

Retail price fluctuation of Curly Chili commodity in Makassar City

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Submission date: 14-Nov-2021 12:04PM (UTC+0700)

Submission ID: 1701997764

File name: price_fluctuation_of_Curly_Chili_commodity_in_Makassar_City.pdf (576.54K)

Word count: 3224

Character count: 22358

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To cite this article: A Anisa *et al* 2021 *IOP Conf. Ser.: Earth Environ. Sci.* **807** 032069

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Retail price fluctuation of Curly Chili commodity in Makassar City

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Abstract. Curly chilies price fluctuations often occur and are used by traders to manipulate price information at the producer level so that price transmission from the consumer market to producers tends to be asymmetrical. This indicates that price information has not been distributed properly. This study using descriptive analyse for the level of variation in the price of curly chilies in Makassar City. The results showed that the highest chili prices in the Terong and Toddopuli markets occurred in April 2018 with the respective amounts of IDR 25,458.63/kg and IDR 32,759.27/kg while for Pa'baeng-baeng market it reached IDR 32,125.00/kg in November 2016. While the lowest price occurred in December 2018 at the Terong market (Rp. 10,790.05/kg) and November at Toddopuli market, namely 12,818.55/kg and in November 2017 at the Pabaeng-baeng market, namely Rp. 13,392.52 /kg.

1. Introduction

Curly chili (*Capsicum frutescens L.*) is one of the important vegetables in Indonesia. Apart from having a fairly high nutritional value, chilies also have high economic value. The use of chili as a cooking spice or as a raw material for various food, beverage and medicinal industries makes chili more attractive to cultivate. The low national chili production often results in a limited supply of chili in the market. It makes large price fluctuations. Improvement of the chili production system is one way to increase production and will keep a stable supply of chilies in the market, so that price fluctuations can be suppressed. Controlling these fluctuations is a challenge in itself, especially in the formulation of appropriate policies, especially regarding domestic market protection policies and price protection at the farm level [1].

The demand for curly chilies is uncertain because the needs of the commodity also change each month. Likewise, with the demand for curly chili commodities in Makassar City, where the amount of demand that exists cannot be met from within the region itself, this is because Makassar City is not an area that produces chilies, so in meeting the need for chili for the benefit of consumers, Makassar City must supply from areas outside Makassar City that produce chilies.



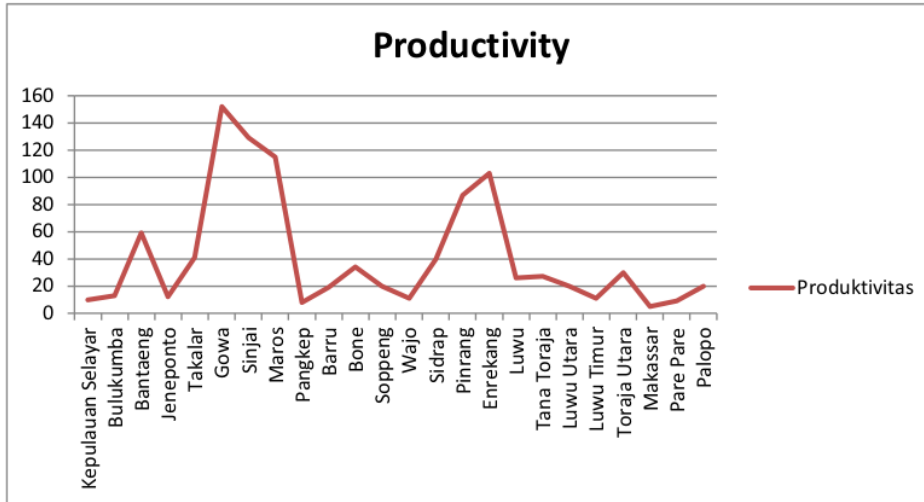


Figure 1. The productivity of Curly Chili in Districts and Cities in South Sulawesi 2018

The productivity of chili in South Sulawesi Province in 2018 reached 1,001 Kw / Ha. The highest productivity comes from Gowa Regency which is 152 Kw/Ha. Meanwhile, Makassar City itself is only able to produce 104 tons with a production rate of 5 Kw/Ha which is the lowest chili producer among other regions. This is due to the lack of agricultural production land as well as the main livelihoods of the people of Makassar who generally do not farm. The low chili productivity requires Makassar City to supply chilies from outside the region such as from Enrekang, Gowa, Bone, and Jeneponto Regencies which have the largest chili commodity production in South Sulawesi Province. This affects the price of chili in the Makassar City market.

The marketing role of red chilies provides an important contribution to improving the agricultural performance of these commodities, as a whole given the unique characteristics such as perishability, voluminous, seasonal production while consumption occurs throughout the year. Empirically in the field, it is often found that producer farmers still seem to face price fluctuations, especially at harvest time, and it is traders who have more access to be able to get higher prices, therefore, an increase in the production of agricultural commodities including red chili needs to be accompanied by improvements in the marketing system, so that the farmers as producers of this commodity are expected to get an adequate share of the price for increasing their farming [2]. So marketing in this case is the thing that affects the high and low prices of goods. Marketing will run well and efficiently if information about the product can be known by all parties, including information on the type of commodity, quality, price, market, and availability [3].

The Terong Market is one of wholesale market which is the procurement and distribution terminals for agricultural products originating from other regions and is the starting place for the formation of agricultural product prices circulating in Makassar City. In other words, the Terong Market is a benchmark for retail markets in the Makassar City area, in this case, the Pa'baeng-baeng Market and Toddopuli Market, so that price formation in the retail market is considered a relevant response to the price in the Terong Market. An illustration of the difference in chili prices at the Terong Market, Pa'baeng-baeng Market, and Toddopuli Market can be seen in Figure 2.

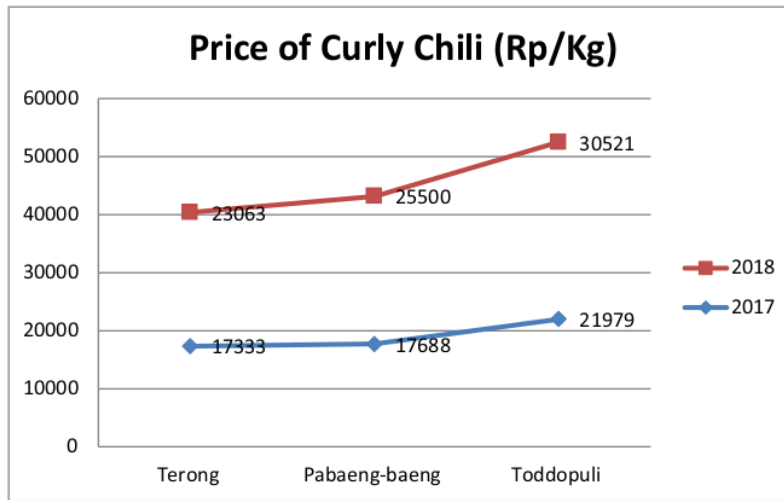


Figure 2. Average Prices of Curly Chili in the Terong, Pa'baeng-baeng and Toddopuli Market in 2017 and 2018[4].

Figure 2 shows that the average monthly price in 2017 at the Terong Market is Rp. 17,333, Pa'baeng-baeng Market Rp. 17,688 and Toddopuli Market Rp. 21,979. The margin price for these commodities between the benchmark market (Terong) and retail market (Pa'baeng-baeng and Toddopuli) in 2017 is Rp. 354 and Rp. 4646. In 2018, the margin between the Terong Market and the Pa'baeng-baeng Market increased by Rp. 2084, - becomes Rp. 2438, -. Likewise, the margin between the Terong Market and Toddopuli Market also increased to Rp. 7458, -. Margin price of curly chili commodity has the largest between the benchmark market and the retail market [4].

The price fluctuation of red chili can be caused by a large amount of supply and demand. The higher offers caused the lower price, while the less the number of bids the price will increase (*ceteris paribus*). The volatile price of red chilies makes this commodity difficult to predict [5]. Based on the problem, the design of this study is a descriptive purpose to determine the curly red chili prices and accompanied by descriptive statistics to establish the fluctuation/stability of prices in production centers and wholesale markets. This data is important to know in determining the buying and selling position of a commodity.

2. Research Method

This research was conducted in 3 traditional markets in Makassar, Terong Market as a benchmark market, Toddopuli and Pabaeng-baeng Market as a retail market. The location selected was carried out deliberately (purposive sampling) which was taken based on the broadest traditional market, namely the Terong with an area of 43,368.00 m2. The Terong market is a distribution center for agricultural products originating from other regions, especially curly chilies in Makassar City. Meanwhile, Toddopuli Market and Pa'baeng-baeng Market were chosen because these markets are following the benchmark price for curly chili commodities on the Terong market.

The research time was carried out using time series data. Descriptive means focusing on solving problems that exist in the present and on actual problems. Meanwhile, analytical means that data is collected, arranged, explained, then analyzed and concluded and supported by existing theories. Time series data is data such as weekly data, monthly data, annual data and others [6]. This research was carried out from August - September 2019, both for taking and processing secondary data. The time series data used in this study are monthly data for 36 months, from January 2016 to December 2018. Secondary data used were obtained from BPS Makassar City, Office of Management of Terong Market, Pa'baeng-baeng Market and Toddopuli Market in Makassar City, and the Department of Fisheries and Agriculture of Makassar City.

3. Results and Discussion

Makassar City is one of the cities in South Sulawesi that does not produce curly chilies on a large scale. So that in order to conform the needs of consuming curly chilies, Makassar City has to bring it from other areas, for example, Maros, Bantaeng, Sinjai, and Gowa Regency. This study selected Terong Market as a benchmark market and the Pabaeng-baeng and Toddopuli as the retail market.

3.1. Progress of Curly Chili Prices in the Terong Market.

The Terong Market has the largest area in Makassar and is the first place to receive agricultural products from outside Makassar City. So, the existence of the Terong Market plays a role in facilitating the distribution of agricultural products from outside the region to retail markets in Makassar City. In addition, the Terong Market also plays a role in forming the initial price of agricultural commodities in Makassar City. The development of curly chili prices at the Terong Market in 2016, 2017 and 2018 can be seen in Table 1.

Table 1. Progress of Curly Chili Prices in the Terong Market in 2016, 2017 and 2018

Month	Absolute Price/Before being deflated (Rp/Kg)	Consumer Price Index (CPI)	Real Prices after deflation (Rp/Kg)	Growth (Rp/Kg)
Jan-16	19,000	124.21	15,296.67	
Feb-16	21,500	124.19	17,312.18	2,015.51
Mar-16	21,500	124.40	17,282.96	-29.22
Apr-16	19,500	123.91	15,737.23	-1,545.73
May-16	24,000	123.79	19,387.67	3,650.44
Jun-16	24,550	124.16	19,772.87	385.20
Jul-16	19,500	125.56	15,530.42	-4,242.45
Aug-16	25,500	124.99	20,401.63	4,871.21
Sep-16	20,500	125.50	16,334.66	-4,066.97
Oct-16	23,250	125.53	18,521.47	2,186.81
Nov-16	27,500	126.07	21,813.28	3,291.81
Dec-16	20,950	127.09	16,484.38	-5,328.90
Jan-17	18,000	127.88	14,075.70	-2,408.69
Feb-17	18,000	128.89	13,965.40	-110.30
Mar-17	24,000	128.69	18,649.47	4,684.07
Apr-17	15,500	129.12	12,004.34	-6,645.13
May-17	20,000	128.71	15,538.81	3,534.47
Jun-17	19,250	129.79	14,831.65	-707.16
Jul-17	16,000	131.15	12,199.77	-2,631.88
Aug-17	17,750	130.71	13,579.68	1,379.91
Sep-17	16,500	130.61	12,633.03	946.65
Oct-17	13,500	130.24	10,365.48	-2,267.55
Nov-17	15,000	130.67	11,479.30	1,113.82
Dec-17	14,500	132.10	10,976.53	-502.77
Jan-18	26,250	132.99	19,738.33	8,761.79
Feb-18	24,500	133.25	18,386.49	-1,351.83
Mar-18	26,750	133.28	20,070.53	1,684.04
Apr-18	34,000	133.55	25,458.63	5,388.10
May-18	33,250	133.99	24,815.28	-643.35
Jun-18	24,000	135.21	17,750.17	-7,065.12
Jul-18	28,750	135.86	21,161.49	3,411.32
Aug-18	19,000	135.72	13,999.41	-7,162.08
Sep-18	16,000	134.56	11,890.61	-2,108.80
Oct-18	16,500	135.03	12,219.51	328.90
Nov-18	15,000	135.44	11,075.01	-1,144.49
Dec-18	14,750	136.70	10,790.05	-284.96

Table 1 shows the price of curly chilies in the Terong has fluctuated because the amount of availability every month is not the same. Commodity price fluctuations occur due to an imbalance between the quantity of supply and the quantity demanded. If there is an excess supply, the commodity price will fall, on the contrary, if there is a shortage of supply. In the process of price formation, the behavior of farmers and traders has an important role because they can adjust their sales volume according to consumer needs. Based on this, it can be said that the relatively high price fluctuations in the curly chili commodity occur due to the failure of farmers and vegetable traders in adjusting the volume of supply according to consumer needs [7].

The highest real price of curly chilies occurred in April 2018, namely Rp. 25,458.63 per kilogram, while the lowest price occurred in December 2018, namely Rp. 10,790.05 per kilogram. Table 1 can be used to describe the graph of changes in the real price of curly chilies at the Terong Market. Besides, it can be used to compare the real price of curly chilies in the Terong Market with the Pabaeng-baeng and Toddopuli markets. Figure 3 shows a graph of the absolute price and real price of curly chili in the Terong Market in 2016, 2017 and 2018.

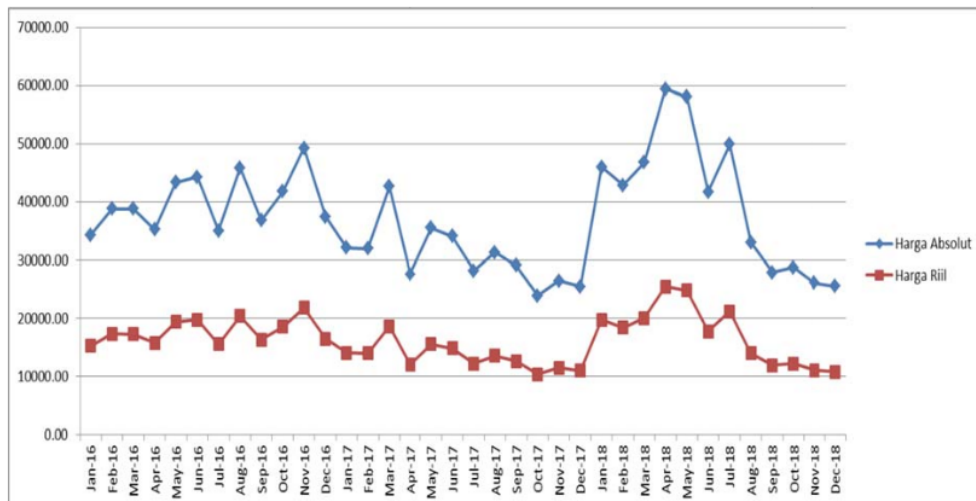


Figure 3. Growth of Absolute Prices and Real Prices of Curly Chili in the Terong Market in 2016, 2017 and 2018

3.2. Progress of Curly Chili Prices in Pabeng-baeng Market.

Pabeng-baeng is a retail market in Makassar where almost all of the agricultural products contained in, comes from outside the Makassar City which first entered the Terong Market but some also went directly to Pabaeng-baeng Market. The curly chili commodity is supplied from outside Makassar City such as Bantaeng, Gowa, and around other Makassar City. The growth of curly chili prices in Pabaeng-baeng Market in 2016, 2017, and 2018 can be seen in Table 2.

The price of curly chilies in the Pabaeng-baeng Market fluctuates. This happens because the amount of curly chilies available every month is not the same. The highest real price of curly chilies occurred in November 2016, namely Rp. 32,125.00 per kilogram. While the lowest price of curly chilies occurred in November 2017, namely Rp. 13,392.52 per kilogram (Table 2).

Table 2. Growth of Curly Chili Prices in Pabaeng-baeng Market in 2016, 2017 and 2018

Month	Absolute Price/Before being deflated (Rp/Kg)	Consumer Price Index (CPI)	Real Prices after deflation (Rp/Kg)	Growth (Rp/Kg)
Jan-16	25,100	124.21	20,207.71	
Feb-16	26,500	124.19	21,338.27	1,130.55
Mar-16	24,000	124.40	19,292.60	-2,045.66
Apr-16	24,600	123.91	19,853.11	560.51
May-16	28,050	123.79	22,659.34	2,806.22
Jun-16	29,050	124.16	23,397.22	737.88
Jul-16	24,500	125.56	19,512.58	-3,884.64
Aug-16	30,500	124.99	24,401.95	4,889.36
Sep-16	24,400	125.50	19,442.23	-4,959.72
Oct-16	28,850	125.53	22,982.55	3,540.32
Nov-16	40,500	126.07	32,125.00	9,142.45
Dec-16	30,650	127.09	24,116.76	-8,008.24
Jan-17	20,000	127.88	15,639.66	-8,477.10
Feb-17	20,000	128.89	15,517.10	-122.55
Mar-17	26,500	128.69	20,592.12	5,075.01
Apr-17	21,500	129.12	16,651.17	-3,940.94
May-17	31,500	128.71	24,473.62	7,822.44
Jun-17	31,500	129.79	24,269.97	-203.64
Jul-17	22,500	131.15	17,155.92	-7,114.04
Aug-17	24,000	130.71	18,361.25	1,205.32
Sep-17	21,500	130.61	16,461.22	-1,900.03
Oct-17	18,500	130.24	14,204.55	-2,256.67
Nov-17	17,500	130.67	13,392.52	-812.02
Dec-17	19,500	132.10	14,761.54	1,369.02
Jan-18	34,500	132.99	25,941.80	11,180.22
Feb-18	33,500	133.25	25,140.71	-801.08
Mar-18	33,500	133.28	25,135.05	-5.65
Apr-18	42,000	133.55	31,448.89	6,313.84
May-18	36,500	133.99	27,240.83	-4,208.05
Jun-18	32,500	135.21	24,036.68	-3,204.15
Jul-18	30,000	135.86	22,081.55	-1,955.12
Aug-18	29,000	135.72	21,367.52	-714.03
Sep-18	22,500	134.56	16,721.16	-4,646.35
Oct-18	22,000	135.03	16,292.67	-428.48
Nov-18	27,000	135.44	19,935.02	3,642.35
Dec-18	21,500	136.70	15,727.87	-4,207.15

Table 2 can be used to illustrate the graph of changes in the real price of curly chilies at Pabaeng-baeng Market. Also, this graph can be used to compare the real price of curly chilies in the Terong Market with the Pabaeng-baeng and Toddopuli markets. Figure 4 shows the absolute price and real price of curly chili commodity in Pabaeng-baeng Market in 2016, 2017 and 2018.

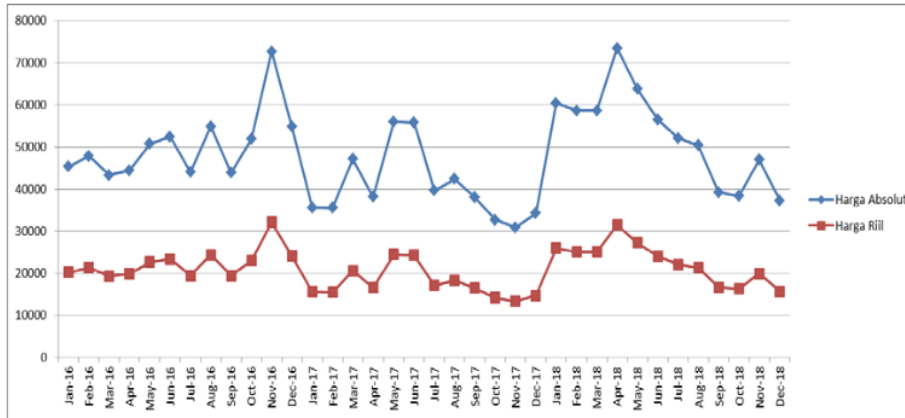


Figure 4. Growth of Absolute Prices and Real Prices of Curly Chili in Pabeng-baeng Market in 2016, 2017 and 2018

3.3. Progress of Curly Chili Prices in Toddopuli Market.

The growth of curly chili prices in Toddopuli Market in 2016, 2017 and 2018 can be seen in Table 3.

Table 3. Progress of Curly Chili Prices in Toddopuli Market in 2016, 2017 and 2018

Month	Absolute Price/Before being deflated (Rp/Kg)	Consumer Price Index (CPI)	Real Prices after deflation (Rp/Kg)	Growth (Rp/Kg)
Jan-16	22,500	124.21	18,114.48	
Feb-16	23,550	124.19	18,962.88	848.40
Mar-16	23,050	124.40	18,528.93	-433.94
Apr-16	22,050	123.91	17,795.17	-733.76
May-16	24,600	123.79	19,872.36	2,077.19
Jun-16	26,500	124.16	21,343.42	1,471.06
Jul-16	21,550	125.56	17,163.10	-4,180.32
Aug-16	28,600	124.99	22,881.83	5,718.72
Sep-16	22,000	125.50	17,529.88	-5,351.95
Oct-16	26,050	125.53	20,752.01	3,222.13
Nov-16	36,400	126.07	28,872.84	8,120.84
Dec-16	25,500	127.09	20,064.52	-8,808.33
Jan-17	20,000	127.88	15,639.66	-4,424.86
Feb-17	20,000	128.89	15,517.10	-122.55
Mar-17	25,000	128.69	19,426.52	3,909.42
Apr-17	20,500	129.12	15,876.70	-3,549.83
May-17	32,500	128.71	25,250.56	9,373.86
Jun-17	31,250	129.79	24,077.35	-1,173.21
Jul-17	21,750	131.15	16,584.06	-7,493.29
Aug-17	22,500	130.71	17,213.67	629.62
Sep-17	19,000	130.61	14,547.12	-2,666.55
Oct-17	17,000	130.24	13,052.82	-1,494.30
Nov-17	16,750	130.67	12,818.55	-234.28
Dec-17	17,500	132.10	13,247.53	428.99
Jan-18	35,500	132.99	26,693.73	13,446.20
Feb-18	32,500	133.25	24,390.24	-2,303.49
Mar-18	32,500	133.28	24,384.75	-5.49

Apr-18	43,750	133.55	32,759.26	8,374.51
May-18	37,500	133.99	27,987.16	-4,772.10
Jun-18	32,500	135.21	24,036.68	-3,950.48
Jul-18	30,000	135.86	22,081.55	-1,955.13
Aug-18	28,750	135.72	21,183.31	-898.24
Sep-18	21,500	134.56	15,978.00	-5,205.32
Oct-18	21,500	135.03	15,922.38	-55.61
Nov-18	25,000	135.44	18,458.35	2,535.97
Dec-18	22,500	136.70	16,459.40	-1,998.96

Table 3 shows that the price of curly chilies in the Toddopuli Market fluctuates. This happens because the amount of curly chilies available every month is not the same. The highest real price of curly chilies occurred in April 2018, namely Rp. 32,759.27 per kilogram. While the lowest price of curly chilies occurred in November 2017, namely Rp. 12,818.55 per kilogram.

Table 3 can be used to describe the graph of changes in the real price of curly chilies in the Toddopuli Market. In addition, this graph can be used to compare the real price of curly chilies in the Terong Market with the Pabaeng-baeng and Toddopuli markets. Figure 5 shows the absolute price and real price of curly chili commodity in Toddopuli Market in 2016, 2017 and 2018.

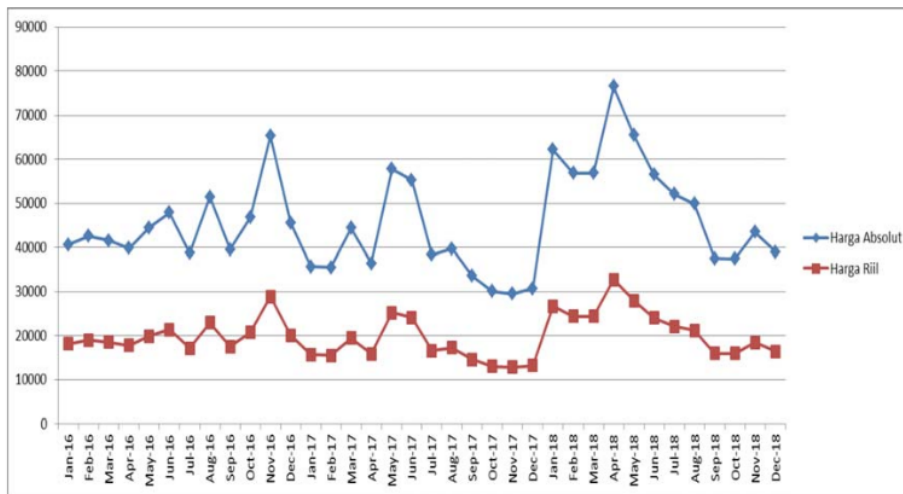


Figure 5. Growth of Absolute Price and Real Price of Curly Chili in Toddopuli Market in 2016, 2017 and 2018

3.4. Progress of Curly Chili Prices in the Terong, Toddopuli and Pabaeng-baeng Market.

The progress of curly chili prices can be seen clearly through data from the three markets studied, namely the Terong Market, Toddopuli Market, and the Pabaeng-baeng Market. You can see the price fluctuation that occurs. Figure 5 shows changes in curly chili prices during 2016, 2017, and 2018 in the Terong, Toddopuli, and Pabaeng-baeng Market.

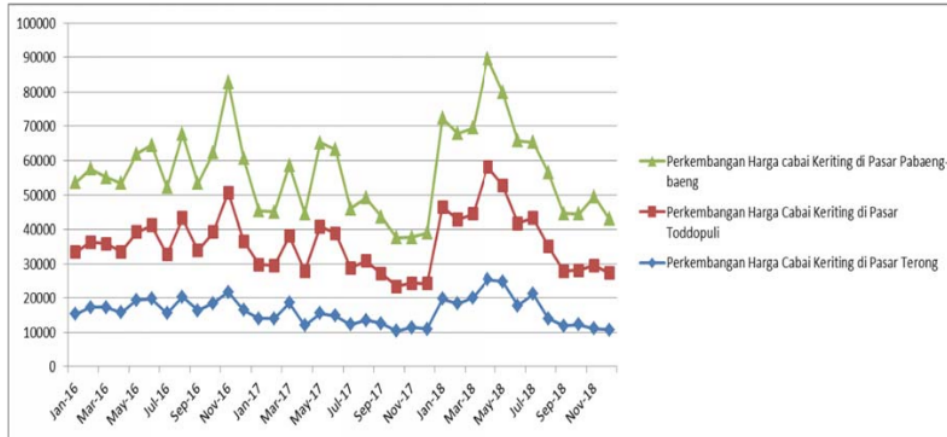


Figure 6. Real Price Growth of Curly Chili in the Terong, Pabaeng-baeng and Toddopuli Market in 2016, 2017 and 2018

Figure 6 shows that almost the overall price of curly chilies in the Terong is always lower than that of Toddopuli and Pa'baeng-baeng Market. Overall, during 2016, 2017 and 2018, the highest price of curly chilies occurred in Toddopuli Market in April 2018, which was IDR 32,759.27/kg and the lowest price occurred at the Terong Market in December 2018, namely IDR 10,790.05 / kg.

3.5. Real Price Growth of Curly Chili in Makassar .

Curly Chili is one of the spice vegetables that have high economic value and is often needed as a flavoring ingredient in dishes including people in Makassar City. Based on data from the BPS of South Sulawesi Province in 2018, Makassar City was the region with the lowest production of Chili Commodities. Therefore, to meet the consumption of curly chilies, Makassar City needs a supply of curly chilies from other regions. The supply of curly chilies that entered Makassar City initially entered the Terong Market and then distributed to several retail markets, including Toddopuli Market and Pa'baeng-baeng Market.

The demand and supply of curly chilies change in each month. Therefore, the commodity price of curly chilies fluctuates from time to time. The price that occurs between the two markets is quite fluctuating, sometimes there is an increase and decrease in price. In general, an increase in the price of agricultural commodities will increase the supply and reduce the amount of demand. The increase in the price of agricultural products and the decrease in the price of competitor agricultural products provide incentives for producer farmers to increase their production. The real price fluctuation of curly chilies was experienced in three markets, namely Terong, Toddopuli and Pa'baeng-baeng Market. From the results of the study, it can be seen that the price of curly chilies decreases when the harvest occurs, so that the supply is relatively large caused the low price of chilli. However, the price will soar if the supply of curly chilies decreases in the market and at the same time as the fasting month of Ramadan and before the holidays.

The supply of curly chilies in the Terong Market is uncertain each month. During the month studied in 2016, 2017 and 2018, the highest real price of curly chili in the Terong Market occurred in April 2018 which reached IDR 25,458.63/kg while the lowest price occurred in December 2018, namely IDR 10,790.05/kg.

So do in Toddopuli Market occurred in April 2018 which reached IDR 32,759.27/kg while the lowest price occurred in November 2017, namely IDR 13,392.52/kg. Meanwhile, the highest real price in Pa'baeng-baeng Market occurred in November 2016 which reached IDR 32,125.00/kg and the lowest price occurred in October 2018, which was IDR 13,392.52/kg.

4. Conclusion and Suggestion

The growth of curly chili prices fluctuated from time to time. During the period studied, namely 2016, 2017 and 2018, the highest price in the Terong Market reached IDR 25,458.63/kg (April 2018), simultaneously in Toddopuli Market which reached IDR 32,759.27/Kg while at Pa'baeng-baeng Market reached IDR 32,125.00/kg in November 2016. The lowest price occurred in December 2018 at the Terong Market, namely IDR 10,790.05/kg and November 2018 at Toddopuli Market which was IDR 12,818.55/Kg and the Pabaeng-baeng Market, namely IDR 13,392.52/kg which occurred in November 2017.

The price of curly chilies goes down during the harvest season so that the supply of curly chilies is relatively large and causes the price of curly chilies to be low. However, prices will soar in the market during the fasting month of Ramadan and before the holidays both in 2016 (June-July), 2017 (May-June) and in 2018 (May-June). This data can be used by both chili distributor and farmers in making efficient marketing strategies so that the business risks faced can be minimized.

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