FEASIBILITY STUDY OF COMPANY INVESTMENT
(Study on Public Cigarette Manufacturing Companies in 2013 – 2016)

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ABSTRACT

The number of tobacco manufacturing companies is decreasing significantly, above 60 (sixty) companies on average every year. However, the cigarette companies contribute a significant amount to the state revenues, with an increase of more than 5 (five) trillion rupiah every year. This, we want to know the feasibility of investing in a cigarette companies in the future. The method used includes four stages starting from data collection, data analysis, preliminary data processing, and drawing conclusions. We use three sample companies in this research: PT. Bentoel Internasional Investama Tbk., PT. Gudang Garam Tbk., And PT. HM Sampoerna Tbk. The results showed that based on the ROI, NPV, IRR, and BEP, PT. Gudang Garam Tbk. is the most feasible, followed by PT. HM Sampoerna Tbk., while PT. Bentoel Internasional Investama Tbk. not feasible for investment.

Keywords: investment feasibility, ROI, NPV, IRR and BEP.

A.   **INTRODUCTION**

Economic conditions in a country can be categorized into two: developed and developing countries. Based on Tortado (1997), the general characteristics of developing countries are low life levels, low productivity, high growth rates, high dependency, high level of unemployment, dependence on agricultural, and export of raw products, and dependence and vulnerability in international relations. Furthermore, the *United Nations Development Programs* divides three criteria in determining economic development level: income, life expectancy, education, and illiteracy rate. This development is measured by the Human Development Index (HDI) with a scale of 0 (zero) to 1 (one); zero indicates the lowest HDI and one indicates the highest HDI level. Countries with a low HDI level has an HDI ranges between 0 to 0.5, countries with a moderate HDI level ranges between 0.51 to 0.79, and high HDI ranges between 0.80 to 1. Below is a country at the medium development level viewed from the HDI and GNI in 2017:

Table 1.1
Average Human Development Index and Gross Nations Products
Medium Development Category in 2017

No.	Country name	HDI	GNI 2017 ($ billion)
1.	Philippines	0.699	9,154
2.	South Africa	0.699	11,923
3.	Egypt	0.696	10,355
4.	Indonesia	0.694	10,846
5.	Viet Nam	0.694	5,859
6.	Bolivia (Plurinational State of)	0.693	6,714
7.	Palestine, State of	0.686	5,055
8.	Iraq	0.685	17,789
9.	El Salvador	0.674	6,868
10.	Kyrgyzstan	0.672	3,255
11.	Morocco	0.667	7,340
12.	Nicaragua	0.658	5,157
13.	Cabo Verde	0.654	5,983
14.	Guyana	0.654	7,447
15.	Guatemala	0.650	7,278
16.	Tajikistan	0.650	3,317
17.	Namibia	0.647	9,387
18.	India	0.640	6,353
19.	Micronesia (Federated States of)	0.627	3,843
20.	Timor-Leste	0.625	6,846
21.	Honduras	0.617	4,215
22.	Bhutan	0.612	8,065
23.	Kiribati	0.612	3,042
24.	Bangladesh	0.608	3,677
25.	Congo	0.606	5,694
26.	Vanuatu	0.603	2,995
27.	Lao People's Democratic Republic	0.601	6,070
28.	Ghana	0.592	4,096
29.	Equatorial Guinea	0.591	19,513
30.	Kenya	0.590	2,961
31.	Sao Tome and Principe	0.589	2,941
32.	Eswatini (Kingdom of)	0.588	7,620
33.	Zambia	0.588	3,557
34.	Cambodia	0.582	3,413
35.	Angola	0.581	5,790
36.	Myanmar	0.578	5,567
37.	Nepal	0.574	2,471
38.	Pakistan	0.562	5,311
39.	Cameroon	0.556	3,315

Source: United Nations Development Programs

From the table data above, there are 39 countries included in the medium economic development. The top five are the countries in Asia, including Indonesia, which has a quite high GNI compared to other countries in the category.

One of the factors that drives economic growth is business within a country. Businesses play an important role in absorbing employment and economic welfare figures of the country. Especially if viewed in terms of income per capita, life expectancy, and education, business conditions are the biggest role in a country's economy. This is stated by the income per capita of society and life expectancy tends to be related to the work of society and its welfare in a country and the role of business in providing, absorbing and providing employment. Thus, the business competition conditions that occur in Indonesia can be described as follows:

Table 1.2
Indonesian Business Conditions 2011 – 2016

No.	Year	ITB	ITK
1.	2011	423	427
2.	2012	421	435
3.	2013	417	434
4.	2014	419	441
5.	2015	413	418
6.	2016	424	422

Source: Processed data bpps.go.id

Table 1.2 above shows data on business conditions in the Indonesian economy from 2011 – 2016. The data shows the conditions of two aspects, namely, ITB (Business Tendency Index) and ITK (Consumer Tendency Index); ITB is a general description of the development of business conditions calculated in the quarter at one year; This illustrates the general condition of companies engaged in Indonesia which are measured through indicators of business income, use of production capacity, and average working hours; ITK is a description of business conditions that draw consumers as consumers of products of goods and services

produced in the economy; The index is measured by indicators of domestic orders, orders from overseas, current selling prices, input goods orders. Therefore, if reviewed through the data above, it can be seen that the development of business from 6 (six) years ago is unstable or fluctuating.

This can be seen in 2011 – 2013 both ITB continued to decline, while ITK rose and then declined. ITB was 423 in 2011, 421 in 2012, and 417 in 2013, while ITK was 427 in 2011, 435 in 2012, and 434 in 2013. From these data, it can be concluded that the inability of production factors to meet consumption is one of the causes of these fluctuations. Furthermore, in 2013 – 2016 the decline in ITK and ITB continued but they increased in 2016; ITB was 419 in 2014, 413 in 2015, then increased to 424 in 2016. Meanwhile, ITK was 441 in 2014, 418in 2015, then increased to 422 in 2016. Thus, in the last year the factor production is able to meet consumer demand in the market.

Seeing these conditions, one of the industries engaged in the service sector, namely sector X, experienced significant growth. Even though these conditions can be seen as follow:

Table 1.3
Industrial Industry Data for 2008 – 2016

Tobacco Processing Industry		
No.	Year	Number of companies
1.	2008	1134
2.	2009	1053
3.	2010	981
4.	2011	989
5.	2012	945
6.	2013	866
7.	2014	862

Source: bpps.go.id

Based on the Table 1.3 above, the number of tobacco manufacturing companies is significantly decreasing year after year with the average of over sixty companies each year. The number of companies was 1134 in 2008, 1053 in 2009, 981 in 2010, 989 in 2011, 945 in

2012, 866 in 2013, and 862 in 2014. It can be concluded that tobacco manufacturing companies are facing a crisis in their business movements.

Based on the KLBI (Standard Classification of Indonesian Business Fields) tobacco manufacturing industry is the principal group which includes the processing of tobacco or tobacco substitute products, such as: cigarettes, cigars, cloves, snuffs, chewing, and tobacco cutting and re-drying, but it does not cover planting or initial processing of tobacco. There are several types of businesses, among others: cigarette industry and other tobacco products, kretek industry, white cigarette industry, other cigarette industries, other tobacco processing industries, and tobacco drying and processing industries.

Considering the variety of businesses in the industry, one its normative foundations for business in the industry includes the Minister of Finance Regulation No. 147/PMK.010/2016 about The Third Amendment to the Minister of Finance Regulation No. 179/PMK.011/2012 about Excise Tobacco Tariffs. Based on this regulation, besides raising the cigarette excise tariff by an average of 10.54 percent, it also regulates the retail selling price (HJE) of cigarettes that is valid per January 1, 2017. Based on the regulations that promote tax policy reform to control cigarette consumption in the community, this proposed a revision of Law No. 39/2017 about The Amendments to Law No. 11/1995 about Excise. The revision is also intended to provide significant fiscal gap. With the significant decrease of companies, cigarette companies are facing business policies that make companies have to experience the price in their sales.

Turning from policies and decreasing number of companies, in terms of productivity, tobacco companies have a significant amount of productivity that contributes to the wheels of the economy in Indonesia. The productivity and contribution are as follow:

Table 1.4
Company Productivity

No.	Year	Total production (billion stems)	Excise receipt (trillion IDR)
1	2007	231.0	43.5
2	2008	240.0	49,9
3	2009	245.0	55.4
4	2010	249.1	63.3
5	2011	279.4	73.3
6	2012	301.0	90.6
7	2013	348.0	103.6

Source: Kompasmania, September 2014

Based on the Table 1.4 above, tobacco companies have been increasing its productivity every year and contributing significantly to state revenues. However, the increase in the number of production from year to year is not stable. In 2007, cigarette production amounted to 231 (billion stems), 240 in 2008, but only 245 in 2009 and 249.1 in 2010. In 2011 – 2013 production began to increase significantly: 279.4 in 2011, 301 in 2012, and 348 in 2013.

However, the contribution to state revenue is increasing significantly of more than five trillion rupiah every year. In 2007, the contribution to the state revenue amounted to 43.5T, 49.9T in 2008, 55.4T in 2009, 63.6T in 2010, 73.3T in 2011, 90.6T in 2012, and 103.5T in 2013. This contribution is a significant contribution to the Indonesia's economy. In line with Rajaratman's research (2006), the investment plan is expected to be economically viable and financially to be built in the future. In line with Halil's research (2016), which explains what investment projections are feasible to run. Moreover, if it is reviewed through the amount of productivity, it can be pressed for these companies to absorb a lot of workers in Indonesia. Thus, this condition is one of the dilemmatic conditions for the company where in the cumulative industry the number continues to decline and policies that continue to suppress the movement of the company are the company.

Furthermore, from the background previously explained, the questions will arise in the future of the company's performance. These questions will lead to the sustainability of the company in the future. For this reason, a comprehensive study is needed in which the company's performance is calculated by a scientifically measured assessment method to contribute to the investment assessment and the company's financial performance. Thus, the study will be carried out in a scientific manner with the title "Investment Feasibility Study". The study was conducted on the listed cigarette companies on the IDX (Indonesia Stock Exchange).

B.   LITERATURE REVIEW

1.   Feasibility study

According to Sutrisno (1982: 75) a feasibility study is a study or assessment of whether a project proposal/business idea if implemented can run and develop in accordance with its objectives or not. Objects or subject maters of feasibility studies are project proposals/business ideas. The project proposal/business idea was reviewed, investigated, and investigated from various aspects whether it fulfilled the requirements to develop or not, for example marketing aspects, technical aspects, process aspects including input, output and marketing, commercial aspects, juridical aspects, social cultural aspects, pedagogical aspects and economic aspects. Meanwhile, Yacob Ibrahim (1998; 1) stated that the feasibility study is an activity to assess the extent to which benefits can be obtained in carrying out a business activity/project and is a material consideration in making a decision, whether to accept or reject a planned business/project ideas.

From both opinions about the definition of feasibility study above it can be concluded that the feasibility study is an activity of analyzing, reviewing and investigating various specific aspects of a business/project idea that will be implemented or implemented, so as to

provide a feasible picture (feasible-go) or not feasible (no feasible-no go) a business/project idea seen from the results obtained.

2.   Financial Statement Analysis

Financial statement analysis involves the use of financial statements, especially balance sheets and income statements because financial statements provide information about a company. Performance information is mainly provided in the income statement. Financial statement analysis is the application of analytical tools and techniques for general purpose financial statements and related data to produce useful estimates and conclusions in business analysis (Wild, 2005: 3). Thus, financial statement analysis is a method in assessing a company's performance.

Analysis of stock investment is a fundamental thing for investors to know, seeing without a good and rational analysis investors will suffer losses. The decision to buy shares occurs if the estimated value of a stock is above the market price. Conversely, the decision to sell shares occurs when the value estimate of a stock below market price. The stock appraisal process needs to be distinguished between values and prices. Value is an intrinsic value, while price is defined as market price. Intrinsic value is a true value of a stock that is determined by several fundamental factors of the company.

In general, there are many techniques of analysis in assessing the investment (the banner Anoraga and Piji Pakarti, 2003: 46) there are two, namely analysis fundamental, technical analysis, economic analysis, and financial ratio analysis. Fundamental analysis relates to the financial condition of a company. With this analysis, investors were helped to find out how the company's operations were owned by investors. Technical analysis used in this analysis in the form of a graph, it can be known how the tendency of the market, securities or commodity futures to be chosen in investing. This analysis is usually used for short and long term analysis. Economic analysis of the indicators used by policy makers in

the economic field is the level of GDP (Gross Domestic Product). Whether economic growth is good or not is seen from the welfare of local people and followed by capital market activities. Financial ratio analysis is a analysis that is widely used by potential investors that will reflect the financial situation and be reviewed from the company's operations.

Thus, from the above statement to assess investment in a company can use the analysis of the company's financial statements. In line with Lee's (2017) research, research methods approach to cash flow and BEP. And Siswati's research (2015), the method focuses on financial aspects. This assessment will use financial ratio analysis techniques that consist of:

1.   Return on Investments (ROI)

2.   Interest Rate of Return (IRR)

3.   Net Present Value (NPV)

4.   Break Event Point (BEP)

5.   Pay Back Period (PP)

6.   Average Rate of Return (ARR)

The calculation will be used to assess the investment each year so that it can answer the research problem, and draw conclusions in the study.

C.   RESEARCH METHODS

This research includes 4 (four) main stages starting from data collection, data analysis, preliminary data processing and drawing conclusions on generalization of data in the form of research results and recommendations (suggestions). At each stage of the activity there are activities that are the main focus and its output. The stages are explained as follows:

1.   Historical Data Collection Stage

In this stage the research will focus on collecting data related to the research that will be conducted. Furthermore, the data will be analyzed and then forwarded to the next stage for data analysis and processing. The data collection steps that will be carried out are:

a.   **Literature Study**

Literature study is intended to collect data in the form of research literature in the form of magazines, books, articles and financial reports as well as about the research to be conducted. Data collected will be quantitative and represent the final output of the research data.

b.   **Observation Study**

Observation study is intended to analyze the causes and effects of the various research variables. This step will be carried out using media that can support research processes such as the internet, computers, the IDX website, the World of Investment and so on. The data observed will produce a sampling output in the object of research. The sampling technique carried out in this study was *purposive sampling*. The step is intended so that the sample under study meets the requirements in answering the questions in the study. The samples are as follows:

Table 3.1
List of Listed Rokor Manufacturing Companies

No.	Company name
1	PT. Bentoel Internasional Investama Tbk
2	PT. Gudang Garam Tbk
3	PT. HM Sampoerna Tbk

Source: IDX Indonesia Stock Exchange 2013-2016

2.   **Data Analysis and Processing Stage**

In this stage, the data that has been collected is formulated in accordance with the research objectives that have been established previously. The purpose of research formulation is to answer the focus of research on data that has been collected previously by

researchers. For this reason, all research data will be reduced according to the problem formulation. However, the steps taken in this stage are as follows:

Historical Data Analysis

In this stage, a review of the data collected from the data collection process will be carried out. The historical data analysis series that will be carried out are as follows:
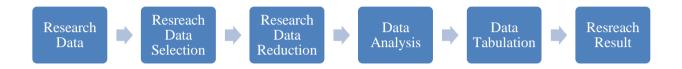
Research Data → Resreach Data Selection → Research Data Reduction → Data Analysis → Data Tabulation → Resreach Result

Chart 3.1
Data analysis

D.   RESULTS AND DISCUSSION

1.   Return on Investment (ROI)

Table 4.1.
ROI Table

Company name	ROI
PT. Bentoel Internasional Investama Tbk.	-16%
PT. Gudang Garam Tbk.	81%
PT. Sampoerna Tbk.	32%

(Data processed with SPSS and Excel)

Based on the research of 3 samples of the company studied, the best ROI was produced by PT. Gudang Garam Tbk. that is 81% and for the worst ROI produced by PT. Bentoel Internasional Investama Tbk. amounted to -16%. This indicates that PT. Gudang Garam Tbk. is very efficient in utilizing its assets in the company's operational activities in other words the management of PT. Gudang Garam Tbk. is very effective in using company assets to generate income. PT. Bentoel Internasional Investama Tbk. suffered losses for three consecutive years so that the ROI generated was negative. PT. Gudang Garam Tbk. and PT. HM Sampoerna Tbk. for four consecutive years always made a profit that resulted in a positive ROI but in this case PT. Gudang Garam Tbk. had a higher value than PT. HM

Sampoerna Tbk.. This shows that the management of PT. Gudang Garam Tbk. is more efficient in using the company's assets to generate revenue for the company. That way of course investors will be more interested in investing in PT. Gudang Garam Tbk. because it is considered more efficient in generating revenue. Even though it was seen from the data taken, PT. HM Sampoerna Tbk. experienced a very high increase in assets compared to other companies but still the management of the company was unable to utilize the assets that existed to optimize profitability.

Just imagine with a few assets that can generate high income, especially if the assets owned are large, of course the income generated will be very - very large. Companies with negative ROI must be avoided by investors because it proves that the company is not effective in utilizing assets to generate profits. This indicates that the management does not have the ability to optimally utilize available resources. In view of ROI, the higher the ROI, the better the effectiveness so that returns on an investment will be higher. In this study, of course, investors must choose an investment in PT. Gudang Garam Tbk. when viewed from the perspective of a valuable ROI of 81% even though over the past 3 years the increase in assets was not too high compared to PT. HM Sampoerna Tbk..

2.   **Internal Rate of Return (IRR)**

Table 4.2.
IRR Table

Company Name	IRR
PT. Bentoel Internasional Investama Tbk.	678%
PT. Gudang Garam Tbk.	218%
PT. HM Sampoerna Tbk.	571%

(Data processed with SPSS and Excel)

Based on the research of 3 samples of the companies studied, the IRR of each sample company was very high. It can be seen in the table for PT. Bentoel Internasional Investama Tbk., PT. Gudang Garam Tbk. and PT. HM Sampoerna Tbk. amounting to 678%, 218% and 571% respectively. This indicates that with a high IRR, the space for expectations for return

on investment is wide enough. The IRR is an analytical tool to measure the effectiveness of investment returns compared to investments in other places (bank deposit interest, mutual funds, etc.). This shows that compared to investments in banks or mutual funds, investors should prefer investment in the sample company because the IRR is more profitable.

Even though investments in banks are safe and profitable, when investing in a sample company there is an opportunity that is very wide open to get a return on investment that is intended. The higher the IRR, the higher the chance to get a good return on investment, so investors if they want to choose must be an investment where in the IRR point of view it is better to choose at PT. Bentoel Internasional Investama Tbk. even though during 2013 – 2016 they always suffered losses. This happens because with a small investment, this company still gets good cash inflows in the 2013 – 2016 period. In contrast to PT. Gudang Garam Tbk. and PT. HM Sampoerna Tbk., even though in the three years of the study period it always made a profit but cash inflow was not too large compared to PT. Bentoel Internasional Investama Tbk..

3.   **Net Present Value (NPV)**

Table 4.3.
NPV Table

Company name	NPV
PT. Bentoel Internasional Investama Tbk.	Rp. 47,596
PT. Gudang Garam Tbk.	Rp 184,969
PT. HM Sampoerna Tbk.	Rp. 255,845

(Data processed with SPSS and Exel)

Based on the research of the three sample companies studied, it can be seen that the highest NPV is PT. HM Sampoerna Tbk. and the lowest NPV is PT. Bentoel Internasional Investama Tbk. thus indicating that the increase in the value of the PT. HM Sampoerna Tbk. company is very fast compared to other companies. This is of course greatly influenced by the high profit from PT. HM Sampoerna Tbk. compared to other companies over a four-year period. One of the factors that makes PT. Bentoel Internasional Investama Tbk.'s NPV

smaller than other companies is because this company always loses during 2013-216 but this does not make the company's NPV negative because there are factors One of the benefits of NPV in the business is measuring the company's ability to manage investment in the next few years when changes in currency values and have a direct impact on the company's cash flow. NPV that is said to be feasible to do is when the NPV value is more than 0 and is said to be inappropriate when the NPV value is below 0. Positive NPV value indicates that investment is feasible because it will benefit investors but inversely if the NPV value is negative, this must be avoided by investors so as not to lose the investment.

When investors compare several investments using NPV, the first thing to note is whether the value of the NPV is a positive or negative investment, but when all investment options have a positive NPV value, investors are encouraged to choose the highest NPV value because the higher the NPV worth the investment. Based on the results of this study, the most feasible investment is the investment in PT. HM Sampoerna Tbk. because based on the above, the NPV value in this company is the highest value compared to other companies. If the investor chooses to invest in all three companies, it is still feasible because the NPV value does not have a negative NPV value. This indicates that if investors invest in these three companies, they will benefit from each of these investments.

4. Break Even Point (BEP)

Based on this study, not all companies experience BEP because PT. Bentoel Internasional Investama Tbk. always loses so that the profits earned are smaller than the operational costs. This is one of the investors' concerns because with the achievement of BEP, the company can achieve sales targets in terms of maximum profit. In this case it indicates that the management at PT. Bentoel Internasional Investama Tbk. is unable to realize the company's goal of generating profits. If you have to choose, investors are advised to choose to invest PT. Gudang Garam Tbk. because this company generates high profits due

to low costs. This means that the management of PT. Gudang Garam Tbk. has a very good business strategy in selling its products so that the profit generated can be optimal.

5. Payback Period (PP)

Based on the results of this study, three sample companies failed in the Payback period because the money invested will not close again for three years so if the investor assesses the investment feasibility through a payback period of three years then the above three companies are not feasible for investment. This is because, the initial investment was high in 2012 but during 2013 – 2016 the three companies produced a little cash inflow so that it can be said to fail in the payback period.

6. Average Rate of Return (ARR)

Table 4.4
Table Average Rate of Return

Company name	ARR
PT. Bentoel Internasional Investama Tbk.	-16%
PT. Gudang Garam Tbk.	81%
PT. HM Sampoerna Tbk.	32%

(Data processed with SPSS and Exel)

Based on the results of this study, according to the ARR point of view, 3 sample companies can be said to be unfit for investment because ARR is worth less than 100%. In the ARR point of view, the investment that is really worth doing is ARR> 100% otherwise if ARR is <100% then the investment is not screened. According to the table above, the ARR from PT. Bentoel Internasional Investama Tbk. is really not screened because it is negative. This is because during the period 2013-2016, PT. Bentoel Internasional Investama Tbk. always suffered losses, of course this will be very bad in the eyes of investors where successive losses will reduce the value of the company in the eyes of investors. PT. Gudang Garam Tbk. is also not feasible for investment because it only produces 81% for ARR.

This is because in 2016 this company suffered a loss so that it had an impact on the ARR value even though before 2016, the company always generated quite high profits

compared to the existing capital. PT. HM Sampoerna Tbk. in research is not feasible for investment in the ARR perspective because the ARR produced is very small compared to PT. Gudang Garam Tbk., which is only 32%. This indicates that the profit generated in the 2013-2016 period is not too large, of course this is the concern of investors who plan to invest their money in the company. If investors are faced with the investment options above, then obviously investors should invest in PT. Gudang Garam Tbk. because even though the ARR is below 100%, the ARR value generated is quite high compared to other companies and as much as possible avoided to invest in PT. Bentoel Internasional Investama Tbk. because they always suffer losses.

E.   CONCLUSIONS AND RECOMMENDATIONS

Conclusion

Table 5.1
Portfolio Table

Company Name	ROI	IRR	NPV	BEP	PP	ARR
PT. Bentoel Internasional Investama Tbk.	Not feasible	Feasible	Feasible	Not feasible	Not feasible	Not feasible
PT. Gudang Garam Tbk.	Feasible	Feasible	Feasible	Feasible	Not feasible	Not feasible
PT. HM Sampoerna Tbk.	Feasible	Feasible	Feasible	Feasible	Not feasible	Not feasible

Based on the portfolio of the two sample companies above, it is very clear that PT. Bentoel Internasional Investama Tbk. is not as feasible as the other two companies. this company is said to be feasible for investment seen only from NPV and IRR point of view, unlike the other two companies, PT. Gudang Garam Tbk. and PT. HM Sampoerna Tbk. that are feasible from the point of view of ROI, NPV, IRR and BEP. However, if investors who see from the perspective of ARR and BEP, it means that all of the above companies are not feasible for investment because they do not meet the criteria. If we look at it from the

perspective of NPV and IRR, all of the above companies are feasible because they meet the requirements criteria of each point of view. Overall, PT. Gudang Garam Tbk. is the most feasible of all three, followed by PT. HM Sampoerna Tbk..

Suggestion

Investors who are faced with investment decisions in the 3 companies above are expected to be able to choose the right one and in accordance with the strategy and objectives to be achieved. If the goal is payback period and ARR, it is clearly advisable not to invest in the 3 companies above, but if you look at it from the perspective of ROI, NPV, IRR and BEP, it is advisable to invest in PT. Gudang Garam Tbk. and PT. HM Sampoerna Tbk .. Investors are advised to ignore investments in PT. Bentoel Internasional Investama Tbk. because according to the descriptions above it is really detrimental even though for some points of view it can still be said to be feasible but should be avoided.

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