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The effect of changing stock prices and exchange rates on the economic process in Indonesia during the amount from 2007 to 2017

تأثير أسعار الأسهم وأسعار الصرف على النمو الاقتصادي في إندونيسيا خلال الفترة الممتدة من 2007 م الى 2017 م

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ملخص

يبين البحث مدى تأثير تغير أسعار الأسهم في سوق الأوراق المالية على النمو الاقتصادي مقارنة بمدى تأثير التغير في أسعار العملات وذلك بتطبيق نموذج الانحدار و خلصت الدراسة إلى ما يلى:

نتيجة الاختبار أظهرت نتائج اختبار التداخل المشترك أن السلسلة الزمنية الثالثة من أسعار الأسهم وأسعار الصرف والنمو الاقتصادي الثابت أن جميع السلاسل الزمنية لأسعار الأسهم وأسعار الصرف والنمو الاقتصادي ثابتة عند الفارق الأول ، كما لم يتم دمجها في حين أظهرت نتائج اختبار التأثير وجود تأثير لتغير أسعار الأسهم والتغير في أسعار الصرف على النمو الاقتصادي و مقدار تأثير أسعار الأسهم أكبر من تأثير أسعار الصرف على النمو الاقتصادي.

الكلمات المفتاحية : سوق الأوراق المالية ،النمو الاقتصادي ،اختبار التأثير.

Abstract: The research shows effect of changing stock prices on the stock market on economic growth compared to the extent of the impact of currency prices by applying the regression model The study concluded: The result of the static test is that all time series of changing for the three elements are fixed at the first difference, as the results of the joint overlap test showed that the third time series of changing were not combined, while the impact test results showed an effect and the effect of the stock price is greater than the effect of the exchange rates . **Key words:** stock exchange, economic process, impact test.

Résumé: l'étude montre l'effet de changement des cours des actions du marché boursier sur la croissance économique par rapport à l'étendue de l'impact de changement des prix des devises en appliquant le modèle de régression. L'étude concluante : toutes les séries chronologiques des prix des trois éléments sont fixées à la première différence, les résultats du test de chevauchement conjoint montrent que la troisième série chronologique des prix des éléments étudiés n'a pas été combinée, mais les résultats du test d'impact montrent l'effet et l'effet du cours des actions est important que l'effet des taux de change sur la croissance économique.

Mots clés: bourse, processus économique, test d'impact.

1. <u>Introduction</u>

In theory, financial markets play a strategic role in activating economic activity, because they enjoy channels through which funds be due units with financial surplus to units with financial deficits and work to mobilize savings and financial tools and direct them to more productive investments, which contributes to driving economic process and development, It also undertakes operations to scale back financial risks and disclose the financial position of companies listed on the stock exchanges, and thus the stock exchanges became a reflective mirror of the state of the economy in developed countries, prompting emerging and developing countries on the trail of growth to reconsider Financial Songhai and perform variety of structural reforms so as to accelerate the pace of economic process and development.

Several studies have been carried out that were applied to the statement of the relationship in the stock market, development in society and economic growth, as studies were conducted to research the effect of the stock price and exchange rate on the economic process, and since there was no unification on the results in previous research, some results have emerged In studies, economic growth is positively affected by the exchange rate and the share price. On the other hand, some researchers have indicated that the economic process is affected negatively in the stock price and exchange rate, and this difference may be due on the economic conditions of a rustic during a specific period of time during which the research was conducted, and on this basis this study came so as to research and measure the impact of both stock prices and exchange rates on the economy in Indonesia from 2007 CE to 2017 AD, considering Indonesia is one it's one among the emerging economies that have achieved a singular development boom in Southeast Asian countries.

1.2 Problem of Study

The aim of this study is to show the effect of the changing exchange rate and the changing share price on the economic growth in Indonesia, as this study tried to answer the following main question:

How does the changing share price and the changing exchange rate affect the economic growth in Indonesia during the period from 2007 to 2017? Accordingly, and supported the most question of the study, the subsequent questions are derived from it:

A- what's the extent of the impact of changing stock prices on the economic process in Indonesia from 2007-2017?

B-What is that the impact of changing exchange rates on the economic process in Indonesia from 2007-2017?

1.3 Objectives and importance of the study:

This study aims to:

A- It shows the effect of the changing share price on the growth of the Indonesian economy from 2007-2017.

B - Explaining the effect of changing exchange rates on the economic process in Indonesia from 2007-2017.

The importance of the study is further clarified from the theoretical side within the statement of the effect of the exchange rate and the share price on Indonesian growth, and thus the effect on the Indonesian economy.

1.4 Hypotheses of Study

Ho1: there's no statistically significant effect between the changing stock price and economic growth in Indonesia.

Ho2: there's no statistically significant effect between changing exchange rates and economic process in Indonesia.

On this basis, the research has been divided into two theoretical and practical sections.

2. Theoretical framework and former studies

The theoretical side is exposed to the definition of economic process and therefore the definition of the changing stock exchange and its stages of development throughout history, which proved its effective role in economic activity because it became the mirror of the economy, through the info provided by stock exchange indicators.

1.2. Economic Growth:

Economic growth means a true increase in per capita income, not cash. to speak about economic process, there must be endless increase in income. Usually, a subsidy is granted to a rustic that increases the typical real income for a year or two, but it's considered a short lived increase, not growth (**Abed alqadeer & Naseef, 2003, p: 11.12.13**).

2.2 The Stock Exchange's Role within the Economy

A-The stock exchange has become a basic pillar of the state and a serious nerve of the economy, and an efficient engine for companies and individuals because it returns to them with a percentage of profits that play a crucial role in attracting foreign investments, which suggests providing additional job opportunities that contribute to raising the extent of income for people, which positively affects the rise within the level of welfare of people and reduces Poverty and unemployment rates, which features a positive impact on the lives of people and society as an entire

B- Hedging and financial risk management mechanisms are provided through the sale and buy transactions of shares and bonds to the dealers, which guarantees all parties their rights (**Hanafi**, **Abdel Ghaffar**, **p. 77: 2000**).

C- The presence of the stock market within the state's sovereignty guarantees a transparent disclosure of the financial and administrative position of companies, and thus truth position of international companies is revealed without distortion (**Kuwait Institute of Banking Studies**, p. 3: 2010).

D-The existence of the stock market enhances economic activity by directing savings towards investment, because the stock market is that the guide and leader that strengthens the event process in countries (Al-Tamimi, Arshad Fouad and others: pp. 159: 2004).

E- Motivating new investors to enter the sector of investing in financial markets by spreading the culture of monetary investment, and therefore the stock market plays a crucial role in transforming savers into actual investors by increasing the demand for negotiable instruments (**Marouf, Hoshyar, p. 84: 2003**) through monitoring Price fluctuations are usually expressed by technical and financial analysis and stock indexes.

2.3 Indonesia stock market

After the financial crisis of the countries of Southeast Asia in 1997. the worldwide economy grew by 5.1% in 2004 than 5.6% in 2005 and therefore the percentage reached 9.7% in 2007, the worldwide economic process slowed unprecedented in achieving a rate of growth of 6.3% in 2007, a mirrored image of this improvement Positive, because the percentage lost to eight.46% in 2008 (https://www.msf-online.com/ experiments -development- islamic- successful-indonesia / 2017).

On the Indonesia stock market through exchanges in Australia, where it had been launched on the Indonesia stock market. the businesses listed there are 656 https://jakartaglobe.id.

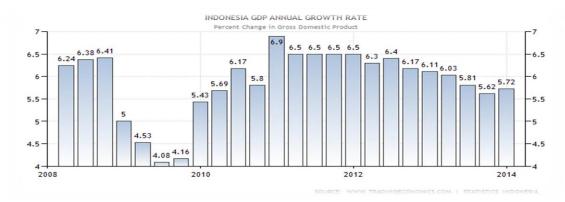


Figure (1) shows the expansion rate in Indonesia

In June 2010, more than 341 national and international companies were registered on the Jakarta Stock Exchange with a total investment of \$ 269 billion, although two thirds of these investments are from foreign companies, but their impact was positive, especially with the new government's policies in the field of transparency and investment policy development.

In 2011, Indonesia restored its investment rating from international organizations, Fitch Ratings and Moody's Investors, and Table No. 2 shows the effectiveness of the Indonesia Stock Exchange from 2007 to 2017.

2.4. Previous studies

In this section, some of the previous results were reviewed, which are specialized in explaining what is the relationship between the exchange rate and the stock price on economic growth.

Ndhlela (2012) conducted a study in Zimbabwe, and this study showed the relationship between exchange rate imbalance and economic growth. It was evident from the study that economic growth was negatively affected by the exchange rate. Rabbiti et al. (2012) where this study was on a number of developed countries (Finland, Spain, Denmark, and other advanced countries) and I studied the relationship between economic growth and the exchange rate on these countries in the period from 1950-2004, where the study divided the time periods into Two periods from 1950 to 1979 and the second period from 1980 to 2004. The study showed that economic growth in developed countries is affected by the exchange rate. The results of the study also showed that the relationship is stronger in developing countries than in developed countries.

A number of researchers also examined the effect of both the exchange rate and some macroeconomic factors on economic growth. In a study by Wong (2013) to demonstrate the effect of both the oil price and the exchange rate on economic growth, an A D L model was used to examine data. The results of the study showed that economic growth has been affected by the increase in the exchange rate. As for **Koitsiwe and Adachi** (2015) to demonstrate the relationship of mining, the exchange rate to Bosnian economic growth, the study used quarterly data from 1994 to 2012, and the study used the VAR model to analyze data, and the study shows that mining and the price of the hub affected economic growth, or in the study he conducted **Omotor**, (2008) on the effects of economic growth in Nigeria using the exports, employment and exchange rate variables from 1979 to 2015, and the results of this study showed that economic growth was affected by the variables in the study, and this study used the ECM model to analyze the financial data.

In stock price studies, some researchers addressed their impact on economic growth, **Zhang and Wu (2012)**, where this study linked economic growth to savings and stock price in China. This study shows that economic growth is affected by the factors used in the study, and this study uses the VAR model to analyze Data, and this study also shows that economic growth is affected by savings and the share price, as the study shows that the relationship is negative between the study variables. In a study of **Mauro (2003)** to show the relationship between interest and share price on economic growth in both developed and emerging markets between the heights of 1971 to 1988, the data was analyzed using the slope of the plate, and the results showed that the share price has a positive relationship to economic growth.

3. Methodology and statistical methods

Data collection 1.3.

This study used three types of statistical methods: economic growth, exchange rate and share price. The exchange rate and the share price of currencies were rounded to IDR / EURO and the reason is that the countries of these currencies are trading partners with Indonesia, where the euro was considered a tool for Indonesian commercial transactions.

The data used in this study were time series data from 2007 to 2017, where the stock price was extracted from Fusion Media Limited (www.investing.com). The exchange rate was from the Bank of Indonesia (www.bi.go.id). As for the Indonesian economic process, it was Badan Pusat Statistik Indonesia (www.bps.go.id).

For the purposes of the analysis, the exchange rate EXC and the stock price STO are indicated, and the economic process is referred to as GRO, whereby GRO is the change in the total output of t-1 to t

$$GROt = \frac{GDPt - GDPt - 1}{GDPt - 1}$$

2.3. Study methodology

The aim of the study is to show the effect of the exchange rate and share price on economic growth in Indonesia. Therefore, this study used two independent variables STO and EXC and the dependent variable was GRO.

For analysis and impact testing, this study uses the modified ADL model **Ender** (2015) and (**Koop** (2006). The formula became based on the mentioned model:

$$GPOt = \alpha o + \sum_{i=1}^{p} ai \ GRO \ t - 1 + \sum_{j=0}^{q} bj \ STOt - j + \sum_{k=0}^{y} ck \ EXCt - 1 + ot$$

Therefore, if the STO, EXC, and GRO time series data were fixed in the first difference or merged into the first order, I (1), and were not merged, then Form (1) was expressed within the basic differences type, to become:

$$D(GROt) = ao + \sum_{i=1}^{p} ai D(GPDt - 1) \sum_{j=0}^{q} bj D (STOj - 1) + \sum_{k=0}^{r} ck D(EXCt - 1) + \in t$$

Where p, q, r are the time difference, etis, ai (i = 1, 2, ..., p), bj (j = 0, 1, 2, ..., q) and ck (k = 0, 1, 2, ..., r) are the coefficients for the regression. D (GROt) is this type of fundamental difference for GROt since D (GROt) = GRO t-GRO t - 1 = GRO-GRO (-1).

Finally, all GRO, STO, and EXC variables were in equilibrium if: $GROt = GRO\ t - 1 = GRO\ t - 2 = ... = GRO\ t - p$; $STO = STO\ t - 1 = STO\ t$ = $STO\ t - p$; and $STO\ t$

Between (Heij et al., 2004; Adam et al., 2015). That the exchange rate in economic growth and the stock price affects positively, the longer the effect, the more this effect will affect economic growth

Accordingly, the study conducted a three-step test to show the effect of the price of the stock and the share price on economic growth: the study tested common integration, impact testing, and unit root testing. The study used the Dickie Fuller test in order to verify the statistical data with the test. Whereas if the statistical value of cash is less than the value of the test at the important level 1% or 5%, then the static value will be statistically or combined within the system d), 1d).

The study used the Granger-two-counteraction test to verify the relationship of exchange rate and stock price to economic growth, and RES was created from the multiple correlation equation. It was as follows:

RESt= GROt
$$-\alpha$$
- β EXCt- γ STO

Since α , β and γ are the results of the multiple regression estimation. When RES t integrates with System Zero (I (0), STO, EXC, and GRO are integrated.

The effect of changing exchange rate and changing stock price on economic growth was tested, the criteria for the ADL model were estimated using the least squares method, and the study uses the value of P for t stats and stat stats at the level of significance α (1%, 5% or 10%). Moreover, to work along the delay p, q and r, the study used Akaike..

Table 1: Test Results ADF

Variable	ADF Statistic	1% Critical Value	5% Critical Value	P*
STO	-0.723545	-2.444859	-3.866325	0.6325
D(STO)	4.154685-	-2.469365	-3.899658	0.0001
EXC	-2.463200	-2.498763	-3.836255	0.3797
D(EXC)	-5.215485	-2.495862	-3.896663	0.0000
GRO	-3.169585	-2.411365	-3.801236	0.1022
D(GRO	-3.563256	-2.569665	-3.863698	0.0001

MacKinnon (1996) one-sided P values *MacKinnon (1996) one-sided P values *

Table 2: Results of estimating the ADL model with the dependent variable D (D (GRO))

Independent	coefficient	t- Statistics	P	Other stats
variable				
Ao	-0.016552*	-3.763548	0.0011	R ² : 0.850321

D(GRO(-1))	-3.11352*	-24.13545	0.0000	F- Statistics: 33.65895
D(D(GRO(-1)))	-1.03568*	22.13561	0.0000	P (F- Statistics): 0.000000
D(D(GRO(-2)))	0.898562*	17.03659	0.0000	AIC: -4.369568
D(STO)	0.001117*	4.695863	0.0007	DW Statistics: 2.395478
D(D(STO))	-0.000227*	-4.360325	0.0000	
D(D(STO(-1)))	-0.000201*	-4.356985	0.0000	
D(D(STO(-2)))	-4.75E-04*	-2.996582	0.0010	
D(D(STO(-3)))	-2.03E-02**	-3.542369	0.0352	
D(EXC)	3.55E-03**	3.366652	0.0625	
D(D(EXC))	-4.06E-04*	-3.13625	0.0114	
D(D(EXC(-1)))	-3.22E-03**	-3.963256	0.0520	
D(D(EXC(-2)))	-3.45E-03**	-3.886536	0.0635	
D(D(EXC(-3)))	-2.55E-02**	-3.366879	0.0362	
D(D(EXC(-4)))	-2.20E-02***	-2.769885	0.0965	
D(D(EXC(-5)))	-2.50E-02**	-3.365866	0.0365	
D(D(EXC(-6)))		-2.635568	0.0805	

^{*}Significant 1%, **significant 5%, ***significant 10%, ADL: Autoregressive distributed lag

It was the Information Standard (AIC), and this leads us to the fact that the values p, q and r have been adjusted to the minimum value of the value (**Koop**, **2006**). The study also compared the statistical values Durbin Watson (DB) and (R-square) (R2) to confirm that the results from the estimate were not a marginal slope.

4. Results and discussion

4.1 Theoretical results

There is little question that the Indonesian economy is one among the emerging and emerging economies, which has managed to realize a singular development model, one among the strengths of the Indonesian economy is that the growth of stock markets and its positive impact on the economy and its ability to draw in

investment and mobilize national financial resources and use them in various investments, it's a mirror of Indonesia's economic process

Stock market indicators have a positive role in achieving economic process and development, as they contribute to revitalizing the economy and pumping investments in various aspects, including what positively affects the gross domestic product.

4.2 Applied results

The test results summarized the unit root for the exchange rate, the share price, and economic growth, whether in the range or range of the first differences. In Table 1, the statistical values were supported. Throughout the statistics, the exchange rate, share price and economic growth were shown to be constant within the first or integral difference to the first boundary (1).

RESt may be a statistic generated from the equation. ADF test leads to the statistic, we obtain a test statistical value of (871.287471). Whereas, the statistical value of its critics at the five hundred importance level is (.92.935001). By comparing the worth of every of those stats, the remainder may be a statistic that's ex-directory or not combined within the zero order, (I (0.) Therefore, the statistic of stock prices, exchange rates, and economic process isn't combined.

The results of estimating all parts of the regression of y on x are summarized in Table 2. supported the worth of P for statistics F in Table 2, it shows that each one parts of the ADL model are large 1%. this leads us to conclude that the exchange rate and share price have had an impact on economic growth. In addition, the value of P supports statistics for t, as the large portion of the decline (1%, 5%, or 10%). Consequently, the study found that there is an effect of the exchange rate on economic growth, and that there is an effect of the stock price on economic growth.

The multiplier of the experimental variable ((D (STO)) 05 was 05 2.89965E-05. The effect of the stock price is positive on economic growth, but this effect is relatively weak, which gives us that the increase in the share price leads to an increase in economic growth, moreover, The exchange rate affects economic growth, that is, the higher the exchange rate, the more the economic growth is affected. This study shows that the effect of the exchange rate on economic growth is less than the impact of the share price on the impact of economic growth.

4.3Discussion

The results of this study were supported with some of the previous studies. However, there was a difference with some studies such as **Akpan and Atan** (2012), **Tang** (2015). The reason for this difference can be attributed to a number

of factors, including the lack of similarity of the market conditions in the previous study with the market conditions of this study in Indonesia, and there is a difference in economic conditions between this study and studies in Nigeria or even the Tang study in China

Likewise, in this study, it is found that economic growth has suffered from the changing exchange rate and the changing share price, and the effect in the past was greater than it is now, as shown in Table (2). Therefore, there are other factors that affect the overall economic process: increased growth in money (Mauro, 2003), foreign investment (Sylwester, 2005), import and export (Omotor, 2008), oil price or interest rate (Wong, 2013), and provision Houses (Zhang and Wu, 2012), and distributed income (Mulero Simaro, 2015). However, more research is needed on these variables.

4.4 Conclusion

This study aimed at showing the effect of the changing exchange rate and changing share price on Indonesian economic growth. This study compared the size of the effect between the changing exchange rate and the changing share price. This study uses the financial data for the years 2007 to 2017. The data was extracted from its various sources, such as the price of the fence, the changing stock price and the total output, to extract the results of this study. As the peg was linked to the euro, the ADL model was used to analyze the data for this study.

The results of the study show through the constant tests that the exchange rate, economic growth and the changing share price were fixed at the basic difference, or were combined with the basic systems, (I) 1. Where the results of the joint intervention news show that the changing exchange rate, changing stock price and economic growth were not combined.

4.5 Recommendations

This study recommends that more research and future studies be finished the explanations of development and economic process in Indonesia, because it recommends a rise in interest in exchange rates, which can reflect positively on economic process. This study also recommends the necessity to require more indicators which will cause increased growth

A-It is best for the economies of Indonesia to market investment within the real economic sectors like agriculture and industry and support the education, health and knowledge sectors due to their role in securing the economy from any negative repercussions and repercussions that the economy could also be exposed to thanks to the contagion of monetary and economic crises.

B- it's desirable for the economies of Indonesia to adopt a stimulus policy for foreign direct investment due to its role in stimulating and sustaining growth in GDP.

C- Work to tighten supervision of the stock exchange to stop speculation and gambling which will cause a price bubble and cause global financial and economic crises.

D-Work on the governance of companies listed within the stock markets due to their role in preventing fraud and investment decisions during a deliberate and planned manner faraway from randomness.

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