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Using European Option Contracts in the Taxation of the Indicators of the Stocks. Applied Study for the General Indicator of the Iraq Market for Securities (ISX60)

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Abstract

The study aims to discover how to achieve the best financial returns in the shade of fluctuations that are happening in the level of the prices in the financial markets, and this represents the marketing risky factor. However, the indicators of the stocks will not be an ideal financial tool to get rid from the problems of these risks. Therefore, it is necessary to invent modern and developed financial tools that can overcome price fluctuations which happen in the financial markets like financial derivatives. This means that the using of these tools like contracts of the options and indicators of the stocks which are requiring mathematical sample to put price for them. Thus, the European style is getting its price according to the (Black – Sholes) sample which is characterized with its finite preciseness in taxation the contracts of the European options on the indicators of the stocks in the two cases of selling and buying. This study depends on the quarterly closing prices of the general indicator of the market (ISX60) in the Iraq market for the securities from the period 1/ January/2015 to 31/December/ 2017 by using some of the statistical, financial, and mathematical samples. Therefore, this study reached to several conclusions, the most important one is that the (Black- Sholes) sample is a very precise sample in imaging the process of taxation the contracts of the European options, and this is confirming the whole extracted results in applying the taxation of the contracts of the options of the stocks.

This study recommends that it is necessary to depend on the (Black-Sholes) sample in taxation the contracts of European options on the indicators of the stocks in the Iraq market for the securities due to its qualification and its preciseness in taxation these contracts.

Uso de contratos de opciones europeas en la imposición de los indicadores de las acciones Estudio aplicado para el indicador general del mercado de valores de Iraq (ISX60)

Resumen

El estudio tiene como objetivo descubrir cómo lograr los mejores retornos financieros a la sombra de las fluctuaciones que están ocurriendo en el nivel de los precios en los mercados financieros, y esto representa el factor de riesgo de comercialización. Sin embargo, los indicadores de las acciones no serán una herramienta financiera ideal para deshacerse de los problemas de estos riesgos. Por lo tanto, es necesario inventar herramientas financieras modernas y desarrolladas que puedan superar las fluctuaciones de precios que ocurren en los mercados financieros como los derivados financieros. Esto significa que el uso de estas herramientas como contratos de las opciones e indicadores de las acciones que requieren una muestra matemática para ponerles precio. Así, el estilo europeo está obteniendo su precio según la muestra (Black - Sholes) que se caracteriza por su precisión finita en la imposición de los contratos de las opciones europeas sobre los indicadores de las acciones en los dos casos de venta y compra.

Este estudio depende de los precios de cierre trimestrales del indicador general del mercado (ISX60) en el mercado de Iraq para los valores del período 1 / enero / 2015 al 31 / diciembre / 2017 utilizando algunos de los datos estadísticos, financieros y matemáticos. muestras Por lo tanto, este estudio llegó a varias conclusiones, la más importante es que la muestra (Black-Sholes) es una muestra muy precisa en la imagen del proceso de imposición de los contratos de las opciones europeas, y esto confirma los resultados completos extraídos al aplicar La imposición de los contratos de las opciones de las acciones.

Este estudio recomienda que sea necesario depender de la muestra (Black-Sholes) en impuestos de los contratos de opciones europeas sobre los indicadores de las acciones en el mercado de Iraq para los valores debido a su calificación y su precisión en la imposición de estos contratos.

Introduction:

The financial derivatives in general and the contracts of the options in particular are considered as essential investment topics in the financial markets. They received a great attention from the pioneers of the financial engineering and the researchers in the modern financial management. They considered as very sophisticated financial tools, they have a great effect on the financial markets which are not limited to circulation on the traditional tools like the stocks, debentures, and others. However, they exceed to create new tools for circulation. The most important tools are the contracts of the options with their various kinds. Therefore, the importance of the financial options and particularly in the last years is increased because of the results of several reasons and the most important ones are the total developments in the field of the information and communication technology and the reflection of these developments on the daily life especially on the capital markets or the financial markets. The financial markets which are witnessed lots of developments in the eightieth and ninetieth centuries ago, required from the employers of the companies and investments to understand these markets and to follow investment styles clearly. The contracts of options take an important position in the financial markets; they gain a significant rank due to their great role in the reduction of the resulted risks of the disorders and great fluctuations in the in the price of different investments because of the surrounded circumstances with these investment. The contracts of the options are considered as the best financial tools which are used in the current time concerning that these tools give complete hedging against any risk that might face these investments. In addition, the dealing with the contracts of the options is not limited for the dealers (persons), but it exceeds to the great financial institutions like banks, in order to hedge their investments as loans, and deposits against the fluctuations of the profit prices.

First: Research Methodology

1. Significance of the Research

It is an attempt to present a contribution to fill the lack and relative rareness in Arabic and Iraqi libraries which are represented to describe the basic dimension of the options of contracts. Moreover, the American, this is considered as an important priority of this research. It attempt to test the market to cover the risks, as well as, to employ these financial strategies which are presented by the samples of taxation that are used for hedging the financial risks. Therefore, it becomes as a financial tool which presents a great motive for the inventors. Additionally, suitable and precise imaging

for these samples of taxation the contracts of the European indicators options. This indicates that the investor cannot take the decision of selling or buying unless using financial tools that are characterized by high quality.

2. Problem of the Research

The problem of the study is summarized in the increasing the risks that the investors face as a result of political and economical changes which their effects are reflected negatively on the investments and they don't get benefit from the characteristics of hedging to reduce the sharpness of these risks to a minimum level by using the contracts of the options which became as financial tools that cannot be dispensed in the developed countries. The problem of the research is centred on the following questions:

1. Does the sample (Black- Sholes) give precise results in taxation the European contracts of options?
2. Does the sample (Black- Sholes) not be able to price the American options?

5. Limitations of the research

A. Limitations of the place: Iraq Market for securities.

B. Limitations of the time: A period of time is chosen limited between 1/ January/ 2015 to the end of 31/ December/ 2017, realistically (3) consecutive years divided each year into (4) seasons realistically (12) semester for the whole period of the research.

6. Sample of the Research:

The analytics and practical applications on the general signal of the market (ISX60) are performed, that general market is consisted of group of companies realistically (60) companies listed and conferred under the name of the general signal of the market (ISX60) in the Iraq Market for securities.

7. Methods of the Research

Group of financial and statistical methods are used in this research to treat the data of the samples of the research and count the required results by using (R) program. In addition to a group of mathematical equations which are necessary to price the contracts of European options by (Black-Sholes) sample.

Second: Theoretical Background of the Research

1. Organizing the Market of the Financial Options

This section consists of a group of markets particularly the market of options which is consisted of the following:

A. Organized Markets and Unorganized Markets of the Financial Options:

It is possible to divide the market of the options into two parts organized

market (Stock Exchange), and unorganized market (Over the Counter). It is possible to identify the main difference between these two markets on that the first one (the organized market) is the central market which is found in a limited place and in it financial tools are going to be conferred through brokering houses. The second one (unorganized market), is the market which consists of a group of brokers, agents, computers and faxes. Below a summary of each market (Mutaawi, 2001: 412).

* Unorganized Markets:

This market is not connected with a specific rule that can help in organizing its work in trading with the options, and organizing deals with any size and between contracting parties like customers, banks, or between two banks. In addition, trading is done in this market with different kinds of options like the price of profit, currencies, and the indicators of the stocks in the market. However, negotiation is performed in this market on the prices and other conditions between parties of the contract. This means it gives each party the prices and conditions which they see suitable for them. The contact process is executed in this market electronically, or through the phone or fax. This market consists of brokers, in addition to traders who arrange things to sell new emissions as direct guarantees to disposal surplus units. Thus, what is known as direct setting (Al- Rubeiee and Others, 2011: 192-193).

* The Organized Markets for Options:

The Chicago Board of Commerce started in 1973 to subtract modern mechanisms for circulation and settlement of transactions that is worked on separating the traditional relation between the buyer of the options and the seller of the options, that mechanism is manifested in the working of establishing a ‘’Foundation for the Settlement of Options’’ which was working as a binding warranty for the two parties of the contract, when there is an agreement between the seller and the buyer (the intercession inside the circulation hall) to conclude an option contract. This foundation tries to be in the place of the seller for the buyer and the buyer for the seller. This mechanism is applied in the same year on which the first organized market for options is opened, that is Chicago Market for Options (Al- Ameeri, 2010:554), as well as, the organized markets provide physical frames for trading with the options according to certain rules and traditions for performed contracts by investors and ensure their marketability (Al- Tamimi, 2010:347).

2. Members of the Organized Market for Options:

There are four kinds of the members like the Chicago Stock Exchange

which represents its members: market maker, administrator of the commands record, lounge broker, and the specialist. It is possible to illustrate this in the following: (Al- Doori & Aqil, 2012: 65-67).

A. The Market Maker: on the contrary in the stock exchange and some others stock market for options which in them one specialist is monopolized the mission of market maker for a number of stocks, here the situations is different in the Chicago Stock Exchange if compared with other stock exchange. However, the option on a certain stock allocates for it more than one market maker, for instance, according to the option on the stocks of the company like the company of (IBM), there are four of market makers who work on discharging of modern versions of option on the stocks of that company, it is possible to say that the existing of more than one market maker for each option of options which stand ready permanently for buying and selling, as well as, it raises the level of competition in a form that contributes in the reduction of the margin which is performed by the market maker. In addition, it contributes in raising the level of liquidity in the same market which means it is easy to manage the option and easy to possess it without the consequent on the transactions of the selling and buying any significant impact on the option in dealing place.

B. Administrator of the Commands Record: The main job of the administrator of the commands record is that reserving the orders issued by the investors and the brokerage houses in order to meet the commands of the buying with the commands of the selling. However, the responsibility of the meeting of buying commands with the selling commands requires from each administrator to held an auction in the centre of his work for options that he is dealing with and these auctions which are limited the price of the selling and buying for option.

C. The Lounge Broker: The function of the lounge broker is performing the commands for the sake of investors or brokerage houses. This means his work is not limited to the brokerage house itself, but he presents a service to the brokerage houses or the one who asks from the public.

D. The Specialist: The specialist activity is concentrated on combining between brokering and trading, he resembles the trader in that he is working for his sake in selling and buying for the sake of getting profits. The specialist exists in some markets of regular (systematic) options in the world.

3. The Mechanism of Circulation in the Markets of Options

The mechanism of circulation is passing in the following steps:

A. The requirements of listing and the size of the contract: It describes the requirements of listing for the markets of stocks which are qualified

and that can confer options in them; these conditions limit previously the establishment of the options on the stocks of the big companies but now lots of options became on the stocks of the small companies. The stock exchange conditions minimum requirements that the option stock should meet in order to remain within its bills. Additionally, during the listing the buying option for a limited stock is listed as an option type, and the selling option for the same stock is listed as another type (Al- Rubaiee & Others, 2011: 194).

B. The option registration in the stock exchange: According to the regular rules of the market of the options, the registration of the options is limited only for these options which are peculiar with the stocks of registered companies in the stock exchange, in addition, to the condition of the registering the issue of the stock by a famous company in the market. This means that company is going to confer its stocks in the market in a regular form in order to ensure it, as well as, lots of big possibilities are available to settle the prices of these stocks to avoid big fluctuations in the price of the stock which in turn lead to great changes in the value of the options (Mutaawie, 2001: 414).

C. The kinds of the commands of the options: The commands of the options consist the following (Madura, 2010: 355), (Al- Doori & Aqil, 2012: 67-68):

* The command of the market: The command of the market is considered as one of the most widespread orders, in it the investor (the dealer) from the broker to perform the required process expeditiously and with a best price on which located the basis of the dealing in the market in a time of receiving the command.
* The limited command: The investor (the dealer) appoints a particular price to perform the deal for the broker, this means that the investor limits the minimum price that he can get if the command of selling is done, or limits the maximum price that he is going to pay if the command of buying is done. Here it is possible to signal that the limited commands could be like a form of open command.
* The open command: It is the command which is remained active till it is applied, or the investor (the dealer) decides its termination.
* The command for one day: It means the command which is remained active from the time of its issued till the end of dealings in the stock exchange at the end of that day.
* Stopping command: It is the command which is not applied unless the price of the option reached to a limited level or passed that level, it con-

tains two types:

● Stopping selling command which means that the broker should be obliged to perform the selling command when the price of the choice is reduced in the market from the determined price.

● Stopping buying command in which the broker should be obliged to perform the process of buying option when its price reached to a particular level in the market or pass it.

D. The role of the clearing houses: The significant role of the clearing house is so clear after applying the customer command by the broker of the hall. The clearing house is a company with a complete independence which is used to clearing options. Thus, it works to perform the mission of warranty of performance of the editor of the option to pay or deliver the stocks which are the subject of the option. Therefore, the holder of the option when he applies the option, he doesn't look at the editor (the seller), but he is going to look at the clearing house, which is going to receive the stocks from the editor. Additionally, any member company called ''Clearing Company'' and reserved an account in the ''Office of the Comptroller of the Currency'' (OCC), and if the editor of the option doesn't possess the stocks in the place of contracting (means uncover option), in this case it is necessary for him to put additional cash charge (reservoir). This cash charge is called ''The Margin'' with a limited percentage of the value of the stocks. Moreover, the holder of the option will not be obliged to inspect the performance of the editor and his insurance qualifications because of that the clearing house ensures the delivering and the paying in the case of performing (Al- Timimi, 2010:349).

4. The Effect of the Options Market on the Contemporary Markets

It is known that the contract of the option is a financial paper that has no economical value; it cannot give its holder an authorization for an economical assets possession. As well as, it doesn't contribute in getting savings on which institutions are depended on in financing their investment proposals. In addition, there is no relation between the institution and the contracts of the choice on the stocks that it possesses. In the shade of these facts, there is a question about the effect of this market (option market) on the financial resources which are available for the present market. It is claimed that in the case of there is no an option market is available; all the exploited money in that market will be converted to the present market. This indicates that the options market is considered as a thrilling heart for

the national economy for that reason of what it provides for the institutions of works and government constituted of resources that have positive effect on the economical development of the state.

Third: Practical Side of the Research

1. Taxation the European contracts of options in the Iraq Market for securities: This research is concentrated on the general principals to assess the options through depending on the real average of the prices of the stocks the sample of this research which represented with companies of general indicators for Iraq Market for securities. Therefore, to reach to that assessment it is possible to depend on the most important samples and most popular and used in the economies of the progressed state that is the sample of (Black & Sholes) to determine the value of the option contract by this sample with the market value for the price of the contract.

2. Taxation the European contracts of options by using the sample (Black & Sholes): 1973 is considered as one of the most important dates in the history of options. In this year, the foundation of the Chicago Board options market for circulation with options is executed (Al- Ameri, 2010: 554). This stock exchange is considered as the first regular exchange which can facilitate the circulation of the options (Kolb, 1997: 433), as well as, the work of the two scientists (Black Fitsher) and (Miron Sholes) who post an article in the magazine of the political economy in order to present a formula to put a price for options that are known as the sample of Black & Sholes. They considered as the most important developments which are happened in the field of taxation the financial instruments. This sample is considered as the basic of the work of taxation of the options contracts which is depended by the brokerage houses and advisory offices in presenting the advice and the counsel concerning the price of these contracts. This sample is used recently in a common form because of its easiness to assess the contracts of options, additionally, to take out the contracts of options from the descriptive assessment to the quantitative assessment in a mathematical sample (Hindi, 2006: 426).

Nicholson and Snyder (2007: 158) state that the logical basis for the sample Black & Sholes provides that to build a hedging portfolio which is empty from risks constituted of stocks and options (Smart.at, 2004:660). The sample of Black & Sholes is applied only on the European options which are performed only in their claiming date and it is not applied on the American options that can be performed at any time (Mo Chaudury, 2007: 178).

Moreover, all this led to a huge development in the modern techniques

in the financial engineering particularly in the years (1980- 1990) till the year (1997), in this year Robert Martin got the Nobel reward in economy because of the importance and the qualitative shift in the field of researches and presented studies in that sample without Black Fitsher due to his death in 1995 (John, 2006: 231).

* The assumptions of the sample of (Black & Sholes)

The sample of (Black & Sholes) is depended on a group of assumptions in taxation the contracts of the options. They are as following (Madura, 2010: 386), (Mutawi, 2001: 478):

A. The price of the stocks is moving randomly and it takes the distribution of natural logarithmic (Natural Logarithmic Distribution).

B. The average of the returning which is empty of risks which means the standard deviation (б) for fix dividends during the period of the expired date of the contract of the choice.

C. Taxation of the European options and not American ones.

D. There is no existence of cost on the deal.

E. The disparity is known and homogeneous.

F. The market is a qualified type.

G. There is no distributions of the profits on the origin in the place of the contract (zero coupons).

H. There is no execution of cash distribution during the period of the age of the option contract.

I. The buying option is considered as a centre of possession winch in the origin of the economic aspect.

J. There is no bonds or conditions on the open selling and it is sold immediately and it is available for all in a direct form.

* Equation of the sample (Black & Sholes)

A. Equation of taxation of the contract of the buying option: To put a price for the contract of buying option, the European type, the sample should be written as the following (Marie & Andre, 2004:101) (McDonald, 2013:349):

$$(1) \ldots\ldots\ldots\ldots\ldots\ldots C = S_0 N(d_1) - Ee^{-rt} N(d_2)$$

$N(x)$ represents the cursor of subsidiary density for a natural distribution and it is written as following:

$$(2) \ldots\ldots\ldots\ldots\ldots\ldots (d_1) = \left(\frac{\ln\left(\frac{S}{E}\right) + \left(r + \frac{\sigma^2}{2}\right) t}{\sigma\sqrt{t}} \right)$$

$$(3) \ldots\ldots\ldots\ldots\ldots\ldots (d_2) = \left(d_1 - \sigma\sqrt{t}\right)$$

Thus,
N= The value of the possible cursor density for a natural distribution of the landmarks d_1, d_2
S= The price of the market stock
E= The price of the execution
T= The period of the time
r= The average of the profit which is empty of risks
б= The fluctuation of the original price in the place of the contract
B. Equation of selling option contract: To put a price for a contract of selling option on the European options. In case of the lack of profits distribution on the stocks, the hypothesis of buying option parity should be used as the following form (Chance, 1998: 143), (Bodie & etal, 2008: 536):

$$(4) \dots\dots\dots\dots\dots P = (so, t, x) = C = (S_0 + Ee^{-rt})$$

As the compensation is made with the equation of the price of buying option from the sample of (Black & Sholes) in the case of there is no profits distributions, subsequently the equation of the selling option is concluded. It is:

$$(5) \dots\dots\dots\dots\dots P = Ee^{-rt}N(-d_2) - S_0N(-d_1)$$

Note that the value of (d_1), (d_2) just like it was in the buying option.

The sample of (Black & Sholes) is also required a continuous compounded profit price that can be transformed the profit from a simple profit to a continuous compounded one through the following formula:

$$(6) \dots\dots\dots\dots\dots\dots\dots r = \ln(1 + RF)$$

There is a premium that the holder of the option contract should pay to the editor of the contract. This premium is not of limited stereotypes but such a premium is going to negotiate on it between the parties of the contract (the buyer and the seller) which is determined in the place of the contracting (CFA, 2007: 144). This premium is consisted of two basic parts; they are the intrinsic value and the time value. It is possible to calculate it according to the following formula (CFA, 2007: 149):

$$(7) \dots\dots Premium\ option = intrinsic\ value + Time\ Value$$

The intrinsic value represents the difference between the price of the option execution and the price of the basic existence which is in turn determining if the option has an active value after execution or not through the possibility of profit or out of the possibility of the profit as illustrated later on in the table (2) (Andersen, 2006: 155). Concerning the time value, it

represents the difference between the premium of the option price and the intrinsic value itself, the intrinsic value for the option contract will always be positive values, but if there no intrinsic value for the option then the premium option price would be completely the time value (NFA, 2000: 10-11).

The time value is defined as the amount of money which is increased than the execution value of the option. It has an essential role in the contracts of the American options comparing with the contracts of the European options because of that reason; it is possible to perform the American options at any time during the period of the age of option, whereas for the European options it is not possible to be performed only in the date of its worth, additionally, the investor should be ready to pay a high price than the intrinsic value for the contract of the option due to that the option represents the right and not the obligation in the execution. Therefore, it is not possible that the value of the option would be lesser than zero as the following (Andersen, 2006: 155):

● Premium of the buying option = The intrinsic value + The time value -------The premium ≥ 0

The intrinsic value of the buying option = The price of the basic existence – The execution price.

The time value of the buying option = The premium of the buying option – The intrinsic value.

● The premium of the selling option = The intrinsic value + The time value ------- The premium ≥ 0

The intrinsic value of the selling option = The price of the execution – The price of the basic existence.

The time value of the selling option = The premium of the selling option – The intrinsic value.

However, the taxation of the European and American options consisted of five marks (E, r, S, T, б) four of them it is so easy to reach them, that is (E, T) are limited in the contract of the buying or selling option, (r, S) they are two market values that can be reached so easily. Therefore, only one deal which is considered so difficult to reach it or appreciate it, it is (б), which represents the standard deviation for the returns of the options (Whaley, 1986: 137).

For that reason it is unseen directly factor, there are two methods to calculate the fluctuation that is: the historical fluctuation and the implied fluctuation (Chance, 1998: 152). In the current study, the researcher is going to deal with the historical fluctuation due to its easiness in achieving it

through the quarterly returns in this research.

The historical fluctuation is defined as a scale used to measure the extent speed of the price movement of the basic existence in the market for a period of time in the past (McMillan, 2002: 181). The historical fluctuation depends on the fluctuations that were happened in the past then it will happen in the future. Therefore, to calculate the historical fluctuation a sample of returns of stocks for a previous period is taken and usually it would be the last period, later, the separated returns should be transformed to continuous and compound returns, after that the standard deviation for continuous and compounded returns is calculated regarding the required period of time (Chance & Brooks, 2010: 157).

Moreover, the averages of the change of the prices are calculated depending on the hypothesis of the natural logarithm distribution. Thus, the fluctuation is calculated as following (Kotze, 2001: 8), (Ehrahardt & Brigham, 2011: 225):

$$\sigma = \frac{\sqrt{\sum_{t=1}^{N}(X_t - \bar{X})^2}}{N-1} \quad \textbf{(8)}$$

N = The number of viewing in the market

$\mathbf{X_t}$ = The average of the change in the prices of the stock and could be calculated by the following equation:

$$X_t = \ln\left(\frac{S_t}{S_{t-1}}\right) \quad \textbf{(9)}$$

$\mathbf{S_t}$ = The price of the basic existence in the time (t).

Ln = The natural logarithm

3. Taxation of the options by using the sample (Black & Sholes)

Table (1) illustrates that how to determine the value of the option by depending on the effective factors on it for the period 1/1/2015 to 31/12/2015. The mentioned year is divided into four parts start from 1/1/2015 and end in 31/3/2015 as first part, the second period of time starts from 1/4/2015 to 30/6/2015 as a second part, and the third period of time starts from 1/7/2015 to 30/9/2015 as a third part, the last period of time starts from 1/10/2015 to the end of the year in 31/12/2015 as a fourth part.

Table (1) Taxation of the Options by Using the Sample (Black & Sholes) for the Year 2015

2015	S	X	R	б	T	S/X	Ln
1st. Part	798,17	797.15	0,0582	0,0595	0,25	1,001	5.2811E-4
2nd. Part	905,32	906.20	0,0592	0,0079	0,25	0,999	(4.219E-4)
3rd. Part	1001,88	1000,9	0,0573	0,0962	0,25	1,001	4.25E-4
4th. Part	844,13	845.03	0,0601	0,0147	0,25	0,998	(4.627E-4)

Table (1) illustrates the process of getting the value of the price of the primary stock (S) through the daily news of the Iraq Market for securities, and the price of execution (X) always is being so close from the value of the price of the stock in the market at the beginning of the period. Moreover, concerning the average of the profit that is empty from the risks (R), it is calculated by depending on the prices of the profit which is imposed by the Central Iraqi Bank on the debentures of the treasury. They are averages of simple profit and transformed them to a continuous and compound profit by using the equation number (6) to correspond with the sample of (Black & Sholes) which represents continuous compounded structure in annual basic. Concerning the value of the fluctuation of the price of the stock (б), the historical fluctuation of the price of the stock is depended through the averages of the change in the prices according to the equation number (9). For the time period of the age of the option (T), it is determined with (3) months by depending on this period which is considered as an ideal period to make contracts of options and the sample (Black & Sholes) gives accurate results and close to the reality in determining the price of the option.

Table (23) illustrates how to determine the value of the option by depending on the effective factors on it for the period starts from 1/1/2016 to 31/12/2016. The mentioned year is divided into four parts start from 1/1/2016 and ends in 31/3/2016 as a first part. The second period starts from 1/4/2016 to 30/6/2016 as a second part. The third period starts from 1/7/2016 to 30/6/2016 as a third part. Finally, the last period starts from 1/10/2016 to the end of the year in 31/12/2016 as a fourth part.

Table (2) Taxation of the Options by Using the Sample (Black & Sholes) for the Year 2016

Parts	S	X	R	б	T	S/X	Ln(S/X)
1st. Part	723,98	723,08	0,05190	0,0099	0,25	1,0012	5.40E-4
2nd. Part	582,74	583,64	0,04238	0,00761	0,25	0.998	(6.70E-4)
3rd. Part	545,44	544,34	0,04133	0,00689	0,25	1,0020	8.76E-4
4th. Part	562,88	563,78	0,04018	0,00833	0,25	0.9984	(6.938E-4)

The source/ Prepared by the researcher

Table (2) illustrates the process of getting the value of the price of the primary stock (S) through the daily news of the Iraq Market for securities, and the price of execution (X) always is being so close from the value of the price of the stock in the market at the beginning of the period. Moreover, concerning the average of the profit that is empty from the risks (R), it is calculated by depending on the prices of the profit which is imposed by the Central Iraqi Bank on the debentures of the treasury. They are averages of simple profit and transformed them to a continuous and compound profit by using the equation number (6) to correspond with the sample of (Black & Sholes) which represents continuous compounded structure in annual basic. Concerning the value of the fluctuation of the price of the stock (б), the historical fluctuation of the price of the stock is depended through the averages of the change in the prices according to the equation number (8). For the time period of the age of the option (T), it is determined with (3) months by depending on this period which is considered as an ideal period to make contracts of options and the sample (Black & Sholes) gives accurate results and close to the reality in determining the price of the option.

Table (3) illustrates how to determine the value of the option by depending on the effective factors on it for the period of time starts from 31/12/2017. The mentioned year is divided into four parts start from 1/1/2017 and ends in 31/3/2017 as a first part. The second period starts from 1/4/2017 to 30/6/2017 as a second part. The third period starts from 1/7/2017 to 30/6/2017 as a third part. The last period starts from 1/10/2017 to the end of the year in 31/12/2017 as a fourth part.

Table (3) Taxation of the Options by Using the Sample (Black & Sholes) for the Year 2017

Parts	S	X	R	Б	T	S/X	Ln(S/X)
1st. Part	653,57	652,67	0,0393	0,009832	0,25	1,0013	5.984E-4
2nd. Part	670,02	670,92	0,0394	0,006640	0,25	0,9986	(5.829E-4)
3rd. Part	581,07	580,17	0,04210	0,006590	0,25	1,0015	6.732E-4
4th. Part	588,36	589,62	0,03922	0,008231	0,25	0,9984	(6.638E-4)

Table (3) illustrates the process of getting the value of the price of the primary stock (S) through the daily news of the Iraq Market for securities, and the price of execution (X) always is being so close from the value of the price of the stock in the market at the beginning of the period. Moreover, concerning the average of the profit that is empty from the risks (R), it is calculated by depending on the prices of the profit which is imposed by the Central Iraqi Bank on the debentures of the treasury. They are averages of simple profit and transformed them to a continuous and compound profit by using the equation number (6) to correspond with the sample of (Black & Sholes) which represents continuous compounded structure in annual basic. Concerning the value of the fluctuation of the price of the stock (Б), the historical fluctuation of the price of the stock is depended through the averages of the change in the prices according to the equation number (9). For the time period of the age of the option (T), it is determined with (3) months by depending on this period which is considered as an ideal period to make contracts of options and the sample (Black & Sholes) gives accurate results and close to the reality in determining the price of the option.

Through the data which is illustrated in the tables (1, 2, 3), it is possible to elicitation the premium of the buying option by using the data (R, T, Б) in order to elicitation the price of the option by using the sample of (Black & Sholes) to analyse the strategy of the buying option on the general indicator for the market (ISX60) for the period of the study considering that the price of the execution should be close to the price of the stock at the beginning of the period and the end of the period represents the price of the stock in the date of its claiming.

Table (4) Contracts of the Buying Option by Using the European Option for the Year 2015

Period of the Contract	The Price of the Stocks During the Time of the Contract		Premium of the Price of the Buying Option for One Stock	The Return of the Indicator During Hedging	The Return of the Indicator Without Hedging	The Status of the Option
	Beginning of the Period	End of the Period				
1st. Part	798,17	1014,971	16,2839	200,5171	216,801	ITM
2nd. Part	905,32	1000,56	13,3	81,94	95,24	ITM
3rd. Part	1001,88	850,70	14,2565	(14,2565)	(151,81)	OTM
4th. Part	844,13	730,56	12,6448	(12,6448)	(113,57)	OTM

* The parenthetical numbers in the above table are considered as negative values.

Table (4) illustrates the following:

● Increasing the value of the general indicator for the market (ISX60) for the first part of the year 2015, its value is reached in the end of the period (1014, 971) comparing with the execution price which is reached (798, 0128). The main goal of the strategy of buying option is to get benefit from the increasing of the prices of the indicator, thus, the buying option is located inside the possibility of the profit circle (ITM). However, the investor will execute the contract and the profit of the holder of the buying option calculates MAX[(1014.971-16.283-[798.17),0] which is equal (200.517). As well as, the premium of the price of the buying option represents the value of the option which is (16.283) and it is decreased from the total value of the deal and the achieved returns from the portfolio hedging with buying option is equalling the active buying for the indicator which is (216.801).

● At the second part of the year 2015, it is noticed the increasing of the prices of the general indicator (ISX60) which reached its value at the end of the period (1000.560) comparing with the execution price which reached (905.1537). Therefore, the buying option is located inside the possibility of the profit circle (ITM) and the investor is going to execute the contract by achieving returns for the indicator with hedging and its value is (81.94)

which is decreased from the total value of the deal.

● The reduction of the value of the general indicator of the market (ISX60) for the third part of the year 2015, its value is reached at the end of the period (850.07) comparing with the execution price which represents the first period reached (1001.88) since it is the goal of the strategy of the buying option is to get benefit from the increasing of the prices of the indicator and this illustrates that the buying option is located outside the possibility of the profit circle (OTM). In this case, it is not in the interest of the investor to execute the contract because of the incorrect forecasts about the increasing of the price of the contract of buying option during the period of the age of the contract option. The loss will be here limited with the value of the premium price of the option only which reached (14.2565) that represents the amount of the reduction which is induced because of the movements of the price of the marketing indicator.

● In the fourth part of the year 2015, the value of the general indicator for the market (ISX60) is reduced that reached its value at the end of the period (730.56) comparing with the execution price which represents the first period reached (844.13), since it is the goal of the strategy of the covered buying option is to get benefit from the increasing of the prices of the indicator and this illustrates that the buying option is located outside the possibility of the profit circle (OTM). In this case, it is not in the interest of the investor to execute the contract because of the incorrect forecasts about the increasing of the price of the contract of buying option during the period of the age of the contract option. The loss will be here limited with the value of the premium price of the option only which reached (12.6448) that represents the amount of the reduction which is induced because of the movements of the price of the marketing indicator.

Table (5) Contracts of the Buying Option by Using the European Option for the Year 2016

Period of the Contract	The Price of the Stocks During the Time of the Contract		Premium of the Price of the Buying Option for One Stock	The Return of the Indicator During Hedging	The Return of the Indicator Without Hedging	The Status of the Option
	Beginning of the Period	End of the Period				
1st. Part	723.98	579.86	9.3378	(9.3378)	(144.12)	OTM
2nd. Part	582.74	539.47	6.143	(6.143)	(43.27)	OTM
3rd. Part	545.44	561.01	5.60	9.97	15.57	ITM
4th. Part	562.88	649.48	5.632	80.968	86.6	ITM

* The parenthetical numbers in the above table are considered as negative values.

Table (5) illustrates the following:

● The reduction of the value of the general indicator of the market (ISX60) for the first part of the year 2016, its value is reached at the end of the period (579.86) comparing with the execution price which represents the first period reached (723.98) since it is the goal of the strategy of the covered buying option is to get benefit from the increasing of the prices of the indicator and this illustrates that the buying option is located outside the possibility of the profit circle (OTM). In this case, it is not in the interest of the investor to execute the contract because of the incorrect forecasts about the increasing of the price of the contract of buying option during the period of the age of the contract option. The loss will be here limited with the value of the premium price of the option only which reached (9.3378) that represents the amount of the reduction which is induced because of the movements of the price of the marketing indicator.

● At the second part of the year 2016, it is noticed the reduction of the price of the general indicator (ISX60) which reached its value at the end of the period (539.47) comparing with the execution price which reached (582.74). Therefore, the buying option is located outside the possibility of the profit circle (OTM) and here we advice the investor not to execute the contract and being out of it by losing the premium price of the buying option only which reached (6.143).

● Increasing the value of the general indicator for the market (ISX60) for the third part of the year 2016, its value is reached in the end of the period (561.01) comparing with the execution price which is reached (545.44). It is known that the main goal of the strategy of covered buying option is to get benefit from the increasing of the prices of the indicator, thus, the buying option is located inside the possibility of the profit circle (ITM). However, the investor will execute the contract and the profit of the holder of the buying option represents in the cursor of magnification and it is calculated by the difference between these two periods decreasing out of it the premium MAX[(561.01-545.44),0]-5.6 which is equal (9.97). As well as, the premium of the price of the buying option represents the value of the option which is (5.6) and it is decreased from the total value of the deal and the achieved returns from the portfolio hedging with buying option is equalling the active buying for the stock which is (15.57).

● In the fourth part of the year 2016, the value of the general indicator for the market (ISX60) is increased that reached its value at the end of

the period (649.48) comparing with the execution price which represents the first period reached (562.88), since it is the goal of the strategy of the covered buying option is to get benefit from the increasing of the prices of the indicator and this illustrates that the buying option is located inside the possibility of the profit circle (ITM). In this case, the investor is going to execute the contract and get return through hedging its amount (80.96) after paying the premium of the price of buying option which is its value (5.63) and it represents the value of buying option and subsequently the contract is ended with the execution.

Table (6) Contracts of the Buying Option by Using the European Option for the Year 2017

Period of the Contract	The Price of the Stocks During the Time of the Contract		Premium of the Price of the Buying Option for One Stock	Returns of the Indicator During Hedging	Returns of the Indicator Without Hedging	The Status of the Option
	Beginning of the Period	End of the Period				
1st. Part	653.57	664.46	6.4187	4.4713	10.98	ITM
2nd. Part	670.02	576.11	6.5699	(6.5699)	(93.91)	OTM
3rd Part	581.07	587.22	6.084	0.066	6.15	ITM
4th. Part	588.36	580.54	5.7475	(5.7475)	(7.82)	OTM

* The parenthetical numbers in the above table are considered as negative values.

Table (6) illustrates the following:

● Increasing the value of the general indicator for the market (ISX60) for the first part of the year 2017, its value is reached in the end of the period (664.46) comparing with the execution price which represents the first period and it reached (653.57). The main goal of the strategy of the cover buying option is to get benefit from the increasing of the prices of the indicator, thus, the buying option is located inside the possibility of the profit circle (ITM).). However, the investor will execute the contract and the profit of the holder of the buying option represents in the cursor of magnification and it is calculated MAX [(664.46-653.57),0]-6.4187 which means 4.47. As well as, the premium of the price of the buying option represents the value of the option which is (6.4187) and it is decreased

from the total value of the deal and the achieved returns from the portfolio hedging with buying option is equalling the active buying for the stocks which is (10.98).

● At the second part of the year 2017, it is noticed the reduction of the price of the general indicator (ISX60) which reached its value at the end of the period (576.11) comparing with the execution price which reached (670.02). Therefore, the buying option is located outside the possibility of the profit circle (OTM) and here we advice the investor not to execute the contract and being out of it by losing the premium price of the buying option only which reached (6.5699).

● Increasing the value of the general indicator for the market (ISX60) for the third part of the year 2017, its value is reached in the end of the period (587.22) comparing with the execution price which is reached (581.07). It is known that the main goal of the strategy of covered buying option is to get benefit from the increasing of the prices of the indicator, thus, the buying option is located inside the possibility of the profit circle (ITM). However, the investor will execute the contract and the profit of the holder of the buying option represents in the cursor of magnification and it is calculated by the difference between these two periods decreasing out of it the premium MAX[(587.22-581.07),0]-6.084 which is equal (0.006). As well as, the premium of the price of the buying option represents the value of the option which is (6.084) and it is decreased from the total value of the deal and the achieved returns from the portfolio hedging with buying option is equalling the active buying for the stocks which is (6.15).

● In the fourth part of the year 2017, the value of the general indicator for the market (ISX60) is reduced that reached its value at the end of the period (580.54) comparing with the execution price which represents the first period and reached (588.36), since it is the goal of the strategy of the covered buying option is to get benefit from the increasing of the prices of the indicator and this illustrates that the buying option is located outside the possibility of the profit circle (OTM). In this case, it is not in the interest of the investor to execute the contract because of the incorrect forecasts about the increasing of the price of the contract of buying option during the period of the age of the contract option. The loss will be here limited with the value of the premium price of the option only which reached (5.7475) that represents the amount of the reduction which is induced because of the movements of the price of the marketing indicator.

Fourth: Conclusions and Recommendations

A. Conclusions

1. There is a wide and great difference between the resultant returns from the strategy of buying contracts of European options during hedging and the active returns which is achieved from the movements of the prices of the general indicator in the Iraq Market for securities.
2. The resultant returns from the strategy of buying contracts of the European options during hedging will be bigger than the active returns which are achieved from the movements of the general indicator in the Iraq Market for securities.
3. Whenever the period of the age of the option is increased to the day of its claim, the time value of the option is increased and it takes growing whenever the time of the date of that claim is being far and this confirms the existence of a direct correlation (positive relation) between the time till the date of its claim and between the value of the option. This is what is confirmed that the sample of (Black & Sholes) is precise in imaging the process of taxation the European options contracts.

B. Recommendations

1. Depending on the sample (Black & Sholes) in taxation the European options contracts on the indicators of the stocks in the Iraq Market for securities because of its qualification and its preciseness in pricing these contracts.
2. Establishing a settlement cast for contracts of options its work resembles to the work of the settlement cast of options. It would be like organizations of financial mediation to confer contracts options with the indicators of the stocks.
3. It is necessary to use contracts options as a tool to avoid marketing risks due to its important role in reducing the risks and its active contribution in the processes of filtering the open centres for investors. That is why it is described as a tool which characterized with the reduction of its cost when it used.
4. Encouraging the researchers and academics to prepare similar studies that has a connection with the subject of the financial derivatives in general and contracts of options in particular then apply them on the Iraq Market for securities.

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