Speculation versus gambling in the Stock Exchange. Comparative study based on econometric model.

Marfia Tayeb [(1)]

[1] Lecturer Class B, Abdelhamid Ibn Badis University of Mostaganem, Algeria,
tayeb.maarfia@univ-mosta.dz

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Abstract :

This study based on econometric comparative model for the speculative dealers' behaviour where they act as gamblers sometimes.

The study subjects observed into treated and control group. The first represented the dealers' behaviours. And, the control group represented the price fluctuations. Then, we formulated the model:
Stock exchange's Price fluctuations = f (speculation, gambling), and we estimated its coefficients and validity via the MLR analysis using ANOVA. We found, the most important factor which must be monitored despite its slight and limited effect on the price fluctuations is Speculation.

Mots clés:
Mot clé.1: Bourse
Mot clé.2: Spéculation
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Mot clé.5: Modèle économétrique

Codes de classification JEL:
G120, G130, G170.

Résumé

Cette étude basée sur un modèle économétrique comparatif du comportement du spéculateur, ce qui est considéré parfois comme un pari.

On a examiné les éléments de l'étude selon un groupe de traitement et de contrôle. Le 1er représente les différents comportements des opérateurs. le 2ème représente les fluctuations de prix; on a également formulé le modèle comme suit: fluctuations des cours de la bourse = f (spéculation; jeux d'hasard); On a estimés ses coefficients et sa validité par l'analyse MRL en utilisant l'ANOVA. On a conclu que le facteur le plus important qui doit être contrôle malgré son effet léger et limité sur les fluctuations des cours est la spéculation.

Corresponding Author: Marfia Tayeb: tayeb.maarfia@univ-mosta.dz

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1- The introduction:

The stock exchange descriptions vary, it been described sometimes as well organized place, but other times purely as casino. And, there is no doubt if it had been said that the stock exchange itself is one among the economic instability factors, according to the actual perceptible reality.

Assuming that the dealer is the one who must be approved by the stock exchange's governing body, i.e. he institutionally activates within the market; his success depends on the stock exchange and vice versa. Consequently, this common success greatly contributes to control the price fluctuations.

To identify the dealer's behaviours boundaries, we have to take in the consideration many aspects. So, these dealers as financial statements' users invest in the securities relying on the re-valuation of the fixed assets. But the re-evaluation may be of an opportunistic nature, such as being for the purpose of improving the institution's financial image in front of creditors, or raising the financial indicators for the purpose of showing good management (ATIG & BOUZIANE, 2021, p. 219). In addition, the financial reports may have a lot of exaggeration in accounting estimation. This reduces the ability of these companies to predict future events and increases the state of uncertainty (Aksa & Hallam, 2021, p. 94). The ethical aspect is another factor to adjust the dealer's behaviours. Furthermore, the economic institutions are no longer neglecting the ethical aspect in the practice of their different activities (Yahiabey & Baba, 2021, p. 390).

Dealers are mostly relaying on the Portfolio to insure profits. However, its returns are greatly affected in times of crisis. For example, The estimated risk of the Algerian portfolio shows losses for its returns due to the political trouble and Corona virus pandemic which reflect negatively on the performance of the economy in general and on the companies in particular (Tahi & others, 2021, p. 13). However, the pandemic affected the whole Algerian economic activities (TOUNSI, 2021, p. 314).

Regarding the stock market success, there is a need to apply many procedures, such as applying financial accounting system. but, this system itself could be not useful; for example, Applying financial accounting system were not enough for the advancement of the Algerian stock market regarding the existence of the legislative, political, cultural and social barriers, even within the market itself, in addition to the weakness of the communication channels for the financial and accounting information transferring to the external environment, and with the enterprises' family ownership nature which is inaccessible for the external environment (Kenoush, 2020, p. 214). Also, The stock market success depends on the investment opportunities' diversity, i.e. securities which give variety of choices, the ability to provide liquidity on demand (Bencheni, 2015, p. 92).

Transactions in the stock exchange are carried out according to a specific system governed by many variables which leads us to question the status of the stock exchange for dealers whom are described at times as successful investors and sometimes as gamblers.

1.1. The study's core question:

The foregoing statement addressed an issue as following:

Does the stock exchange with its variables indicate that it is a place for investment or gambling?

1.2. Hypotheses:

1. The reason for price fluctuation on the stock exchange is due to speculation rather than gambling.
2. The reason for price fluctuation in the stock exchange is due to gambling rather than speculation.

1.3. The study purposes:

We list the study purposes as following:

1. Analysing the dealers acting within the stock exchange, not in isolation, but as a herd behavior.
2. Identifying the economical aspects of the supposed effect that resulted due to the Speculation and Gambling.
3. Verifying the relationship among Speculation, Gambling, and the Stock exchange's price fluctuations.
4. Integrating the possible and available independent variables which are determinants, directly or indirectly, for the economical effect on the Stock exchange's price fluctuation.
5. Building an econometric model which may help to study the dealers' behaviours effect on the stock exchange price variations.
6. Exploring the possible ways to maximize the benefits of the positive effects of gambling and speculation on the price volatility.
7. Checking the possible extent of the supposed dealers' behaviours effect.
8. Providing an applied study in the field of finance science.

1.4. Previous studies:

The previous studies mostly tackled financial instruments trading generally and provided comprehensive outcomes as well as it focused on limited variables which are linked to the price fluctuation within the stock exchange. However, it has a very importance as a guideline for the sake of deepening the topic of this study through tackling neglected or never noticed details as much as possible. And, among these studies we have the following: A study done by the researchers: (Mokhfi & Benjmil, 2017) where they investigated the stock market crisis under the title of (The stock market shifting from growth stimulator to crisis Generator). And, the foremost results were as the following:

1. The stock market is a big whole casino for gambling, an activity which comes under various names including speculation, short selling, and manipulation conventions; and, that put many dealers caught in crisis.
2. Dealing with the derivatives which known as debts' securitization, produced through the transformation of the bank debt mortgages covered into securities, is a main reason for the stock market crisis spread.
3. Speculation cause prices to rise more than their true value which recognised as the bubble.
4. Stock market is not a suitable tool for the economic growth realisation; instead, it is crisis generator tool.

Another study done by Mr.Frank Schmid (Frank A, 2002) in which he dealt with the topic of the implications of risk and uncertainty for stock market investments. The study titled the Stock Market: Beyond Risk Lies Uncertainty. And, the main findings were as the following:

1. The growth optimal investment strategy takes due account of risk.

2. Stock market uncertainty relates to imperfect information about how the world behaves.
3. Learning about the stock market may feed back into the market and, by changing the behavior of the market, render our "learning" useless or, if we don't recognize the feedback effect, hazardous.
4. For investors, not being able to distinguish between risk and uncertainty is hazardous to their financial health. Although we have a fairly good understanding of stock market risk, assessing stock market uncertainty is incomparably harder.

2- Research Methods, tools and measures:

This is an observational study where the subjects observed into two groups, treated and control groups. Also, we used correlation study tools to figure out the correlation between the effect and the cause. So, there is a mixture of quantifiable and unquantifiable randomness which we adjust them according to a statistical model that depends on probabilities. Probabilities may be attained either by deduction—using theoretical models—or induction—using the observed frequency of events (Frank A, 2002).

2.1 Sampling selection methods:

The treated group represents the independent variables in which we took randomness behaviour attribute of dealers (Gambling and speculation behaviour); and, the control group represents the dependent variables in which we've got the Price fluctuation. In result, we formulate the model function for the study as following: **Stock exchange's Price fluctuation = *f*(speculation, gambling)**. Therefore, we are going to compare via analyzing data basing on the given economic model. Knowing that, this comparative analysis will be between the two behaviours, Gambling and speculation, within the stock exchange; and by referring to price changes as a control group.

2.2 Study methodology:

Our inference is base on the induction method where we used observations for the dealers' behaviour. As well as the deduction process where we suppose hypotheses then shrink in scope until a specific determination of a causal link between dependent and independent variables to valid it.

Economists deduce probability distributions for stock market returns from theoretical models of investor behaviour. On the other hand, induction allows us to calculate probabilities from past observations where theoretical models are unavailable, possibly because of a dearth of knowledge about the underlying relation between cause and effect (Frank A, 2002).

2.2.1 Research procedures:

For the purpose of estimating the effect resulted as Stock exchange's Price fluctuations due to the speculation and gambling variation, we are going to practise the following statistical study steps:

1. Determining the functional relationship between the independent variables and the dependent variable separately.
2. Framing the model according to a familiar functional form.
3. Estimating the model coefficients and studying its validity.

2.2.2 The identification of variables and the ways of their measurability:

The first independent variable X_1= **speculation** represents the contracts which treated as non-zero-sum games within the stock exchange. Most transactions or trades are inherently non-zero-sum games because when two parties agree to trade they do so with the understanding that the goods or services they are receiving are more valuable than the goods or services they are trading for it, after transaction costs (Kenton, 2020). In addition, speculation includes trading in the sake of making a profit by anticipating a price change in the future (Mokhfi & Benjmil, 2017, p. 126).

The second independent variable X_2= **gambling** stands for the contracts which considered as zero-sum game within the stock exchange. Options and futures trading is the closest practical example to a zero-sum game scenario because the contracts are agreements between two parties, and, if one person loses, then the other party gains (KENTON, Updated Dec 28, 2020).

For the purpose of comparing speculation and gambling, we have applied the following indexes: The FTSE 100, and the FTSE 100 index futures; besides the Volatility (60) indicator.

The FTSE 100 broadly consists of the largest 100 qualifying UK companies by full market value (FTSE, 2006)

FTSE 100 index futures is the most commonly used instruments for banks, brokers, specialist traders and market makers to manage risk on the UK equity market. They are based on a capitalization-weighted index of the 100 most highly capitalized companies traded on the London Stock Exchange. (Factsheet, 2021)

The first independent variable stands for the Speculation which represented by the (FTSE 100 Index Equity).

The second independent variable stands for the Gambling which represented by the (FTSE 100 Index Futures).

The dependent variable "Y" stands for **the Stock exchange's Price fluctuations** which represented by the (Volatility indicator).

2.2.3 Analysis tools:

To explain the relationship between the study's variables, the MLR: multiple linear regression analysis is carried out using the analysis of variance ANOVA based on the Microsoft Excel 2007 Data Analysis Tools.

2.2.4 Statistical tools:

We assume a relationship between the (FTSE 100 Index Equity), and the (FTSE 100 Index Futures) and the (speculation) and (gambling) as independent variable. As well as, we consider the (Stock exchange's Price fluctuations) as dependent variable which represented by the (Volatility indicator). Therefore, the following model has been developed up:

Stock exchange's Price fluctuation = (Speculation, Gambling).

The model appears in the following mathematic form: $y = f(x_1, x_2)$

(x_1, x_2) Independent variables, where: $x_1 = Speculation, x_2 = Gambling$

(y) Dependent variable, where: $y =$ Stock exchange′s Price fluctuation

Thus, on this basis, the Indexes have been assembled respecting the following form:

Volatility indicator=f (FTSE 100 Index Equity, FTSE 100 Index futures)

We should denote that the composition of the given variables (y, x_1, x_2) is only for the purpose of comparing Speculation with Gambling within the UK Stock Exchange at the given time frame.
For the Model equation we have used the following multiple regression formula:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$$

β_0: This denotes the minimum value of the dependent variable in the absence of the independent variables effect as well as the absence of the stochastic variable effect. It expresses also the value of the exogenous variables effect. i.e. outside the model.
β_1: This is the estimated regression coefficient represents the change in Y relative to a one unit change in the first independent variable.
β_2: This is the estimated regression coefficient represents the change in Y relative to a one unit change in the second independent variable.
ε: This is the random variable, also known as the stochastic variable, it represents residuals and deviations from the accurate relationship between the real and the estimated values; as well as, it stand for the bias amount (Al-sifou & others, 2006, pp. 31,60,121,196).
In order to study the model validity, we have took a significance level of α=5%. Thus, the confidence level is high, and the economic decision is reliable; moreover, it is commonly the used level in econometrics (Al-sifou & others, 2006, pp. 175, 187).
To complete the study, we have used statistical tests and measures. First, for The Model's total significance we used Fisher–Snedecor distribution test. Then, for the Model's estimated coefficients significance we used Student's t-distribution test. Besides, for the accuracy of the model determination purpose we used the Durbin-Watson test. Moreover, the statistical measures which had been used in the study are the following coefficients:

1. The Pearson correlation coefficient.
2. The determination coefficients R Square; besides the adjusted R Square, and the Multiple R.
3. The estimated regression coefficients.

3- Results:

The following table shows the Futures price performance of a FTSE index:

Table 01: FTSE 100 Index Futures.

Monthly Working Dates	FTSE 100 Index Futures
Thu Jan 21, 2021	6535
Mon Feb 22, 2021	6426
Mon Mar 22, 2021	6580
Wed Apr 21, 2021	6766
Fri May 21, 2021	6903.5
Mon Jun 21, 2021	6957
Wed Jul 21, 2021	6834.5
Mon Aug 23, 2021	6988
Tues Sep 21, 2021	6868.5
Thur Oct 21, 2021	7102.5
Mon Nov 21, 2021	7188.5
Tues Dec 21, 2021	7227

Source: Prepared by Tayeb Marfia, based on the data extracted from:
FTSE 100 Index Future Chart (ICE, 2021).

We should notice first that the FTSE 100 Index block reporting time is from Monday to Friday; therefor, the days on which the month is complete coincides with Weekend days have been excluded; also, we notice that the numbers are shifting in an increasing direction comparing to the time changing. Furthermore, this table, mainly, presents the FTSE futures index which represents contracts in which two parties agree a set price and date on which to exchange the value of a FTSE index. Unlike other futures contracts, FTSE futures aren't based on an underlying asset, but rather a number that represents the collective value of a group of stocks.
The following table shows the Equity price performance of a FTSE index alongside with the Volatility indicator:

Table 02: FTSE 100 Index Equity plus Volatility indicator.

Date	FTSE 100 Index Equity	Volatility (60)
Thu Jan 21, 2021	6715.42	19.26
Mon Feb 22, 2021	6612.24	15.37
Mon Mar 22, 2021	6726.1	15.39
Wed Apr 21, 2021	6895.29	13.58
Fri May 21, 2021	7018.05	13.24
Mon Jun 21, 2021	7062.29	11.88
Wed Jul 21, 2021	6998.28	13.26
Mon Aug 23, 2021	7109.02	11.93
Tues Sep 21, 2021	6980.98	12.09
Thur Oct 21, 2021	7190.3	10.11
Mon Nov 21, 2021	7255.46	9.54
Tues Dec 21, 2021	7297.41	13.05

Source: Prepared by Tayeb Marfia, based on the data extracted from:
FTSE 100 Index Chart (LSE, 2021).

Volatility indicator (VLTY 60 X) compares the spread between high and low prices. It assumes that market tops and bottom stages are generally accompanied by decreased volatility. We notice that the measure of price volatility trending downward over the period while the Equity index values are moving toward the opposite direction. So, this indicates an inverse relationship between the two presented values.
With the intention of getting an econometric statistical analytical tool, we merge Table 01 and Table 02 regarding the mathematic obtained form [$y = f(x_1, x_2)$], as following:

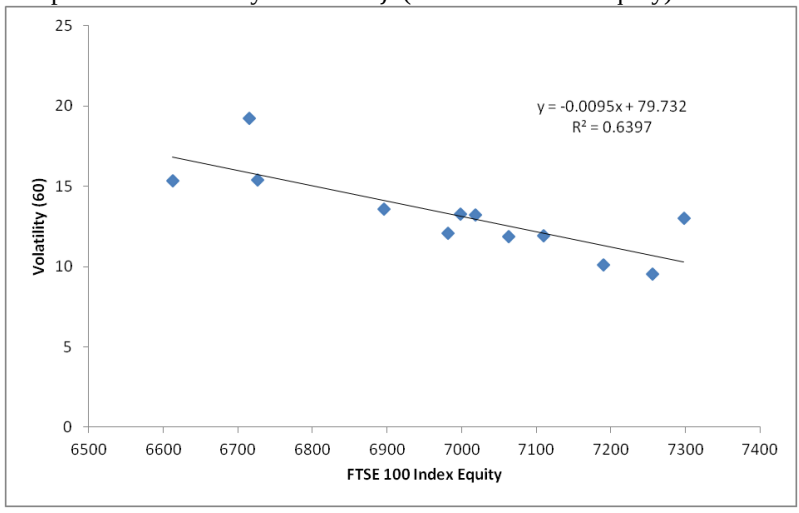
Table 03: The study's variables collection according to the proposed Model.

y	x_1	x_2
Volatility (60)	FTSE 100 Index Equity	FTSE 100 Index Futures
19.26	6715.42	6535
15.37	6612.24	6426
15.39	6726.1	6580
13.58	6895.29	6766
13.24	7018.05	6903.5
11.88	7062.29	6957
13.26	6998.28	6834.5
11.93	7109.02	6988
12.09	6980.98	6868.5
10.11	7190.3	7102.5
9.54	7255.46	7188.5
13.05	7297.41	7227

Source: Prepared by Tayeb Marfia, based on previos Ttables, 01 and 02.

This table is a tool that reveals relationships among the given variables. Therefore, we note the downward trend of price volatility resulting from an assumed causal relationship with and between the two Indexes (equity Index and Futures Index) where the both are mostly moving in an increasing direction $(y \downarrow\downarrow) = (x_1 \uparrow\uparrow, x_2 \uparrow\uparrow)$.
The relationship between Stock exchange's Price fluctuations (represented by Volatility indicator) and Spuculation (represented by FTSE 100 Index Equity) graphs a linear relationship as following (Graph N°:01):

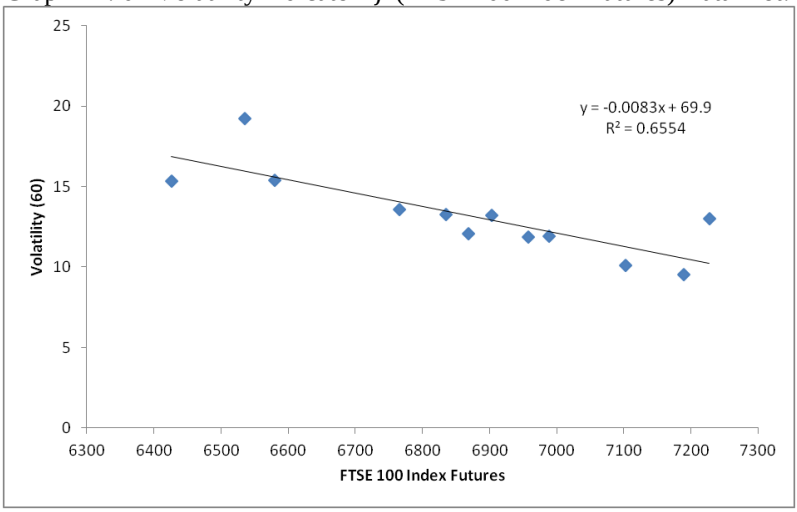
Graph N°: 01 Volatility indicator=f (FTSE 100 Index Equity) Data Plot.



Source: Table 03 data, based on the Microsoft Excel 2007 Data Analysis Tools.

This graph shows that the best-fitting line is a regression line, so the connection among FTSE100 index Equity and Volatility (60) is modelling a linear regression.
This line has equation of: $y = -0.0095x + 79.732$ where the slope confirms the inverse relationship between Speculation and the Stock exchange's Price fluctuation. Furthermore, the determination coefficient is almost strong: $R^2 = 0.6397$ "more than 50%".
The relationship between Stock exchange's Price fluctuations (represented by Volatility indicator) and Gampling (represented by FTSE 100 Index Futures) graphs a linear relationship as following (Graph N°:02):

Graph N°: 02 Volatility indicator=f (FTSE 100 Index Futures) Data Plot.



Source: Table 03 data, based on the Microsoft Excel 2007 Data Analysis Tools.

Separately, according to the second independent variable and its relation with the dependent variable, this graph insists on the linear correlation with generally a strong determination coefficient: $R^2 = 0.6554$ "more than 50%". As well as, the negative slope in the line equation: $y = -0.0083x + 69.9$ verify the inverse relationship between Gambling and the Stock exchange's Price fluctuation.
Because we did figure out a linear relationship where we did determining the functional relationship between the independent variables and the dependent variable, each one separately, so when we take the both independent variables together in consideration, the multiple regression formula is the suitable model which represented by the following equation: $Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$
We have obtained the following estimated model formula after the calculation of its coefficients,β_1 and β_2, and the constant value β_0 (Annex N°01) :

$$Y = 45.4168 + 0.0219x_1 - 0.0269x_2 + \varepsilon$$

In addition, we have got the analysis of variance (ANOVA) outputs summary in the following table:

Table 04: The ANOVA outputs summary for the given Model.

Source of variation	Degrees of freedom	Squared deviations (sum of squares)	Mean Squared	F-statistic ratio
Regression	2	SSR=49.53607027	24.76803513	9.140159768
Residual	9	SSE=24.38822973	2.709803303	/
Total	11	SST=73.9243	/	/

Source: prepared by Tayeb Marfia, Based on: (Djelato, 2009, p. 33), and (salvatore, 2001 Arabic Fifth Edition, p. 105), and the obtained data of Annex N° 01.

This table helped us to verify the model validity. Basically, for The Model's total significance we used Fisher–Snedecor distribution test. Then, for the Model's estimated coefficients significance we used Student's t-distribution test**.**

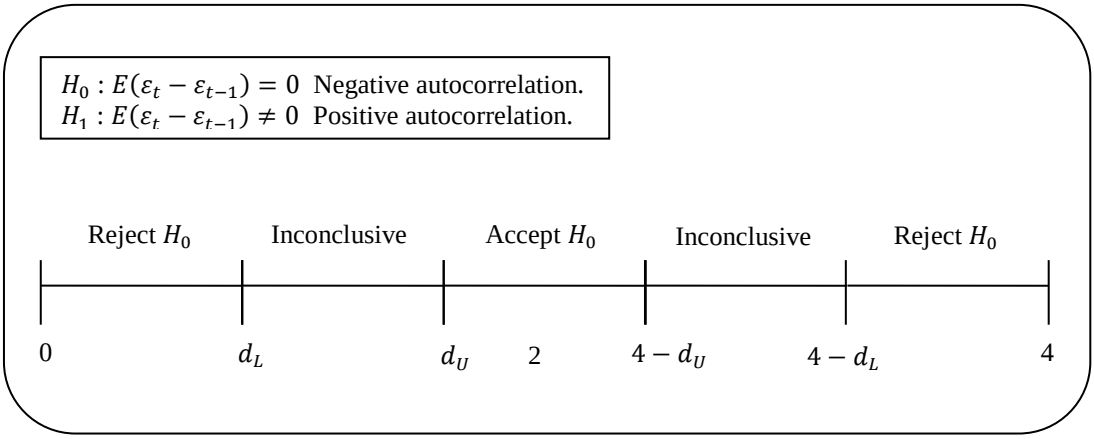
For these tests, we have took two hypotheses where the null hypothesis is: $H_0: \beta_0 = \beta_1 = \beta_2 = 0$; and, the alternative hypothesis is: $H_1: \beta_i \neq 0 \ :\backslash \ i = 0,1,2$.

The F-statistic ratio from Table 04 equals to 9.140; whereas, the F-critical ratio at significance level of α=5% with degrees of freedom (k-1 =2, n-k=3) is equal to 4.256. (Annex N°01). Here, we note that the$(F_{statistic} = 9.140) > (F_{critical} = 4.256)$. So, we reject the null hypothesis and we do accept instead the alternative hypothesis; then as result, we may say that the independent variables are giving an explanation overall for the dependent variable variation; in other words, the Model is overall significance as a statistical tool.

For the second test, we have: $t_{stat}\ \beta_0 = 1.11$, $t_{stat}\ \beta_1 = 0.63$, $t_{stat}\ \beta_2 = -0.91$ (Annex N°01); whereas, the t-critical ratio at significance level of α=5% with degree of freedom (n-k=9) is equal to 2.26. Then, we compare the t-statistic ratios for each coefficient to the given t-critical ratio, and we get the following: $(t_{stat}\ \beta_0, t_{stat}\ \beta_0, t_{stat}\ \beta_0) < t_c$: the all t-statistical ratio of the given coefficients are inferior to the t-critical ratio. Consequently, we accept the null hypothesis and we do reject instead the alternative hypothesis. This result indicates that we can not use the coefficient for prediction purpose; and also it means that the independent variables may have slight effect on the dependent variable or they have no effect at all, two possibilities here.

In addition, The Durbin–Watson test used to detect whether the Model is biased or not. We compare the value of d_{stat} to the two critical values: $d_L and\ d_U$ according to their position in the following diagram besides the given hypotheses:

Graph N°03: Results Interpreting of the Durbin-Watson Test.



Source: prepared by Tayeb Marfia, Based on: (Djelato, 2009, pp. 104,108)

For α = .05, n = 12 observations, and k = 2 independent variables in the regression model, the Durbin-Watson table shows the following upper and lower critical values (Bobbitt, 2021): Lower critical value: 0.81, and Upper critical value: 1.58.
Since our test statistic of 1.99t lie in the range of ($d_U and\ 4 - d_U$,) we do accept the null hypothesis of the Durbin-Watson test. In other words, there is no correlation among the residuals. And, this is meaning that the model has unbiased Estimated coefficients; so, the Model has a good accuracy.

4- Discussion:

For the sake of answering the study main question and reviewing the validity of the proposed hypotheses throughout the interpretation of the requested results, we had pursued a cohesive and coherent process. Starting by determining the functional relationship among the study variables within the given time frame; and, that realised throughout a data plot graph of the dependent variables relating to the independent variable (Djelato, 2009, p. 80). Later on, we framed the final model's function form; and for this purpose, we had to choose the prevalent one, that appeared in the data plot graphs. Also, the Model's form should take in consideration the all independent variables, Speculation and Gambling, and their effect on the Stock exchange's Price fluctuation as a dependent variable, according to the well-known function form.
It should be noted that we took the model as an analytical tool within only its pure and simple statistical aspect; thus, we could not use it as a prediction tool "i.e. we were not in need to test its predictive power"; whereas, we had just verified the model's conformance towards the economic perception, besides, its goodness of fit, and its estimated coefficients' significance; then, the bias test for the Model's accuracy.
Concerning the model's conformance towards the economic perception, we have to use the Model's regression coefficient. The first variable regression coefficient "$\beta_1 = 0.0219$" tells us the volume of the increase in the Stock exchange's Price fluctuations due to a one unit of change in the Speculation. So, both are moving toward positive direction; and, it indicates a direct relationship which is a different result from what it looks like in Table N°3.
However, this does not give us a contradiction in the economic reasoning; because, the

augmentation in the speculation could rise as well as decries the price fluctuations; here it rises almost only 2.19%, which can be interpreted as that the speculators are mainly characterised as being risk averse, and this it could be a reason for the slight increase.
The second variable regression coefficient "$\beta_2 = -0.0269$" denotes the inverse relationship between Gambling and the Stock exchange's Price fluctuations. So, the rising in the Gambling by one unit results decrease in the fluctuations equal to minus 0.0269. It confirms what it looks like in Table N°3. That, the Gamblers tend to be risk takers, and this increased risk lead to a slight decrease in volatility, about 02.7% only, thus, this could be a relevant economic interpretation.
The Coefficient of determination, R Square value = 0.67 (Annex N°01), indicates that 67% of the dependent variable values scattering have been explained by the explanatory variables ($x_1 and\ x_2$); as well as, these independent variables, in turn, explain 82% of the response variable "i.e. the Stock exchange's Price fluctuations", referring to the Multiple R value (Annex N°01). Hence, the Model's goodness of fit is well. Furthermore, the Adjusted R Square = 0.596 (Annex N°01), it is more than 50%; this coefficient take in consideration the number of the independent variables to avoid deviation from the true value (Djelato, 2009, p. 90)
For the Model's significance overall test, we had used Fisher–Snedecor distribution test. The F-Test of overall significance in regression is a test of whether or not the independent variables provide a better explanation for the dependent variable variation around its Mean (salvatore, 2001 Arabic Fifth Edition, pp. 178-179)**.** However**,** we proved that the Model is overall significance as a statistical tool.
For the Model's significance partial test, we had used the Student's t-distribution test where the obtained result indicates that we can not use the Model's coefficient for prediction purpose; and also it indicates that the independent variables may have slight effect on the dependent variable or they have no effect at all. And, because we had to take the effect existence as a self-evident issue, we take the first possibility.
What prevent the use of the estimated coefficient for prediction purpose does not indicate the rejection of the independent variables for the following important considerations:

- The model is intended to be only a limited statistical tool and not a predictive tool.
- Rejecting any independent variable regardless the strong correlation with the dependent variable will result a Bias estimate. (Djelato, 2009, p. 100)
- We can not deny the correlation between the independent variables and the dependent variable due to the Model's goodness of fit which is well, precisely when referring to the Multiple R value.
- The independent variables with generally a strong determination coefficient R^2 for each one should be kept in the Model even if their coefficients were not partly significant (Al-sifou & others, 2006, p. 190).

The accuracy test was to make sure that the Model's presented mathematical relationship form is true with unbiased estimator. This is meaning that the expected values are equal to the true values of the estimated values (Al-sifou & others, 2006, p. 153). For this purpose the Durbin–Watson test used to detect whether the Model is biased due to the presence of the residuals autocorrelation. However, we proved that the Model has a good accuracy**.**
Relying on all of the above, we may review the validity of the study hypotheses. So, the first one which reports that the reason for price fluctuation in the stock exchange is due to gambling rather than speculation, is rejected due to the inverse relationship represented by the Model's second variable negative sign; besides, the validation which state that the

Gambling have a slight effect on the dependent variable. So, yes the effect exists; but, it is not the reason for the fluctuation.
The second hypothesis which reports that the reason for price fluctuation on the stock exchange is due to speculation rather than gambling, is confirmed due to the direct relationship represented by the Model's first variable positive sign; besides, the validation which state that Speculation in the stock Exchange have a slight effect on the price fluctuation within the study time frame. So, yes the effect exists; and, the Speculation is the occurred probably reason for the fluctuation.

We arrived to say that the stock exchange is a place for investment not for gambling, it is more organised, and has a lot of requirements about publishing financial information for shareholders.

5- Conclusion:

The different circumstances and variables which surround and direct the dealers' behaviours in the stock Exchange control their decisions accuracy; and, the good decisions make the transaction complete and set correctly according to the given rules, conditions and principles as long as been clear and stable. Here, we may get stable price fluctuations, and then we may describe the dealers as successful investors, whatever been speculators or gamblers. Otherwise, with the dealers' reckless behaviour which is another variable that causes the price fluctuations, the dealers are merely gamblers. However, the following main research results have been recorded:

1. Futures index values are shifting in an increasing direction comparing to the time changing. That means the gambling action rose over the study time frame as if it supposed to be represented by this index.
2. The Volatility values are decreasing throughout the given time while the Equity index values are moving toward the opposite direction. This indicates an inverse relationship. Also, we may say that the Speculation behaviour augmented, assuming that is represented by the Equity Index.
3. We can conclude an indirect relationship between Gambling and Speculation referring to the Volatility values as common element within the given time frame. As well as, the both have a direct relationship with the Price fluctuations which decreased due to their augmentation.
4. The connection among the independent variables and the dependent variable is modelling separately for each variable a linear regression with high correlation that confirms the strong relationship between (Speculation and Gambling) separately with the Stock exchange's Price fluctuation, regardless the common correlation.
5. With taking the both independent variables together in consideration, we have obtained the following estimated model formula: $Y = 45.4168 + 0.0219x_1 - 0.0269x_2 + \varepsilon$.
6. Taking in the consideration the independent variables partly or entirely, we found that the correlation with the dependent variable is strong in the all cases.
7. The explanatory power of the independent variables for the dependent variable is well, and the same for the opposite side.
8. Speculation and Gambling in the stock Exchange may have slight effect or no effect at all on the price fluctuation within the study time frame. But, we take the first possibility due to the study assumptions which assume the existence of the effect.
9. The Model is overall significance as a statistical tool with a good accuracy.

10. According to the given Model, choosing the partial turn toward speculation instead gambling makes the price fluctuations go up and in vice the partial replacing of gambling by Speculation results decrease in the price fluctuations.

To make the obtained results more practice, we list the following general recommendations and suggestions:

1. The organization of the stock exchange is recommended.
2. The stock exchange has to have a lot of requirements about publishing financial information for shareholders.
3. The speculation within the stock exchange must be monitored. However, there will be no remarkable problem if the transactions move freely in the market whatever the action been, speculation or gambling; because, the both have a slight and limited effect on the price fluctuations according to the study results and assumptions.
4. Because of the detected negative effect of the "Gambling" on the price fluctuation within the stock exchange, regardless its amount, we propose to support its existence as Future contracts by governing bodies; of course, that if this result can be generalized.
5. Encouraging the linking between equities and future contacts through the process of creating new financial products, and make it available for the initial public offering.
6. We propose the use of the obtained Model by the stock exchange governing bodies as an analytical instrument for the market's price behaviours.

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7- Appendices:

Annex N°01: Stock exchange's Price fluctuation = (Speculation, Gambling).

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.818591376
R Square	0.670091841
Adjusted R Square	0.596778917
Standard Error	1.64614802
Observations	12

ANOVA

	df	SS	MS	F	Significance F		F critical	t critical
							4.256494729	2.262157158
Regression	2	49.53607027	24.76803513	9.140159768	0.00680407			
Residual	9	24.38822973	2.709803303					
Total	11	73.9243						

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	45.41685325	40.89161375	1.110664243	0.295503347	-47.08640351	137.92011	-47.08640351	137.92011
X Variable 1	0.021904978	0.034561105	0.633804327	0.54197913	-0.056277673	0.100087629	-0.056277673	0.100087629
X Variable 2	-0.026989154	0.029621028	-0.911148469	0.385970874	-0.093996575	0.040018266	-0.093996575	0.040018266

RESIDUAL OUTPUT

Observation	Predicted Y	Residuals	Standard Residuals	ε_{t-1}	$(\varepsilon_t - \varepsilon_{t-1})$	$(\varepsilon_t - \varepsilon_{t-1})^2$	ε_t^2	
1	16.14385526	3.116144739	2.092781201	0	3.116144739	9.710358033	9.710358033	
2	16.82551748	-1.455517482	-0.977515449	3.116144739	-4.571662221	20.90009546	2.11853114	
3	15.16328847	0.226711525	0.152257888	-1.455517482	1.682229007	2.829894431	0.051398116	
4	13.84940895	-0.26940895	-0.180933183	0.226711525	-0.496120475	0.246135525	0.072581182	
5	12.82745529	0.412544706	0.277062164	-0.26940895	0.681953656	0.465060789	0.170193135	
6	12.35261175	-0.472611751	-0.317402775	0.412544706	-0.885156457	0.783501954	0.223361867	
7	14.25664554	-0.996645538	-0.669340233	-0.472611751	-0.524033787	0.27461141	0.993302328	
8	12.53956758	-0.609567577	-0.409381359	-0.996645538	0.38707796	0.149829347	0.371572631	
9	12.96005817	-0.870058171	-0.584325035	-0.609567577	-0.260490593	0.067855349	0.75700122	
10	11.22974599	-1.119745993	-0.752013645	-0.870058171	-0.249687822	0.062344009	1.253831089	
11	10.33600707	-0.796007067	-0.534592827	-1.119745993	0.323738926	0.104806892	0.633627251	
12	10.21583844	2.834161558	1.903403252	-0.796007067	3.630168626	13.17812425	8.032471739	DW
					Total	48.77261745	24.38822973	1.999842464