CHAPTER I
INTRODUCTION

1.1 Background of the research

People tend to invest in the instrument which generate higher rate of return than inflation rate. Capital market investment is growing rapidly in Indonesia as one of promising investment. The Aggregate performance of capital market can be easily seen by its index (Jakarta Composite Index). Many factor influencing the price movement of the stock. Factor influencing stock price might be appeared from internal which could be controlled by the company. Otherwise, it might come from external, like economic stability. Economic stability in a country could be measured by macroeconomics variables. Inflation, interest rate, and exchange rate are some macroeconomics variable that shows economic condition in Indonesia.

Managing risk and controlling losses is essential to any profitable trading plan. While traders tend to be optimist and focus on setting appropriate profit targets, traders must dedicate more attention to determining acceptable losses, because traders cannot win if they are knocked out of the game. (www.easy-forex.com, 7th January 2014)

Tuesday 9th October 2007, Dow Jones closed at a new all-time record high (at that time) at 14, 087.55 or up 191.92 points (+ 1.38%). Then many people put more money in stock because the forecast said it was still going higher. In fact, after that Dow Jones got the impact of The Great Recession in 2008 – 2009. Many people got bankrupt at the stock market. The main reason is they were not ready to lose money as much as they bet at there. Second they did not know the risk. Third is they did not cut their loss and hope the market would be better soon. In fact the market still bearish until hit 6507.04 in 9 March 2009. (www.cnbc.com, 7th January 2014)

Global crisis happened in 2008 which started in United States also affecting Indonesia's economic condition. Before the crisis happened, the JCI average gain could reach 50% annually. During 2008 until 2011, JCI only gained 11%. Depreciating value of Indonesia currency to USD currency and lower demand on Indonesian export are some of the impact of the crisis in 2008.

When planning a portfolio strategy, two things has to be decided is what is more important to the investor, high return or low risk. The consensus in today's knowledge of asset management is that we for the most part cannot have both higher than average return and lower than average risk, and the investor needs to decide which one is the most important to them in their specific situation.

When investors are to allocate their money into favorable investments, usually their most important goal is to make as much money as possible. For those investors who are only concerned with maximizing their wealth, using the Kelly criterion when sizing their portfolio positions makes perfect sense.

The Kelly criterion, which was first introduced by John R. Kelly in his famous article on the information rate, has proven to optimize the growth of an investors' wealth if one follows the formula of Kelly diligently. More precisely, Kelly tells you how much to invest in a given asset where you know the expected return and the volatility of the asset if you want to maximize the expected growth of your wealth. (O. Thorp & Lewis M.Rotando, 1992)

Institutional investor's, like governments and pension funds which have significant liabilities to take care of, would be more interested in keeping their risk profile low in order to keep a loss beyond their liabilities. For investors like high-risk hedge funds or private investors which are more interested in maximizing their wealth, having higher return often comes at the cost of having higher risk, and investors such as Edward O. Thorp in the Princeton-Newport Fund, Warren Buffet in his company Berkshire Hathaway, John Maynard Keynes' King's

College Chest Fund and different gambling syndicates all have in common that they have applied the Kelly criterion when creating their impressive results. The formula that has led to such fortunes is quite easy to recite and use:

The only calculations that is needed, is the probability of winning and the one of the biggest problems with using the Kelly criterion, and any portfolio strategy in general, is the problem of getting accurate estimates for the inputs needed to calculate the return, and in turn, the fraction of our wealth to invest in the investment objective at hand. This might seem trivial enough for basic betting opportunities like playing roulette in a casino. In casino gambling, you would know the exact probability of winning and the exact return you get if you win. However, once we start to invest in areas where we encounter more uncertainty, like sports betting where we don't know our exact win probability, or the stock market where we neither know our exact win probability, nor the exact return we would expect to receive, we have to start estimate our inputs. This adds uncertainty to what our actual return and risk will be, and may lead us to bet either too much or too little, and as we will see, may lead to disastrous results for our wealth.

1.2 Research Problems

Does bet fraction according to Kelly Criterion results in higher return compared to constant betting in stock investment in Indonesia Stock Market?

1.3 Research Objective

To prove if bet fraction according to Kelly Criterion results in higher return compared to constant betting in stock investment in Indonesia Stock Market.

1.4 Research Contribution

There are several examples throughout history where investors have underestimated the probability of extreme events happening, which make

investors drastically over bet compared to if they had known the "true" probabilities for every event that could have occurred. This research will be contribute to Indonesia Stock Market investors so that investors can control their risk and manage portfolio better.

1.5 Research Limitations

This research will be tested on Indonesia Stock Market. The stock investment simulation will be run in LQ45 stocks. Research period is from 2000 – 2012. Data collected will be in year 2000 to 2006. The stock trading simulation will be running in year 2007 to 2012. Then the result will be compared to constant betting trading in the exact same transaction.

1.6 Research Outlines

In chapter 1will be discussing about the main idea of investment and the methodology that will be used in this study and describe the features and the limitations of the subject to be tested. In chapter 2 Kelly Criterion methodology will be presented first that used to use in US Stock Market. In chapter 3 it move on to a more complex scenario where it will take a closer look at how the Kelly criterion will perform in stock investment that we will simulate using excel, focusing on the benchmark with the constant betting that most people do. In chapter 4 the result will be explained in detail graph for every periode of trading from year 2009 to 2014. In Chapter 5 suggestion and discussion will be explained. The reason and summary about this thesis will be explained.