 | 5.76 | 2.45  | 1,500.00 |
### Appendix 3v.
#### Fundamental ratio WIIM

| Year | EPS  | PER  | DER  | PBV  | CR  | Price  |
|------|------|------|------|------|-----|--------|
| 2016 | 50.56| 8.70 | 0.37 | 0.93 | 3.39| 440.00 |
| 2017 | 19.31| 15.01| 0.25 | 0.62 | 5.35| 290.00 |
| 2018 | 24.33| 5.79 | 0.25 | 0.29 | 5.92| 141.00 |
| 2019 | 12.99| 12.93| 0.26 | 0.34 | 6.02| 168.00 |
| 2020 | 82.15| 6.57 | 0.35 | 0.95 | 3.67| 540.00 |

### Appendix 3w.
#### Fundamental ratio DVLA

| Year | EPS  | PER  | DER  | PBV  | CR  | Price  |
|------|------|------|------|------|-----|--------|
| 2016 | 136.00| 12.90| 0.42 | 1.82 | 2.85| 1,755.00 |
| 2017 | 145.00| 13.52| 0.47 | 1.96 | 2.66| 1,960.00 |
| 2018 | 198.00| 9.80 | 0.40 | 1.81 | 2.89| 1,940.00 |
| 2019 | 202.00| 11.14| 0.40 | 1.92 | 2.91| 2,250.00 |
| 2020 | 145.00| 16.69| 0.50 | 2.04 | 2.12| 2,420.00 |

### Appendix 3x.
#### Fundamental ratio KLBF

| Year | EPS  | PER  | DER  | PBV  | CR  | Price  |
|------|------|------|------|------|-----|--------|
| 2016 | 49.06| 30.88| 0.23 | 5.96 | 4.13| 1,515.00 |
| 2017 | 51.28| 32.96| 0.20 | 5.96 | 4.51| 1,690.00 |
| 2018 | 52.42| 29.00| 0.20 | 4.87 | 4.66| 1,520.00 |
| 2019 | 53.48| 30.29| 0.22 | 4.78 | 4.35| 1,620.00 |
| 2020 | 62.90| 23.52| 0.29 | 3.98 | 4.11| 1,480.00 |