#

JOURNAL OF
BUSINESS AND MANAGEMENT
Vol. 1, No.5, 2012: 379-383

RISK AND RETURN COMPARISON ANALYSIS AMONG GOLD, JKSE, AND PROPERTY IN SUMUR BANDUNG, BANDUNG WETAN, AND COBLONG DISTRICT IN LONG TERM INVESTMENT

Ratu Sitti Bashiira Soelaiman and Achmad Herlanto Anggono
School of Business and Management
Institut Teknologi Bandung, Indonesia
ratu.sitti@sbm-itb.ac.id

Abstract

Basically, the goal of investing is to maximize the investor's return. There are three basic consideration in making an investment decision; they are return, risk, and the relationship level of risk and expected return. The longer time available to achieve financial objectives, the riskier instrument can be used in order to widening high return possibility and also allow us to accept the fluctuations of the value of our savings. The long-term investment products, such as property, gold, and stock are believed as the best choice in gaining high return as well as against the inflation. Gold is commonly regarded as a value and wealth protector, normally called 'hedging'. The risk of investing in stocks is quite high, but until now the rate of return of the stocks is very much higher compared to the interest rate of savings and time deposits. Public interest on capital market investing continues to rise nowadays, can be seen from Jakarta Composite Index which illustrates the increasing number of members of exchanges, as well by changes in stock prices traded itself. Property prices keep increasing due to the ever-growing population. Properties can also provide passive income for the owner. Those three investment instruments are assumed potentially provide high return with a controllable risk for the investors.

Key Word : Investment Instruments, Risk and Return, Gold, JKSE, Property

Introduction

Today, people invests as the alternative to save money either at home or in the bank. By investing, people could not only keep their money safe, but also multiply the amount. There are various investment instrument which can be selected by the investors. Many people got interested in gold investing, it is the most popular metal demanded by investors. Gold investment has many benefits as it is easy to carry and manage, the price continue to rise and regarded as a value and wealth protector, normally called 'hedging'. Public interest on capital market investing continues to rise nowadays, which could be easily seen in a quite high movements of average stock prices in Indonesia. The development of capital markets is indicated by the increasing number of members of exchanges, as well by changes in stock prices traded itself. The level of excitement of capital market activity and investors in share transactions affect the changes of stock price.

Investing in property is still in a top choice for most people. In a country stated in perpetual crisis as Indonesia, property never gets the adverse effects of the situation. Generally, property prices rise in accordance to the inflation rate. Similar to gold investment, property is an instrument that can consistently beat inflation. The prices keep increasing due to the ever- growing population, which led in an increasing demand, and the supply will remain the same. Properties can also be rented and provide passive income for the owner.

Based on 'The Most Recommended Cities to Invest' survey conducted by Majalah SWA and Business Digest, and also reportage in Majalah SWA No. 17/XXV/6-19 August 2009, Bandung is stated as the second most widely recommended city for investment destination

#

after Pekanbaru. Bandung City consisted from several districts. In the observation made by the author in several sub districts, namely Sumur Bandung, Bandung Wetan, and Coblong, there are some noticeable changes in the atmosphere of those areas from time to time. Because of the changes in the residential purpose of the area to business and industry sectors of property, those 3 sub-districts has made an increasing visitors over times which led to give potential high return on land prices in those areas.

According to the fact of public interest and benefits of Gold, Stock, and Property in Sumur Bandung, Bandung Wetan, and Coblong, therefore author would like to analyze and compare the risk and return of those investment instruments.

Literature Review

Return

Basically, return is the main purpose of investors in doing investment activity. In the concept of return, there are two size of nominal return base on time period. The two approaches are Arithmetic and Geometric Return. In analyzing investment returns, it is important to differentiate between the simple arithmetic return and the geometric return.
Below is the arithmetic return formula:

$$R_{arithmetic} = (C_t + P_t - P_{t-1}) / P_{t-1}$$

Where Ct is cash (flow) received from the asset investment in the time period t-1 to t, Pt is value at time t, and Pt-1 is the value at time t-1

Geometric average value repeatedly called the time-weighted average return to emphasize that each past return receives an equal weight in the process of averaging. The general equation to calculate geometric average return is:

$$r_{geometric} = \left(\prod_{i=1}^{n} (1 + r_{arith,i}) \right)^{1/n} - 1$$

Where rarith is arithmetic return per period and n is total number of periods

Risk

Basically, risk is the chance of financial loss. The purpose of an asset's risk calculation is to measure the dispersion around the expected value; indicated by the value of standard deviation of the arithmetic return for *n* years. The expression for standard deviation of return is:

$$s = \sqrt{\frac{1}{N-1} \sum_{i=1}^{N} (x_i - \overline{x})^2}$$

Where xj is return for the ith outcome, x is the average return, and n is number of outcomes considered.

Capital Asset Pricing Model

In the book of 'Principles of Managerial Finance', it is also stated that "*the basic theory that links risk and return for all assets is the capital asset pricing model (CAPM)"* (Gitman 2009:249). This model links non-diversifiable risk and return for all assets.

Beta coefficient is a relative measure of non-diversifiable risk. It is an index of the degree of movement of an asset's return in response to a change in the market return. The market return is the return on the market portfolio of all traded securities that commonly refer to The Stock Composite Index (known as JKSE in Indonesian's Index). Beta measures the extent to which returns on an investment and the market move together. The general equation of calculating beta is:

$$ßj = Cov\ (rj\ ,rM) / σ2M$$

Where rj is required return on asset *j*, rM is required return on the market, and σ2M is the variance of the macroeconomic factor.

Performance Evaluation

There are several possible risk-adjusted performance measures: Sharpe, Information ratio, Treynor, and Jensen. Furthermore in this paper, the author will apply Sharpe and Treynor measure to evaluate the investment instruments performance. Below is the Sharpe measure equation:

$$S_i = \frac{R_i - R_f}{\sigma_i}$$

where Ri is the return of investment instrument per year, Rf is return of risk free rate per year (BI rate = 5.75%), and σi is risk per year of the

#

investment instrument.
Below is the equation of Treynor measure:

$$T_i = \frac{R_i - R_f}{\beta_i}$$

Where Ti is Treynor's measure for Portfolio I, Ri is the portfolio i return, Rf is Risk free Return (BI rate = 5.75%), and ßi is the beta of Portfolio i.

Methodology

In this research, the author uses some steps to find the best investment instrument based on its risk and return performance between Gold, JKSE, and property in Sumur Bandung, Bandung Wetan, and Coblong. The first step is to find the return and risk of each investment instrument according to the historical price data in the pas 15 years. The second step is to find the beta or the nondiversifiable risk of each investment instrument which later will be used to find the performance evaluation. Third step is doing Performance Evaluation analysis. The performance analysis will be in two different measure, they are Sharpe and Treynor measure. This method will analyze the risk-adjusted return of each instrument to be compared in the last section and finally find the best investment instrument with the best performance based on historical data in the past 15 years.

Result and Discussion

Risk and Return
Below is the table of Risk and Return calculation result :

Table 1 Risk and Return

Investment Instruments		Arithmetic Average Return	Geometric Average Return	Risk
Gold		12.28%	10.90%	13.55%
JKSE		20.02%	12.84%	39.81%
Property	Sumur Bandung	11.97%	10.92%	17.54%
	Bandung Wetan	13.16%	12.30%	15.31%
	Coblong	15.69%	14.86%	14.87%

From the table above, it can be seen that based on arithmetic Average Return, JKSE has the highest return compared to other investment instruments, about 20.02%. Differently, the highest average return in Geometric placed by Property in Coblong District.

In this case, risk is calculated based on geometric return. The table above illustrates that JKSE is the riskiest that other instruments, 39.81%, and it is also more than tripled number of its geometric return. The risk of Coblong has almost the same percentage with its return, it is 14.87%.

Capital Asset Pricing Model (CAPM)

The following is the table of CAPM calculation results :

Table 2 CAPM and beta

Investment	Instruments	beta	CAPM
Gold		0.186	y = 0.1861x + 0.0927
JKSE		1	y = x
Property	Sumur Bandung	0.869	y = 0.0902x + 0.0957
	Bandung Wetan	0.957	y = 0.1124x + 0.1024
	Coblong	1.389	y = 0.1221x + 0.1227

Before Getting a result of the CAPM, the essential thing to be conducted is the search for beta which used for CAPM formulation. Basically, the higher beta, the higher risk of an investment instrument. After the beta calculation above, it can be seen that the highest beta coefficient is Property in Coblong District investment. It means that even investing in

#

Coblong District has the highest geometric average return which means it offers highest return possibility, it also has the highest nondiversifiable risk compared to other investment instruments. Coblong District has beta coefficient greater than 1, means that the price is more volatile than the market price.

On the other hand, Gold has the smallest number of beta coefficient, it is 0.186. It also shows that Gold has the lowest nondiversifiable risk. In this case, JKSE presented as 1 as market beta coefficient, indicating that the security's price will move along with the market.

Performance Evaluation

- *Sharpe Measure*

Below is the calculation result of Sharpe Measure with risk free rate per year (BI rate = 5.75%) :

Table 3 Sharpe Measure

Investment Instruments		Sharpe Measure			
		(using Arithmetic)		(using Geometric)	
		Instrument	Market	Instrument	Market
Gold		0.402	0.358	0.317	0.178
JKSE		0.358	0.358	0.178	0.178
Property	Sumur Bandung	0.355	0.358	0.295	0.178
	Bandung Wetan	0.484	0.358	0.428	0.178
	Coblong	0.669	0.358	0.613	0.178

According to Sharpe Measure, the highest number of ratio between investment instruments is divided into two methods. The first one is based on Arithmetic Average Return, placed by Coblong Property in 0.669, while the market ratio is 0.358. The second method is based on Geometric Average Return which believed as the more accurate number of estimation, placed by Coblong property as well, with market ratio 0.178.

- *Treynor Measure*

Below is the calculation result with Treynor Measure :

Table 4 Treynor Measure

Investment Instruments		Treynor Measure			
		(using Arithmetic)		(using Geometric)	
		Instrument	Market	Instrument	Market
Gold		0.351	0.143	0.277	0.071
JKSE		0.143	0.143	0.071	0.071
Property	Sumur Bandung	0.072	0.143	0.060	0.071
	Bandung Wetan	0.077	0.143	0.068	0.071
	Coblong	0.072	0.143	0.066	0.071

Similar with Sharpe Measure, Treynor Measure also divided into 2 groups based on its methods, Arithmetic and Geometric Average Return basis. The highest number of ratio between investment instruments based on Arithmetic Average Return and Geometric Average Return placed by Gold in 0.351 and 0.277 respectively, while the market ratio (JKSE) is 0.143 based on Arithmetic and 0.071 based on Geometric.

Conclusion and Recommendation

Conclusion

After calculating and analyzing all of data into risk and return and the comparison of all investment instruments, it comes to conclusion as the following:

- According to Return comparison analysis, Property investment in Coblong District placed as the highest return in the past 15 years.
- According to beta coefficient comparison, Coblong district has the

#

highest value which means it is the riskiest instrument investment compared to others. However, the Gold investment is the lowest beta coefficient so it is the best choice to avoid risk

- Based on performance evaluation in Sharpe measure, Coblong Property investment has the highest ratio which also means that the performance after risk adjusted is the best compared to other instruments. Based on performance evaluation with Treynor measure, Gold has the best performance in 15 years period.

Recommendation

- *Business Purpose :*
  - This research can only applied in Indonesia because of the BI Rate as the basis of risk free asset. Investor who wants to invest in outside of Indonesia should use Risk Free Asset from the respective country.
  - Actually using Sharpe Measure is the most appropriate method to estimate the best investment instruments according to its performance because the risk-adjusted use standard deviation as risk which it is the whole risk of the investment.
  - From the result of this research, it is recommended to investor to invest in Coblong Property based its good performance in the past 15 years. However, gold also has a good performance based on Treynor Measure.
  - This research only applied to a single asset investment. To avoid the risk, investor can also make a portfolio or diversified the asset allocation which need a further research of the correlation between each investment instruments.

Further Research

- It is better to use geometric return rather than Arithmetic return because Arithmetic Return results basically way too optimistic.
- This research can be applied to other property area.
- The wider period of research, the better it is because it can resulted the more accurate calculation.

References

Bodie, Z., Kane, A., and A. J. Marcus, 2009, *Investment* (8th ed), Singapore: The McGraw-Hill.

Bodie, Z., Kane, A., and A. J. Marcus, 2009, *Essential of Investment* (8th ed), Singapore: The McGraw-Hill.

Gitman, L.G., Zutter, C.J., 2012, *Principles of Managerial Finance* (13th ed). Boston: Pearson Education.

Joehnk, Billingsley, Gitman, 2011, *Planning Your Personal Finances* (12th ed), Southwestern: Cengage Learning.

Ross, Westerfield, Jordan, 2008, *Corporate Finance Fundamentals* (8th ed), Singapore: The McGraw-Hill.

Sukarno, S., Damayanti, S. M., 2011, *Perencanaan Keuangan Pribadi,* Indonesia: Consultancy & Continuing Education.

Gosh, D., Levin, E. J., Macmillan, P., Wright, R. E., 2002, *Gold as an Inflation Hedge?,* retrieved on July 10, 2012 from http://strathprints.strath.ac.uk/6926/1/strathprints006926.pdf

Kitco.com, 2012, Past Historical London fix, retrieved on May 1, 2012 from http://www.kitco.com/scripts/hist_charts/yearly_graphs.plx

Tanuwidjaja, W., 2009, *Cerdas Investasi Emas*, retrieved on 20 July 2012 from http://books.google.co.id/books?id=0cOedGl9y10C&printsec=frontcover&hl=id&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false