The Development of Option Market and The Role of Indonesia Financial Service Authority (OJK) In Indonesia Capital Market Period 2004-2019

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Abstract
The purpose of this paper is to describe several things related to the notion of options, stock options, transaction mechanisms, applicable legislation based on the study of literature, the previous research, and various information from financial sites related to the topic mentioned above. Therefore, the research questions that needs to be answered are as follows: 1. What are the developments in options markets in Indonesia? 2. What is the role of the Financial Services Authority (OJK) in developing options trading transactions related to the legal aspect in Indonesia Stock Exchange or capital market? Meanwhile, option is basically a contract between two parties that contains the right for the option buyer to buy or sell the underlying asset of the contract at the certain time and price agreed upon at the beginning of the contract. The discussion will be emphasized on the development of derivative transactions and the role of Financial Services Authority (OJK) in increasing the number of derivative transactions in Indonesia period 2004-2019 regarding the change of legal aspect.
Keywords: option market, Financial Service Authority, legal aspect, capital market

Abstrak
Tujuan dari makalah ini adalah untuk menggambarkan beberapa hal yang berkaitan dengan pengertian opsi, opsi saham, mekanisme transaksi, undang-undang yang berlaku berdasarkan studi literatur, penelitian sebelumnya, dan berbagai informasi dari situs keuangan terkait dengan topik yang disebutkan di atas. Oleh karena itu, pertanyaan penelitian yang perlu dijawab adalah sebagai berikut: 1. Apa saja perkembangan di pasar opsi di Indonesia? 2. Apa peran Otoritas Jasa Keuangan (OJK) dalam mengembangkan transaksi perdagangan opsi yang terkait dengan aspek hukum di Bursa Efek Indonesia atau pasar modal? Sementara itu, opsi pada dasarnya adalah kontrak antara dua pihak yang berisi hak bagi pembeli opsi untuk membeli atau menjual aset yang mendasari kontrak pada waktu tertentu dan harga yang disepakati pada awal kontrak. Pembahasan akan ditekankan pada pengembangan transaksi derivatif dan peran Otoritas Jasa Keuangan (OJK) dalam meningkatkan jumlah transaksi derivatif di Indonesia periode 2004-2019 tentang perubahan aspek hukum.
Kata Kunci: pasar opsi, Otoritas Jasa Keuangan, aspek hukum, pasar modal.

1. Introduction

Fundamentally, the definition of option shows an agreement / contract between an option seller (seller or writer) with an option buyer (buyer), where the seller of options guarantees the right (not an obligation) of the option buyer, to buy or sell certain assets at the time and price predetermined (Tandelilin, 2010, 529). Meanwhile, option trading means the trading of a contract that gives the holder the right to buy or sell a stock at a certain price and for a certain period of time. Viewed from the notion of options that refer to "rights", the option contract may or may not be executed, so that it can be said that the option is not a must be executed contract. In general, the option can be executed if the option holder gets a profit (https://www.finansialku.com/definisi-per Trading-opsi-adalah/).

The options traded on the IDX are Stock Option Contracts (KOS). As the name implies, the asset underlying the contract is a stock that can be used as an underlying asset. The shares themselves are a sign of ownership. However, not all existing shares can be used as underlying assets, which is due to the consideration of volatility of outstanding stock prices (https://www.kpei.co.id/page/kontrak-opsi-saham-kliring). Stock options are generally issued by investors to be sold to other investors. The companies which are issuers of the shares used as the benchmark are not involved in the option transaction. General grouping of options based on the form of rights that occur can be set into two groups, namely: 1. Call option, which is an option that gives the holder the right to buy shares in a certain amount at the strike price within a period of time agreed upon, where there are two types of buying options, namely: long call and short call; and 2. Selling option (put option), which is an option that gives the owner the right to sell certain shares in the amount, agreed price (strike price) in a predetermined period of time, where the selling option is also divided into two types, namely long put and short put (Tandelilin, 2010, 531; https://www.finansialku.com/definisi-trade-opsi-adalah/).

2. Theoretical Framework

Terminology and Illustration of Option Trading

The capital market in Indonesia can be said to have limited derivative products. So far there have only been two derivative products offered by the government through the Indonesia Stock Exchange. The first is Securities Index-based Futures Contract (KBIE) LQ-45 or often called the LQ-45 Futures which was then relaunched in 2016. Through the characteristics of this product, investors who have issuers' shares in the LQ45 Index can buy LQ45 securities index futures contracts as a means of hedging or protection, based on three periods of hedging contracts offered namely 1 month, 2 months, 3 months. The initial hedging contract margin is set at 4% of the securities index price multiplied by the number of contracts and multipliers valued at Rp500,000 per index point. While auto rejection LQ45 Futures contracts are pegged at 10% with a leverage level set at 25 times.

Meanwhile, previously in 2004, the Jakarta Stock Exchange had issued a Stock Option Contract (KOS) which was the second derivative product issued by the government. This option trade uses five parent shares which are large companies in Indonesia, consisting of PT Astra International Tbk., PT Bank Central Asia Tbk., PT Indoofood Sukses Makmur Tbk., PT HM Sampoerna Tbk., And PT Telekomunikasi Indonesia Tbk. (https://market.bisnis.com/read/20180530/190/800921/produk-opsi-saham-langkah-awal-bursa-siapkan-5-saham).

Derivative products for Stock Option Contracts (KOS) generally have the main components which can be described as follows (https://www.kpei.co.id/page/contrak-opsi-saham-kliring?__r=8d6c3c401f3c457):

1. Underlying, which is an asset that is the basis of KOS, where currently various shares which are KOS's underlying assets consist of TLKM, INDF, ASII, BBCA and HMSA shares.
2. Writer, namely the party who is the seller of options, and taker as the buyer of the option.
3. Exercise Assignment, which is a condition where an option buyer (taker) has the right to sell or buy stock assets to an option seller (writer) at an agreed price and until maturity at a certain time. Option buyers who exercise their rights are called exercise. If an exercise occurs, the writer must fulfill taker rights, in other words fulfill the assignment because the writer has received premium.
4. Premium, which is a term that indicates the definition of KOS prices specified. The premium must be paid by the option buyer (taker) and completed at T + 1 through KPEI to the option seller (writer).
5. Strike Price, which is the price of an agreement regarding the purchase or sale of shares between taker and writer at a certain time before the contract is due.
6. Multiplier, is a multiplier in a contract to be a certain rupiah value. If a KOS has a multiplier of 10,000, it can be interpreted that 1 KOS represents 10,000 shares when someone does an exercise.
7. Initial Margin (initial margin) also called pre-order risk is the amount of money that a clearing member (AK) must have in order to be able to place an order for each KOS transaction.

The Mechanism of Options Trading

Like other securities, option securities can be traded on the stock exchange or on parallel exchanges (over-the-counter market). In option trading, there is a type of option clearing corporation (OCC) that functions as an intermediary between brokers representing buyers and those who sell options. Meanwhile, the option execution transaction is carried out using an OCC intermediary, where OCC becomes a buyer for all sellers and simultaneously becomes a seller for each buyer.

The Call Type Option Contract gives the option holder (taker) the right (not obligation) to buy shares. In contrast, a type of Put Option Contract gives the option holder (taker) the right to sell certain shares. The Stock Option Contract traded on the IDX is an American type option, which means giving the taker the opportunity to exercise his rights at any time until the due date. A simple illustration that can explain a KOS transaction, for example, there is an option to buy 10,000 shares of TLKM at a price (strike price) is a TLKM call option. While an option to sell 10,000 shares of TLKM at a certain price (strike price) is TLKM put option.

There are several benefits of Stock Option Contracts for investors which can be explained as follows (http://www.universalbroker.co.id/v2/media/downloads/9_IDX_KOS.pdf):

1. Serves as a means of hedging investment against underlying stocks.

2. For investors who already have a reference stock (underlying stock option) can receive additional income other than dividends, namely by issuing a call option (call option writer / seller) on their shares, thus investors obtain passive income in the form of call premium paid by taker call.

3. Providing investment opportunities, because with investment funds in KOS that are smaller than the reference stock investment funds, then KOS offers leverage (leverage) on profits equal to the risk.

3. Previous Research

Research related to the volatility of trade in the options market that has been carried out in several countries produces the following information. Using an approach from Ni et al., 2008 - to determine whether information volatility occurs in the option market in Taiwan, empirical results are obtained that foreign investment institutions tend to place direct information to be realized in futures trading options. In addition, a number of individual investors (less than 1%) can realize the volatility of information by using a strangle strategy (a strategy designed by buying the call option and also buying a put option at an unequal contract price). However, there is no evidence to support the ability to predict volatility in demand from traders who adopt the straddle strategy, although there is a widely accepted recognition that trading strategies like this have sensitivity to volatility. Options play several important roles in important economies including providing a mechanism for investors to bring information to financial markets. Investors can trade directly based on information contained in stocks and options markets.

A number of studies have investigated whether the volume of options does contain information about the future direction of the reference stock price used. However, even though the option market is uniquely suitable for trading based on information volatility, research on whether the volume of options has information about the volatility of the underlying reference stock in the future, is still little to be done. It was found that volatility had an impact on option prices and that the impact increased when information asymmetry increased in the days leading up to earnings announcements. This finding is consistent with option market makers in changing prices to protect themselves from investors with information volatility and they become more concerned to protect themselves when information asymmetry becomes very high (Chang, Hsieh, & Wang, 2010).

The longer study discusses the variance of ordinary stock returns around the time the option is traded and listed on the reference stock. The results show that stock return variance decreases after the listing of options is done, and that this phenomenon is not fully explained by contemporary changes in market volatility. In addition, the stock market trading volume increased, on average, after the options were listed in the company's listed shares. This study also tested the hypothesis that changes in variance were related to changes in 'trading noise' on the exchange, but found only a little direct support for this explanation (Skinner, 1989).

Meanwhile, research related to the volume of derivative trading relative to the volume of reference stocks is still little done. There is research that has been done to find out a number of things that determine the ratio of option / stock trading volume (O / S) using cross-section and time-series equity data and also listed stock options. Options / stocks (O / S) have a relationship with some intuitive determinants such as delta or trade costs, which vary with institutional holdings, analyst following, and analyst forecast dispersion. The results show that O / S is higher around the time of earnings announcements, which indicates an increase in trade in the option market. Furthermore, after the announcement of further absolute returns, it turned out to have a positive relationship with the O / S pre-announcement, which means at least a portion of option trading conducted before the announcement indicated the existence of information (Roll, Schwartz, Subrahmanyam, 2009).

Another study related to options is a study that examines how option trading affects the level of returns expected by investors, such as the cost of equity capital. Cross-sectional analysis carried out in this study shows that companies with listed options have lower equity capital costs than companies without listed options, whereas the results of temporal differences regarding the analysis of differences indicate that companies with listed options experience a decrease in the cost of equity capital significantly relative to the sample of suitable companies without the listed options following the option list. In companies with listed options, companies with a higher volume of option trading are associated with lower cost of equity capital. The findings are consistent with the view that option trading can improve the accuracy of information and reduce the problem of information asymmetry that exists, thus impacting on the expected low return on equity (Naiker, Navissi, & Truong, 2013).

Another study conducted by Ahn, Kang, & Ryu (2008) examined whether there was information on trade in the option market index by analyzing the KOSPI 200 option, the most actively traded derivative product in the world. This study yields findings that foreign investors have better information than domestic investors.

As for Indonesia, a number of studies that have been conducted in relation to stock options include the following: the results of the Asyik (2007) study show that the large employee stock option program compensates for the management of earnings behavior supported by several factors. conditional. Meanwhile, Menawati and Astika (2017) examined the effect of profitability and liquidity on the number of stock options and their impact on firm value. The results of the study show that (1) Profitability has a positive effect on the number of shares announced (2) Liquidity has a positive effect on the number of shares announced, (3) Profitability has a positive effect on firm value (4) Liquidity has a positive effect on firm value (5) the number of shares announced gives a positive effect on the value of the company, (6) profitability does not affect the value of the company through announced stock

Table 3. Coefficient Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.757[a]	0.573	0.561	2.28967

a. Predictors: (Constant), Interpersonal Relationship, Self Identity, Perception of Competence
b. Dependent Variable: New Technology
Source: SPSS (2019)

numbers, (7) liquidity affects the value of the company through a number of shares announced.

Research related to the determination of the price of stock option contracts on the Indonesia Stock Exchange through the Generalized Auto Regressive Conditional Heteroscedasticity (GARCH) application simulation model conducted by Hendrawan (2009) resulted in the finding that the percentage of one month option that shows the squared error of the GARCH Option Model is five point nine percent, for the two-month option is seven point seventy nine percent, and the three-month option is five point sixty-three percent. Another study that discussed option pricing with the most commonly used approach, the Black-Scholes model was also conducted by Irawan (2017). The results of his research show that the option pricing with the Black-Scholes model can be found a solution by using the difference method on CTCS (Center Time Center Space), in this case a differential partial equation model is made.

In addition, several other studies that have been conducted related to the determination of option prices (in this case the window reset option) are to apply numerical methods, namely binomial tree and trinomial tree (Meliyani, Nugrahani, Lesmana, 2013). The results showed that after numerical simulations, the call reset window option price tended to be the same in both of the tree methods and the call reset window option price tended to be higher than the standard European call option price. If the stock price gets smaller and touches the reset strike, the strike price will be reset to the new price so that the value of the option also increases. However, if the stock price does not touch the reset strike then the strike price will not change until the maturity date of the option.

Other research that aims to predict the price of future stock options and as a material consideration for stock trading players to make a decision to sell or buy an option for a stock at PT. Telkom Indonesia is done by simulating stock data, based on the Monte Carlo method. The results of the study show that the more iterations are carried out, the predictive value is also getting better and more convergent towards a value. Prediction values will be stable at 60000 iterations with an error value of MAPE of less than 20% so that the predicted value can be said to be good (Basri, Syam & Zaki, 2019).

Next is Vulandari's (2010) research on option valuation, where the research aims to determine the derivation and completion using the Black-Scholes model of European type purchase price with dividend distribution, then apply the model to PT. Aqua Golden Mississippi Tbk. in 2010. The results of his research show that through the Black-Scholes model of European type purchase price with dividend distribution, partial differential equations and their solutions can be obtained. On the stock option contract of PT. Aqua Golden Mississippi Tbk. with the maturity date of January 4, 2010, the purchase option price is in a constant market condition of 0.4924 per share. While the price of buying options in a continuous market condition is 0.5366 per share. Thus it can be concluded that in general this model cannot be used because the continuous function model of interest rates and dividends is not good enough.

4. Discussion

As one of the formal financial institutions in Indonesia, the capital market has a number of attractions, including (Husnan, 2003 in Tirtoprojo, 2008):

1. As an alternative to raising funds. In a company, there are rules about debt to equity ratio (comparison of debt with own capital) so that if the loan funds (debt to the bank is not sufficient for business expansion, a company gets capital market funds in the form of own capital).
2. The capital market allows investors to have various investment choices that are in accordance with their risk preferences.

That option is one of derivative products, the price/ value is influenced by the underlying asset price. The benefits that investors can obtain from stock option transactions include:

1. As a means of hedging or anticipating risk (risk management)
2. As a means to diversify (diversifying securities to reduce risk)
3. As a means for investors who like speculation, the way is to provide opportunities for them to gain profits in every market / stock condition.
4. Provide flexible time for American type options, because the holder of the call and put option can determine whether or not to exercise their rights until the expiration date ends.
5. Potentially, leverage gives a greater return on

investment compared to when investing funds in stocks, for example, even though the risk tends to be greater than when investing directly.

6. Allows additional income to be obtained, because investors who own shares can obtain additional income other than dividends, namely by issuing call options on their shares. By issuing options, they will receive premiums from these options.

Binary Options-Alternative Transactions in Hybrid Strategies at Derivatives to Achieve Profitability

As for one of the relatively new and commonly found financial instruments on the world financial market today and shows an increasing trend in trade known as binary options. The emergence of binary options began in 2008, where this transaction was considered a very risky investment. Binary options trading requires precise and comprehensive market analysis. Through technical analysis, investor might predict the development of underlying assets to a certain extent, so that binary options can be included in one form of investment that is very attractive in terms of income (Kolkova & Lenertova, 2016).

Binary options, for some time, are traded in over -the-counter markets, but are usually marketed as exotic options for a number of institutions and are often packaged together with other derivative products (Thachuk, 2010 in Kolkova & Lenertova, 2016). Binary options, also known as digital return options or fixed return options, only have two possible results at maturity, each of which pays a fixed value, depending on whether certain conditions have been met or not (Jurnik, 2013 in Kolkova & Lenertova, 2016). In addition, at the beginning of its appearance, binary options can be said to be one of the findings in the largest financial innovation, and meet the characteristics of a mixture (hybrid) in derivatives. The development of binary options over the past few years through the web-based electronic retail market has grown to be so popular, especially among investors with little previous investment experience or who have limited capital (Soegoto & Rushamidiwinata, 2018).

In general it can be said that binary options differ from significantly more conventional options. Binary options are a type of option contract where payment will depend entirely on the results of the yes / no proposition. The yes / no proposition is usually related to whether the price of a particular asset underlying the binary option will rise higher or fall deeper than the specified amount. Binary options offer a way to trade stocks, commodities, indices and currencies with a fixed rate of return, where the selection needs to be done correctly whether the value of the asset rises (call) or the asset value decreases (put). In general this option can last for 15-30 minutes (http://www.sec.gov/investor/alerts/binaryoptionsandfraud.pdf). Binary options are so popular because of a number of inherent characteristics, namely ease of transaction (simplicity), with a short duration (ranging from 60 seconds to 60 minutes) Binary options are able to provide faster income (fast outcome), there are risk restrictions compared to trading forex (less risk), no fees or commissions to be incurred regarding binary option transactions (no fees), ease of accessing various asset classes together (multiple asset classes) (https://www.pipsafe.com/wp-content/uploads/2016/04/binary-options-ebook.pdf).

Binary Options trading in Indonesia

Binary options trading in Indonesia like many other countries is gaining popularity quickly. It was not until a decade ago when online trading was the exclusive domain of institutional investors or high net worth individuals, with the introduction of retail binary option trading in 2008, this type of trade has become one of the most profitable online activities for most Indonesians because it is simple and easy to transact. However, when compared to financial markets in Europe, the Indonesian financial market is relatively considered unsophisticated. Most traders in Indonesia have no experience and technical knowledge. Therefore, investors need to consider the selection of brokers based on certain criteria such as: operating with transparency, reliability and reliability, supporting Indonesian on their website, and at a low cost. The table below presents a list of registered binary options trading brokers and is considered to have a good reputation in Indonesia and can be used as a reference.

The growth of the binary option industry in Indonesia is highly dependent on regulatory oversight which is also under the jurisdiction of the Financial Services Authority (OJK). Prior to the establishment of the OJK, the financial services industry was regulated by a separate institution called "Capital Market and Financial Institution Supervisory Agency" or Bapepam - LK for the short term (Capital Market and Financial Institution Supervisory Agency). Established in 2011 based on Law No. 21 of 2011, OJK now operates as an independent institution without interference to oversee and regulate the financial services industry.

The main responsibilities of the OJK include:

- Ensure that the financial services industry operates fairly, orderly and transparently
- Building a financial system that is able to grow stably
- Ensuring the interests of consumers and the public in general are well protected
- Under the OJK, online financial trading indus-

Table 1. List of Binary Options Broker Trading in Indonesia

BROKER	EARLY EXPIRE	AVERAGE RETURN	MIN DEPOSIT	MIN TRADE	RATING	MORE
ExpertOption	✔	95%	$ 50	$ 1	★★★★★	Sign Up REVIEW
iq option	✔	90%	$ 10	$ 1	★★★★★	Sign Up REVIEW
HIGH LOW	✔	200%	$ 50	$ 1	★★★★★	Sign Up REVIEW
RACEOPTION	✖	95%	$ 250	$ 1	★★★★★	Sign Up REVIEW
Binary.com	✖	85%	$ 5	$ 5	★★★★	Sign Up REVIEW

Source: http://bestbinarytradingbrokers.com/binary-options-indonesia/2019

tries such as binary and foreign exchange trading are strictly regulated. Although there is no strict prohibition on Indonesian traders to trade binary options in Indonesia, traders are subject to high taxes on returns generated on profits. In addition, investors in Indonesia are faced with higher fees to be paid than most of the traders in other countries pay. This is because of the "Introducing Broker" business model that must be adopted by foreign brokers to establish a physical presence in the country.

- Therefore, it is important for Indonesian binary options traders to take into account the total costs that must be paid when choosing the right binary options broker to register. Errors in the selection of brokers can easily lead to losses for all potential profits derived from trade plus additional fees imposed by brokers and the Indonesian government

5. Conclusion, Suggestion, and Limitations

The existence of markets that trade derivative transactions in Indonesia, basically has been going on for a long time and already has a clear legal basis, and is under the supervision of the current Financial Services Authority, after previously being under the supervision of Bapepam. Although Bapepam has issued a legal and regulatory foundation that regulates the concept of option trading on the capital market since 2004, which is contained in the Decree of the Chairman of Bappepam No. Kep-39 / PM / 20013 concerning Futures Contracts and Options for Securities or Securities Indexes, the development and amount of derivative transaction growth is still limited, as well as for stock option contract transactions where the underlying assets underlying the contract are still only based on five shares of a large company in Indonesia, namely shares issued by PT Astra International Tbk., PT Bank Central Asia Tbk., PT Indoofood Sukses Makmur Tbk., PT HM Sampoerna Tbk., and PT Telekomunikasi Indonesia Tbk.

Thus, it can be said that derivative investment products traded in the Indonesian capital market, in this case the Indonesia Stock Exchange (IDX) and under OJK regulations and supervision, include derivatives of types of futures contracts and stock option contracts. The differences between the two types of contracts are: (a) The buyer of the option contract is required to buy the parent asset at a predetermined price, and the seller is also required to sell at the stated price. Whereas the option owner is not required to buy but he has the right to buy the parent's assets, and (b) When an investor buys a futures contract, he does not pay money and the seller does not receive money. But if a person buys an option contract, he pays the premium and the seller receives the premium. The general use of derivative transactions is to hedge (hedging), speculation, and arbitrage.

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https://www.pipsafe.com/wp-content/uploads/2016/04/binary-options-ebook.pdf Binary Options trading Strategies: Strategies of Pros Explained for Dummies