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This causes the life of this country to be suspended Wulandari, 2020). Incidents like this aren't only in the capital megacity of Jakarta, concerns about this dangerous contagion have spread to all corners of the country, including the fiefdom of East Java. The reduced routine conditioning during the nimbus epidemic have disintegrated the pace of the frugality. An index of the decline in the profitable graph can be seen from the shift in the value of affectation/ deflation. Affectation, both food and nonISSN - 7243e-ISSN 2715- 839X 110|A. W Priyambodoi; Dyanasari; Price Volallity Shallot and Garlic Effect On Affectation. food according to its causes, is divided into two, videlicet from the demand and force side. According to several studies, affectation tends to come from the force side. Social, political and profitable fermentation at home and abroad, the public always relates to problems due to affectation(Mankiw, 2007). The rate of change is always tried to be low and stable, this is done to help macroeconomic problems which will latterly beget insecurity in the country's frugality. Affectation is the tendency of prices to rise in general and continuously(Boediono 1995). High affectation is a reflection of the tendency of rising prices for goods and services in general and continuously over a certain period of time. This price position causes the purchasing power of the people to drop. product goods won't be vended out and directors won't increase their investment. The reduced quantum of investment will affect in a drop in public income which will also affect the stability of the conditioning of an frugality which is a corner of development. East Java as one of the producing businesses of several strategic foods, plays a major part in affectation in East Java related to food goods. The Central Statistics Agency for East Java recorded changes in consumer prices during February 2021. It was recorded in eight metropolises the Consumer Price Index(CPI) of East Java showed an increase in prices for utmost of the goods covered. sweats made to overcome the problem of affectation are controlling and controlling food commodity prices(Wahyudi et al 2013). The price of food goods is one of the factors driving indigenous inflationary pressures, this is especially so in areas where consumption is dominated by the food group and also other regions have a fairly high dependence on inventories from other regions. The magnitude of its donation is relatively significant to affectation and its rapid-fire response to colorful shocks makes it doable to be used as a leading index of affectation(Braun et al, 2012). Food commodity prices that need to be considered are strategic food commodity prices. Some of them include onions and garlic. Shallots have a significant donation to affectation in the Indonesian frugality(Paskomnas, 2012). The product of shallots is substantially produced by central areas similar as East Java(BPS, 2019). piecemeal from being an irreplaceable chief, shallots are also the most extensively cultivated horticultural commodity. Due to the high demand that can not be matched by sufficient force from several shallot- producing areas, the price has increased. This is also due to the disproportionate crop of shallots(BPS, 2019). The limited vacuity of shallots and the advanced demand for shallots redounded in shifting prices. This upward trend in prices has urged the government to open a policy for significances to stabilize domestic request prices. Garlic is also one of the goods that have high profitable value. Garlic is a horticultural commodity that's of concern to the government. The Central Statistics Agency noted that

Indonesia's garlic product reached 88 thousand tons. still, in 2020 when the COVID- 19 passed, the quantum of garlic product dropped to 80 thousand tons. Meanwhile, to fulfill this need, the government has set an import policy of 461 thousand tons. Indonesian garlic significances come from China, India, Taiwan and the United States(Ministry of Agriculture, 2020).

The condition that passed in the decline in public garlic product was caused by the declining interest of growers to grow garlic due to the entry of imported garlic in large amounts and lower price situations so that original garlic products couldn't contend(Hadianto et al 2019). The lower price of imported garlic was due to the advanced productivity of garlic in China, which was25.3 tons per hectare, while the productivity of original garlic was only8.7 tons per hectare, this redounded in lower product costs per kg of Chinese garlic. compared to original garlic forming from Indonesia. In addition to the price factor, the government in China also applies jilting for import goods including product costs(Hariwibowo, 2014). This is also corroborated by the reason that domestic consumers prefer imported garlic to original bones because the tuber size is much larger(Kementan, 2018). In recent times, the dependence of domestic consumers on garlic is around 95. Garlic consumption needs in Indonesia are met by imported garlic from China(Sandra et al 2022). The import of garlic creates its own problem, videlicet depending on force fromimports.However, the domestic request will collapse, performing in a swell in demand, If the exporting country changes its trade policy. The price of an item will change or generally appertained to as unpredictable. Volatility is a statistical system to measure oscillations in the price of goods during a certain period, but not to measure the price position but to measure the position of variation in a certain period. Price variations can be a positive signal but can also be a positive signal but can also be a negative signal if the price variation that occurs is large enough and can not be anticipated by the government(Carolina et al, 2016). The OECD said that high volatility has the implicit to limit access to food forming from significances which must be borne by directors and dealers, causing resource inefficiency. This study aims to dissect price changes and identify the actuality of rudiments of commodity price volatility of red onion and garlic as well as to dissect the effect of changes and volatility of onion and garlic prices and their effect on affectation in East Java RESEARCH styles system of Collecting Data This study uses secondary data sourced from several affiliated government agencies and institutions. The exploration position is in East Java because the exploration position is the largest patron of shallots and garlic on a public scale. The type of data used is a time series with a time period from May 2018 to May 2021. In the estimation of price volatility which is the purpose of the first study, the data used is the commodity prices of shallots and garlic. The source of the data was attained fromHargapangan.id. The data used to answer the objects of the two studies is an analysis of the effect of volatility on affectation in East Java. The data used in the affectation section are affectation data, price volatility of shallots and garlic, interest rates, exchange rates and yearly data. Data Analysis Method In the ARCH GARCH model, it's used to calculate the

volatility of staple food prices, videlicet onions and garlic. The prices of these two goods are considered to have endured sharp increases and diminishments, so it's necessary to calculate the volatility. Volality occurs because the residual friction in the model isn't constant so that homoscedasticity can not be fulfilled. The use of the bow model to estimate high- voltage data. High volatility means that the data in a period has a low residual, so that the residual friction will depend on the residual friction of the former period. This model was first introduced by Engle(1982) who at that time anatomized the problem of residual friction in time series data. The equation in the bow model is as follows σ2 t = α0 α1e2t-. The bow model has developed with the conception of the model introduced by Bollerslev(1986) introducing the GARCH model. This model states that the residuals of the former period, but also depend on the friction of the residuals of the former period. The GARCH model grounded on Bollerslev(1986) can be formulated as follows ht = K δ1ht- 1 δ1ht- p α1ε2t- 1 αq ε 2t- q proposition of Error Correction Model Time series data is data that's collected grounded on certain time ages similar as diurnal, daily, yearly, daily or guardianship. The problem with time series data is that numerous aren't stationary. Data that isn't stationary will beget problems of heteroscedasticity or autocorrelation. Stationary time series data can also beget sporous retrogression. The result ofnon-stationary time series data is that the retrogression results will be deceiving(Juanda and Junaidi 2012) Pseudo-regression is a retrogression between two variables, dependent and independent, both of which have no theoretical attachment, but have the correct measure of determination, so it seems as if the two variables have a close relationship. Ways that can be done to overcome mock retrogression andnon-stationary problems on time series data are by using the Error Correction Model(ECM)(Thomas 1997) ECM is a model that incorporates adaptations to correct short- run equilibrium towards long- run equilibrium. adaptations arise because the cost model reaches equilibrium in the long run, but in the short term it may not reach equilibrium, so an adaptation is demanded(Juanda and Juanaidi 2012). A time series data model that's said to be balanced in the long run if it's cointegrated. Cointegrated retrogression means moving on the same wavelength.

RESULTS AND DISCUSSION

Garlic and Shallot Price Volatility After testing to get the stylish model with the ARIMA system. The model attained will be tested for the bow Effect. This test is carried out on each model. The following are the results of testing the bow Effect on price data for strategic food goods. Table 1. Result the stylish model with the ARIMA system Variable Model ki- Forecourt Conclusion DBAPUT ARIMA() , 0012 There are bow Effect DBAMER ARIMA() , 3150 Not bow Effect The table over shows that the two models formed, two of which are the garlic price model(DBAPUT) show the bow Effect in the model which is indicated by the Chi- Square Prob value(1) lower than nascence0.05. This means that there's at least one squared residual measure which is statistically significant not equal to zero. The mean of the shallot price change model(DBAMER) doesn't show any bow Effect in the model as indicated by the Chi- Square Prob(1) value lesser than0.05 nascence. This means that the

residual friction is constant. therefore, the element of volatility is set up in the geste of data on changes in garlic prices(DBAPUT) only. In this study, the determination of the stylish ARIMA system was carried out by trial and error which was modeled constantly so that the stylish system was attained by considering the virtuousness of fit test, videlicet the significance of the Autoregressive(AR) and Moving Average(Mama) portions, the Determination Measure(R2), and the significance of the ARIMA model is formed(Probability Value Test F). From modeling trials of several ARIMA models with the Eviews 11 program, the stylish ARIMA model formed from each variable in this study is as follows. The R2 value in each of the formed models looks small. This is because the conformation of the ARIMA model only involves one variable, videlicet the dependent variable itself. In addition, the ARIMA model estimation uses maximum Likelihood so that it's different from the OLS system which aims to maximize R2. still, variations that do in the dependent variable(DBAMER, DBAPUT) can still be explained by the independent variables in the model. incompletely and contemporaneously, the autoregressive measure(AR) and moving average(Mama) in each model formed significantly affect all the dependent variables(DBAMER, DBAPUT). This is indicated by the value of Prob(tstat) on each autoregressive measure(AR) and moving average(Mama) and Prob(F- stat) which is lower than nascence0.05. bow/ GARCH Model models bow Effect testing, it has been proven that data on changes in rice prices and changes in garlic prices shows an element of volatility. The bow/ GARCH model is estimated with this model because it has an element of volatility. contemporaneously, all independent variables in both the model(AR and MA portions) and the friction model(Forecourt Residual Measure) in each formed model significantly affect the dependent variable. This is indicated by the value of Prob(F- stat) lower than0.05. incompletely, in the DBAMER model mean(ARIMA()) one of the autoregressive variables(DBAPUTt- 2) doesn't significantly affect the garlic price change variable(DBAPUTt) which is indicated by a lesser prob(t- stat) value. of nascence0.05. When compared with before modeling in the form of GARCH(,0), the autoregressive variable(DBAPUTt- 2) significantly affects the change in garlic price variable(DBAPUTt). This nullity has been accommodated in the bow element. For both friction models, the measure of squared residual significantly positive effect on the friction(Garlic Price Volatility). This is substantiated by the prob value(t- stat) lesser than0.05

GARLIC PRICE(GARCH(,0)) DBAPUTt = ,28474,56363 * DBAMERt- 1,056373 DBAMERt- 2- ,319326 * et- 1 (,0000)(,0000)(,4746)(,0011) -,591656 * et- 2-,337127 * et- 3 et (,0000)(,0006) friction Model σ2t = ,923922 *,174592 * e2t- 1 (,0008)(,0002) dimana σ2t = Volatilitas Harga Bawang Putih(VBAPUTt) R2 = ,191817 R2adjusted = ,063838 Prob(F- stat) = ,038373 From the GARCH model that was formed, information related to price oscillations or price volatility of rice and garlic goods was attained. The price volatility data series is attained from the formed tentative friction model. The price volatility of the two goods is as follows Grounded on the picture over, the price of garlic, whose crew didn't increase significantly, was seen to increase at the morning of 2020.(BPS in Olavia 2020), significances of garlic

only reached50.86 thousand tons in July 2020. That figure fell62.27 from June 2020 which had reached134.80 thousand tons. In time on time(yoy) garlic significances also dropped by29.05. In July 2020, garlic significances had fallen by86.12 thousand tons(Olavia, 2020). This decline in significances due to the nimbus contagion that hit China also had an impact on force which was affected by the high selling price of garlic(Puspita 2020). The Effect of Garlic and Shallot Price Volatility on East Java Affectation Changes and volatility of garlic and shallot prices are known by the conformation of multiple ECM models. Eviews 11 software as an logical tool to get the stylish model. The volatility of garlic prices has a significant effect on the 5 percent position of significance and has a positive sign. The measure value of garlic price volatility is0.6, which means that if garlic price volatility increases by 1 percent, affectation will increase by0.6 percent ceteris paribus. The high demand for garlic is because garlic is a strategic food commodity that must be in every ménage. The vacuity of garlic in the domestic request is still limited, the decline in public product is caused by the drop in asking growers to grow garlic. This is due to the entry of imported garlic in large amounts and the price position is lower than original garlic(Hadianto et al 2019). The price of imported garlic is much lower because the Chinese government is jilting import goods including product costs(Hariwibowo, 2014). this is also corroborated that domestic consumers prefer imported white onions than original because the tuber size is much larger(Kementan, 2018) The real exchange rate variable has a positive and significant sign at the 5 percent position of significance with a measure value of4.88. The sign of a positive measure means that both the dependent and independent variables have a unidirectional relationship. When linked to the real exchange rate, it can be interpreted that if the real exchange rate increases by 1 percent, affectation will increase by4.88 percent ceteris paribus. The increased exchange rate of the rupiah against the bone

caused commodity prices to increase, especially imported goods, performing in high affectation. Garlic has not been free from significances, therefore the exchange rate will affect affectation through the commodity price medium. The real exchange rate variable for the former one time period was significant at a real position of 10 percent with a measure value of0.5 and a positive sign, which means that if the real exchange rate variable for the former one time period increased by 1 percent, affectation would increase by0.5 percent. The exchange rate is one of the important variables, this is due to its large influence on the current account balance and other macroeconomic variables(Musyafaa et al, 2017). With this exchange rate, countries can distribute with other countries. An exchange rate extremity if it occurs in a country will have a bad impact. Conditions caused by the exchange rate include soaring prices and a sharp profitable compression(Fauji, 2016). Real interest rates have a significant effect on affectation with a different sign from the variable rice price volatility and the real exchange rate, which is negative. The measure of real interest rates has a value of0.18 which means that if real interest rates increase by 1 percent, affectation will drop by0.06 percent ceteris paribus. The interest rate for the former one time period was significant at the five percent position with a measure value of0.18 and the same

negative sign as real interest rates. This means that if the real interest rate for the former one time period increases by 1 percent, also affectation will drop by0.18 percent ceteris paribus. Interest rates, affectation and exchange rates are nearly related. Changes that do in interest rates, a country's central bank can affect affectation and currency exchange rates(Alawiyah, 2019). High interest rates make investors not interested in investing(Yeniwati, 2014), so that the aggregate product that can be handed(Aggregate force) remains constant, indeed though demand(Aggregate Demand) continues to increase along with population growth, thus causing affectation from the demand side. Affectation in general can be approached from the force and demand side. Demand pull affectation is a type of affectation that occurs from the demand side. Cost drive affectation is affectation from the force side which can be caused by rising product costs so that force becomes limited and causes affectation to do. Conclusions Garlic price volatility endured a sharp increase at the morning of the epidemic. This is because garlic is a strategic food commodity for the Indonesian population. A veritably significant increase in garlic prices was seen in the first quarter of 2020, this was due to a drop in import volume by62.27 compared to June 2020. This decline was caused because China was hit by the nimbus contagion, China was still an importer of garlic. This price increase wasn't only caused by a thinning force but also accompanied by an increase in prices due to a thinning force while the demand remained constant. Factors that affect affectation in East Java, the price of garlic, the real exchange rate of the former time, real interest rates, and real interest rates of the former time also affect affectation. The increased exchange rate of the rupiah against the bone caused commodity prices to increase, especially imported goods, performing in high affectation. Garlic has not been free from significances, therefore the exchange rate will affect affectation through the commodity price medium. High interest rates make investors not interested in investing, so that the aggregate product that can be handed(Aggregate force) remains constant, indeed though demand(Aggregate Demand) continues to increase along with population growth, thus causing affectation from the demand side. Affectation in general can be approached from the force and demand side. Demand pull affectation is a type of affectation that occurs from the demand side. Cost drive affectation is affectation from the force side which can be caused by rising product costs so that force becomes limited and causes affectation to do. Policy Recrimination programs to manage food prices, especially garlic so that price volatility can be minimized, must continue. The programs enforced must be in favor of directors and consumers, because both are actors in consumption as well as parties that produce goods. The administrative programs before the extremity and after the extremity are relatively different. This is because rice is a strategic commodity. The stability of the price of garlic is also shown from the results of the analysis of the volatility graph. Garlic only endured an increase in price during the product extremity during the nimbus contagion outbreak. The policy of managing the price of shallots and garlic also needs to pay attention to growers who act not only as directors but also as consumers.

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