Trends of shallot retail prices at traditional market in Makassar

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Abstract. Price fluctuations of shallots always been a problem in the domestic shallot market. Therefore, it is necessary to set-up an in-season shallot production system and production system in the rainy season (off-season) so that the production of shallots can be continuous throughout the year. This aim of this research is to describe trends of shallots at retail price in three traditional markets at Makassar. The results showed that during the period studied from January 2016 to December 2018, the highest price of shallots commodity occurred in June 2016 and April 2018 at all three markets, while the lowest price occurred in October 2018 in all three markets. The fluctuations in the retail price of shallots are determined by several factors, i.e: extreme season changes, production costs, import supplies, shallots import prices, and fertilizer prices.

1. Introduction
As the capital city of South Sulawesi Province, Makassar becomes a gateway to the trading of various agricultural commodities among regions and islands with one of the main commodities, namely shallots. The fulfillment of shallots demand in Makassar, certainly need to be supported by supplied from other regions which act as the main producers of it. Some main regions outside Makassar that produce shallots which still located in South Sulawesi area were; Enrekang, Bantaeng, Jeneponto, Bone and Piring districts, which their land area, productions, and productivities in 2018 are shown in Figure 1.

Since the commodity traded in Makassar, it automatically forms a market that serves an accommodating and distributing shallots from producers to consumers. Marketing services as part of the line in marketing institutions also needed in the process of distribution, then this movement of goods was role by traders, which resulted in affecting price changes in the large market and retail market.
Price changes were occurred in the marketing process (distribution of goods from the large market to the retail market), since there were a marketing cost, affect agricultural input, and profit taken by each trader involved [1]. These actions will affect the shallots prices as it will be different from one to other markets, which can be seen in Figure 2.

The difference in shallots prices at five big markets of Makassar is the impact of market mechanism where price formation occurs through the balance of demand and supply. According to Setyowaty et al. (2005), it is a nature of agricultural products are (perishable) then caused prices tend to fluctuate (variations in price changes are quite large), so it occurs very fast [2]. These relative rapid price changes are expected to be quickly responded by market participants so they can immediately make the right decision, and the market becomes more efficient.

The marketing system will be efficient if the markets involved in the system are able to utilize all available information. In other words, if a market utilizes past price information precisely as the current price determination, then the prevailing marketing system can be said to be efficient [3]. The efficient marketing will form a market integration, an alignment between markets. Two products on the market will be said to be integrated if there is a trade transaction between both. Market integration occurs when the price changes in a market in total or partly transmitted to other market prices in the short or long term. An efficient market will provide full and immediate pricing information.

The results of DZ Rizaldy (2017) studied showed that unstable supply and demand distribution caused frequent fluctuation prices on food commodities [4]. When the production of the staple has failed to harvest due to weather, pest disorder and the price trends factors, it will interfere the distribution and caused *cost push inflation*. While on the demand side, it will lead to demand-pull
inflation due to the high demand for basic goods. The high demand for a commodity often creates price shock that tends to rise, which affects the amount of inflation. The tendency of changes in the price of shallots as one of the staple commodities that has been described in several previous studies is the reason for the importance of conducting a study for knowing trends of shallot retail prices in 3 traditional markets in Makassar City, namely Terong Market, Maricaya Market, and Pa'Baeng Baeng Market.

2. Research Methods
The site of the research conducted at 3 traditional markets in Makassar; Terong Market, Maricaya Market and Pa'Baeng Baeng (Retail market). Data used in this research was a monthly data of producer prices and consumer prices during 2016 – 2018 published by the Makassar City trade and industry office. Furthermore, on described the trends of the retail price of shallot, a descriptive analysis was applied. Descriptive analysis is an analysis used to analyze data by describing the actual data that has been collected without intent on making conclusions that apply to the public or generalization. Descriptive analysis aims to convert a set of raw data into more understandable shapes that form in concise information.

3. Results and Discussion
Seasonal agricultural products will always had fluctuations in prices, including shallots. The fluctuations often causing the magnitude of the monthly price margin. The high level of margin indicates that the market participants in the distribution line have enough market power to form prices as price maker and set prices above the margin cost or in other words the shallot market created leads to an imperfect competition market model.

Price fluctuations of shallots are always a problem for the domestic shallot market. Therefore, it is necessary to setup in-season shallot production system in the rainy season (off-season) so that the production of shallots can be continuous throughout the year. Since many imported shallots entering our country, it will affect the price of domestic shallots. Whereas, compared to imports of shallots, the price of domestic shallots is above the price of imports of shallots. The higher prices of the domestic shallots also caused by the high production costs in domestic [5]. Fluctuation prices on shallots also caused by the import supply in the production subsystem, the price of import shallots and fertilizer prices. From these three factors, the shallot import price has the greatest influence on price fluctuation.

The fluctuation on shallot prices at Makassar also caused by the result on the imperfection of the price information received by shallots marketing practitioners. The price information they get is nominal price information, real price and the prevailing consumer price index. The government has incorporated shallots into seven types of foodstuffs that its prices were set by guidelines. On 8 September 2016 the Minister of Trade of Indonesia has issued regulation of the Minister of Trade No. 63 year 2016 on the determination on the price of purchasing reference for farmers and the price sales reference for consumers. This regulation confirms that the reference price of shallots at the consumer level is set a maximum of Rp. 32,000 per kilogram and apparently, this price has not been effectively dampening inflation [6]. The price reference on onion consists of nominal price and real price, where the real price is the relative price to the aggregate size of the price or the price is adjusted to the inflation. The real value indicates whether a particular price increases sooner/later than the price in general. The real price of shallots is also called "constant dollar" price. The Real price of shallots is a function of nominal price and inflation. Real price = f (nominal price, inflation). Commonly, aggregate size in price adjustments on inflation is the consumer price Index (CPI), where percentage trends in CPI shows the rate of inflation in the economy.

Terong Market receives agricultural products originating from outside the city of Makassar, which often this market become a reference market in the distribution of agricultural produce. Terong market were famous as a supplier of nine staple materials, such as vegetables, various types of fish, eggs, fruits, and others from various regions such as Takalar, Bantaeng, Jeneponto, Enrekang and Malino and Bima regency of West Nusa Tenggara. This market is also supplying several needs to some retail
market in Makassar till out of town. Since Terong market be a market reference, this market forming the initial price for shallots in Makassar. Here is the real price of shallots after deflation at Pasar Terong (Figure 3).

![Figure 3. Real Price of shallots After Deflation at Pasar Terong, 2016-2018. Source: The Fisheries and Agriculture Department of Makassar City, 2019.]

The Real price of shallots at Terong market were fluctuated as shown in the table above that the highest price takes place in 2016 and the lowest price in 2018. The implications the price trends in a large market will fluctuate the price in the retail market. Maricaya market is one of the retail markets in Makassar that many agricultural products in it are supplied from outside Makassar, including shallot. Here is the real price of shallots after deflation at the Maricaya market (Figure 4).

![Figure 4. Real price after deflation at maricaya market, 2016-2018. Source: The Fisheries and Agriculture Department of Makassar City, 2019.]

The Real price of shallots at Maricaya market seems higher than the price at Pasar Terong which also fluctuating from 2016 to 2018. The highest fluctuations price occurred in the year 2018 and lows in the year 2017. The fluctuations price in Maricaya happened many times, it related to the changing seasons, higher production costs, import Supply, the price of shallots imports, fertilizer prices, also being effected by the transmission of the price of Terong market.

Pa’baeng-Baeng market was a retail market same as Maricaya, which also gathered shallots supplies from Terong market. Here is the real price of red goods after deflation at Pasar Pa’baeng Baeng (Figure 5).
The Real price of shallots at Pa'baeng Baeng market seemed a little bit lower than Maricaya market but still higher than the price at Terong market, which also fluctuating from 2016 to 2018. The highest price fluctuations occurred in 2016 and lows in 2018. Price fluctuations that occur in Pa'baeng Baeng is similar to Maricaya market. The causes were also the same. It derived from the changing seasons, higher production costs, import Supply, the price of shallots imports, fertilizer prices, also being effected of the transmission of the price of Terong market.

The trend on staple price is really influential on the welfare of the community as consumers, so as the level on the welfare of farmers, by the consideration that most farmers in Indonesia are as "net buyer of food". Therefore, the trends of staple prices can be used as a partial indicator of the development of Community welfare and farmers [7]. The trends of shallot price, can be known by the data of three markets that are researched, namely Terong market, Maricaya Market and Pasar Pa'baeng-Baeng, then depicted to reinforce the trends prices in the three markets (Figure 6).

In Figure 6, it appears that the highest fluctuations of shallots price occur in Pa'baeng Baeng market, followed by the Maricaya market and Terong market. It seems that Terong market has formed the retail price of shallots that responded positively in the other 2 retail markets. The reduction in the lowest retail prices of shallots occurred at the beginning of the month in 2017, while the highest retail price livens up in April of 2018. The increase and decrease of the retail price were influenced by the
factors that have been described earlier and specialized in Makassar, it was more caused by the decline and increase in the production of shallot due to extreme weather changes.

As seen on the Trends of shallots real price in all three markets, the price of shallots in Terong market is always lower compared to Maricaya market and Pa’baeng-Baeng market. But it is not entirely so. There is an interesting condition where prices in the retail market are not always higher than in the large market. It happened in July 2017, where the price of shallots in Terong market hit the highest price compared to two other markets, namely Rp 26.687, 00/kg. In January 2018 the price of shallots at Maricaya Market had a lower price compared to Terong market which is Rp 18,798.41. In certain months, the price in the retail market is lower than Terong Market, because their shallots supplies were not only obtained from Terong, so the merchants in retail market can sell a lower price. Overall, from January 2016 to December 2018 the highest price of shallots occurred in Maricaya market in April 2018, which hit Rp 35.567.20/kg, and the lowest price that occurred at Pasar Terong in October 2018 dropped till Rp 14.441, 10/kg.

4. Conclusion
The trend of shallots prices fluctuates over time. From the research resulted, starting from January 2016 to December 2018, the highest prices of shallots occurred in June 2016 and April 2018 in the three markets. The highest price in Pasar Terong reaches Rp 33.088.53/kg, in Maricaya market reaches Rp 35.567.20/kg and in Pasar Pa’baeng-Baeng reach Rp 33,895.57/kg. While the lowest price occurred in October 2018 in all three markets. Lowest price in Terong market is Rp 14.441, 000/kg, in Maricaya market is Rp 16.662,96/kg and in Pasar Pa’baeng-baeng lowest price of Rp 14.996,67/kg. Fluctuating prices are accrued by several factors namely the change of the season, the cost of production, import Supply, the price of imports of shallots, and the price of fertilizer.

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