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Book of ABSTRACT

Indonesia, 26 & 27 September 2023



Time	ID Paper	Track	Author	Title
BREAK Session III				
16.00-16.07	21249	ES	Darma Bakti	IMPACT OF SILTATION ON PORT ACTIVITIES ANF COMMUNITY LIFE AROUND THE ASAHAN RIVER
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16.21-16.28	20983	AE	Sriwardany, D D Fadhillah, R Sunny	Critical of Climate Change to Risk of Financial and Productivity Rice Crop in Hamparan Perak District
16.28-16.35	20987	AE	E Kernalis, C Fani, A Saputra	Analysis of Red Chili Market Integration in Jambi Province Through Asymmetric Error Correction Model Approach
16.35-16.42	21000	AE	N S M Rahayu, H Nuryaman, Suyudi, N R Mutiarasari	Cost of Production, Break-Even Point and Sensitivity of Honje Processing Into Honje Juice
16.42-16.49	21009	AE	Akbar, Jumiati, A Rumallang	Sustainability of Agribusiness Institutions (Case Study on Horticultural Agribusiness Farmer Groups in Bantaeng Regency)
16.49-16.56	21052	AE	S Sofyan, V Zikria, S S Lim	A social network simulation for global market of natural rubber: itrc competitiveness
16.56-17.03	21099	AE	S Mardiyati , M Natsir	Fluctuations and Trends in the Prices of Red Chilies and Cayenne Peppers in the Traditional Markets of Makassar City



Fluctuations and Trends in the Prices of Red Chilies and Cayenne Peppers in the Traditional Markets of Makassar City

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Chili is a strategic food commodity which is the main seasoning for food in Indonesia. This research aims to analyze fluctuations, trends and comparisons of prices for large red chilies, curly red chilies and red cayenne peppers in the Makassar City Traditional Market. The data type is monthly time series secondary data for January 2020 to May 2023. Data analysis is coefficient variation, trend linear analysis, and t test. The results of this research show that the prices of large red chilies and curly red chilies have moderate fluctuations, while the prices of red cayenne peppers have high fluctuations. The price trend for large red chilies increased by IDR 144.24 per kilogram, curly red chilies IDR 200.99 per kilogram, and cayenne pepper IDR 362.42 per kilogram per month. The price of cayenne pepper has proven to be significantly higher than the price of large red chilies and the price of curly red chilies. The prices of red chilies and cayenne peppers at Pabaeng-baeng Market and Daya Market do not have a significant difference.

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Fluctuations and Trends in the Prices of Red Chilies and Cayenne Peppers in the Traditional Markets of Makassar City

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Abstract. Chili is a strategic food commodity which is the main seasoning for food in Indonesia. This research aims to analyze fluctuations, trends and comparisons of prices for large red chilies, curly red chilies and red cayenne peppers in the Makassar City Traditional Market. The data type is monthly time series secondary data for January 2020 to May 2023. Data analysis is coefficient variation, trend linear analysis, and t test. The results of this research show that the prices of large red chilies and curly red chilies have moderate fluctuations, while the prices of red cayenne peppers have high fluctuations. The price trend for large red chilies increased by IDR 144.24 per kilogram, curly red chilies IDR 200.99 per kilogram, and cayenne pepper IDR 362.42 per kilogram per month. The price of cayenne pepper has proven to be significantly higher than the price of large red chilies and the price of curly red chilies. The prices of red chilies and cayenne peppers at Pabaeng-baeng Market and Daya Market do not have a significant difference.

Keywords: cayenne pepper, price, red chili, trend

Introduction

Chili is the most widely cultivated vegetable horticultural crop in Indonesia. Apart from being widely cultivated, chilies are also an important commodity for the economy. The increase in chili prices also contributed to the large food inflation that occurred in Indonesia [1]. Red chilies are one of several strategic commodities in Indonesia. However, red chilies are also one of the commodities that contribute to inflation due to seasonal price fluctuations where the potential for price increases occurs during the rainy season, the month of Ramadan, before the New Year or other major and religious holidays [2]. Curly red chilies are one of various types of horticultural commodities that have high demand and have a big influence on the dynamics of the national economy, so they are included in the ranks of commodities that contribute to the biggest inflation that occurs every year [3].

Chili is one of the horticultural commodities that has an important contribution and economic value in Indonesia. Chili is also one type of leading national horticultural commodity [4]. Chili is a horticultural commodity that has high demand in domestic and foreign markets. One type of chili variety is cayenne pepper (*Capsicum frutescens* L). In general, Indonesian people use cayenne pepper as a raw ingredient for cooking spices. However, cayenne pepper is also used for industrial and pharmaceutical needs so that the presence of cayenne pepper can be indicated to provide business prospects and market opportunities in increasing economic growth in the agricultural sector [5].

Chili is one of the leading national vegetable commodities and has quite high economic value. The need for red cayenne pepper continues to increase every year in line with the increase in population and the development of industries that require raw materials for red cayenne pepper. Apart from that, chilies cannot be substituted by other commodities, so if there is an imbalance between production and market uptake there will definitely be price fluctuations [6]. The fluctuating price of cayenne pepper causes cayenne pepper farmers to fear losses because they cannot predict prices [7].

In line with the rate of population growth, it can be seen that the need and consumption of shallots and cayenne peppers in society continues to increase all the time. The 2002-2018 period shows that consumption of cayenne pepper fluctuates. Consumption of cayenne pepper in 2002 was 1,126 kilograms

per capita. In 2018 there was an increase of 1,835 kilograms per capita, an increase of 7.53%. For the 2019-2021 period, it is predicted that consumption of cayenne pepper will continue to increase until it reaches 1,850 kilograms per capita or an increase of 0.78% [8].

For a long time, traditional markets have played an important role in advancing and driving people's economic growth. The important function of traditional markets, apart from being an outlet for the products of the surrounding (local) community, is also a very beneficial employment opportunity for the community. Overall, the marketing role of red chili commodities provides an important contribution in improving farming performance, as with horticultural commodities in general, considering the unique characteristics of horticultural commodities in general, such as being perishable, voluminous, production is seasonal, most of them are needed fresh, and consumption occurs throughout the year [9].

Fluctuations in food commodity prices occur rapidly. The imbalance between demand and supply of food requires a food price stabilization policy. There are three benefits from the food price stabilization policy, namely: (1) protecting farmers as producers from price declines so that farmers can act more efficiently; (2) protect middle to lower class consumers with low incomes (poor consumers) from the volatility of price increases, so that this policy can become a form of social safety net, and (3) create more stable macroeconomic conditions thereby encouraging investment and economic growth [10].

Makassar City is the capital of South Sulawesi Province which is the largest commercial center, including for horticultural commodities. Chili commodities marketed at the Makassar City Traditional Market mostly include large red chilies, curly red chilies and red bird's eye chilies. In 2021, the harvest area for large red chili plants in South Sulawesi will reach 2,141 hectares with production of 15,931 tons and productivity of 7.44 tons per hectare. Meanwhile, the harvest area for curly chili plants only reached 323 hectares with a production of 1,890 tons and a productivity of 5.86 tons per hectare. In the same year, the harvest area for cayenne pepper plants in South Sulawesi reached 4,844 hectares with production of 26,441 tonnes and productivity of 5.46 tonnes per hectare [11].

During the period from 2020 to 2022 at the Makassar City Traditional Market, the average price of large red chilies reached IDR 24,510.00 per kilogram, curly red chilies IDR 28,242.00 per kilogram, and the price of red cayenne peppers IDR 34,295.00 per kilogram. This research aims to analyze fluctuations, trends and comparisons of prices for large red chilies, curly red chilies and red cayenne peppers in the Makassar City Traditional Market.

Research Methods

The basic method in this research is quantitative descriptive. Quantitative descriptive methods are used to describe systematically, factually and accurately the phenomena that occur, with data in the form of numbers generated from the actual situation. This research covers the Makassar City area, especially traditional markets, namely Pabaeng-baeng Market and Daya Market. The data type uses monthly time series secondary data for the period between January 2020 to May 2023. The main data source is obtained from PIHPS (Strategic Food Price Information Center).

Data analysis in this study used coefficient variation (CV) analysis, trend analysis, and t test. To analyze fluctuations and trends in prices of large red chilies and cayenne peppers, the coefficient variation formula and linear trend analysis are used. Meanwhile, to compare the prices of large red chilies with curly red chilies, the prices of large red chilies with red bird's eye chilies, and the prices of curly red chilies with red bird's eye chilies, the t test was used. To analyze price fluctuations or stability (large red chilies, curly red chilies, red cayenne peppers) Coefficient Variation analysis is used as follows:

$$CV = \frac{\sigma}{\bar{X}} \times 100\%$$

Description: CV = coefficient of variation
 σ = standard deviation
 \bar{X} = average price

To analyze the price trend of large red chili, curly red chili, and red cayenne pepper, the linear trend equation is used as follows:

$$Y = a + bX$$

Y = price (large red chili, curly red chili, red cayenne pepper)

X = time period (monthly)

a = intercept

b = coefficient

Comparative analysis is a quantitative analysis technique used to test hypotheses regarding the presence or absence of differences between the variables studied. If there is a significant difference or coincidence alone it can be tested using the *t test*, which is written in the following formula.

$$t = \frac{X1 - X2}{s \sqrt{\frac{1}{n1} + \frac{1}{n2}}}$$

Description:

X1 = average price (large red chili, curly red chili)

X2 = average price of red cayenne pepper

s = combined average variation

n1 = price sample quantity (large red chilies, curly red chilies)

n2 = sample number of prices for red cayenne pepper

Description:

Test criteria :

H₀ : statistical size = specific value. If t-stat ≤ t-table, then H₀ is accepted and H₁ is rejected.

H₁ : Statistical size ≠ specific values. If t-stat > t-table, then H₀ is rejected and H₁ is accepted.

Results and Discussion

Chili Price Fluctuations

Red Chili Price Fluctuations

Chili is a strategic commodity in Indonesia. However, this commodity is a commodity that contributes to inflation due to its seasonal price fluctuations, even though chili price fluctuations will affect the effectiveness of price stabilization policies. Therefore, information is needed regarding chili price volatility to support the chili price stabilization policy in Indonesia [12]. Fluctuations in the price of large red chilies and curly red chilies at the Pabaeng-baeng Traditional Market in Makassar City are presented in Figure 1.

The price of large red chilies at the Pabaeng-baeng Market in Makassar City during the period January 2020 to May 2023 averaged IDR 25,259.76 per kilogram, with the lowest price reaching IDR 9,000.00 occurring in June 2020 and the highest price reaching IDR 48,700.00 occurring in July 2022. The price of large red chilies in this market is quite volatile, with a coefficient of variation value of 38.17 percent. On the other hand, the average price of curly red chilies reaches IDR 28,630.49 per kilogram, with the lowest price being IDR 10,950.00 and the highest price reaching IDR 51,200.00. The price of curly red chilies in this market also fluctuates moderately, with a coefficient of variation value of 36.71 percent. If the average of the two types of red chilies at Pabaeng-baeng Market reaches IDR 26,945.12 per kilogram, the lowest price occurred in June 2020 at IDR 10,225.00 and the highest price of IDR 49,950.00 was reached in July 2022. Red chili prices generally fluctuate moderately, with an average coefficient of variation reaching 36.3 percent.

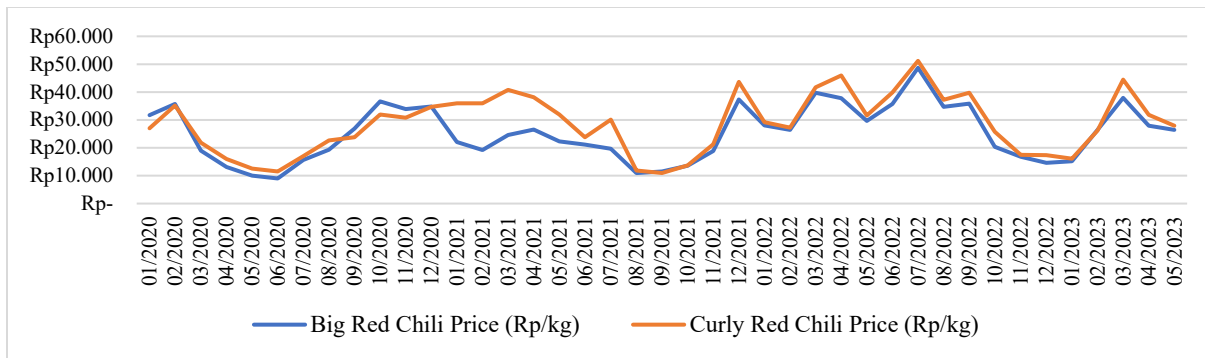


Figure 1. Fluctuations in the Price of Red Chili at the Pabaeng-baeng Market in Makassar City

The price of large red chilies in the traditional market area of Makassar City during the period of January 2017 to May 2021 has an average of IDR 25,220.00 per kilogram. The value of the coefficient of variation of 64.57 percent indicates a very high level of red chili price volatility. The price trend of red chili in the traditional market of Makassar City shows an upward trend during the period from January 2017 to May 2021. From this trend line, it can be seen that the price of red chili in the traditional market of Makassar City increased by IDR 23.38 per kilogram per month [13].

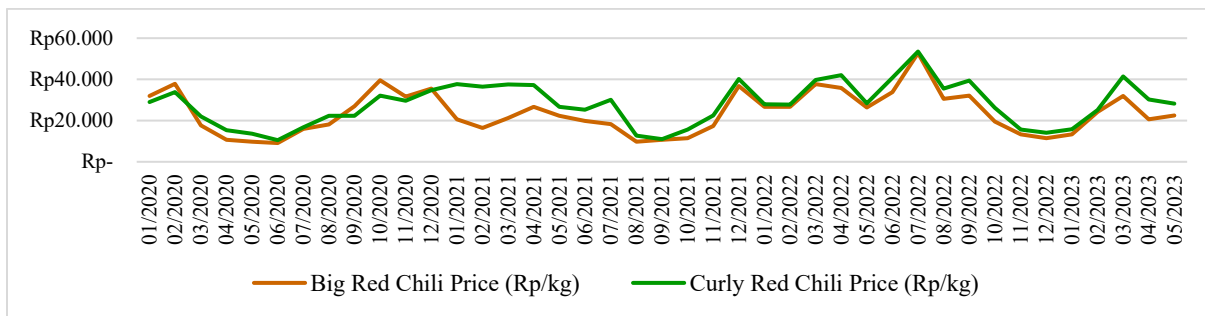


Figure 2. Fluctuations in Red Chili Prices at the Daya Traditional Market in Makassar City

The price of large red chilies at the Makassar City Power Market during the period January 2020 to May 2023 averaged IDR 23,796.34 per kilogram, with the lowest price reaching IDR 9,100.00 occurring in June 2020 and the highest price of up to IDR 52,750.00 occurring in July 2022. The price of large red chilies in this market is quite volatile, with a coefficient of variation value of 42.46 percent. On the other hand, at the same time the average price of curly red chilies reached IDR 27,970.73 per kilogram, with the lowest price being IDR 10,500.00 and the highest price reaching IDR 53,500.00. The price of curly red chilies in this market also fluctuates moderately, with a coefficient of variation value of 36.35 percent. If the average price of the two types of red chilies at Pasar Daya reaches IDR 25,883.54 per kilogram, the lowest price occurred in June 2020 at IDR 9,800.00 and the highest price of IDR 53,125.00 was reached in July 2022. The price of red chilies generally fluctuates moderately, with an average coefficient of variation reaching 37.68 percent.

Red Cayenne Pepper Price Fluctuations

The price of red cayenne pepper at Pabaeng-baeng Market in Makassar City during the period of January 2020 to May 2023 averaged IDR 35,080.49 per kilogram, with the lowest price reaching IDR 9,350.00 occurring in August 2020 and the highest price of up to IDR 79,950.00 occurring in March 2021. The price of red cayenne pepper in this market is very volatile, with a coefficient of variation value of 50.41 percent. More details can be seen in Figure 3.

Price fluctuations occur in cayenne pepper commodities in the Makassar City Power Market, the prices set by traders vary quite a lot every year. The average price of cayenne pepper per kilogram for the last 3 years, namely in 2020 was IDR 21,916.00; in 2021 it reached IDR 39,950.00; and in 2022 it is IDR

28,383.00. Factors that have a significant influence on cayenne pepper price fluctuations in the Daya Market are the purchase price of traders at the collector/farmer level and consumer demand [14].

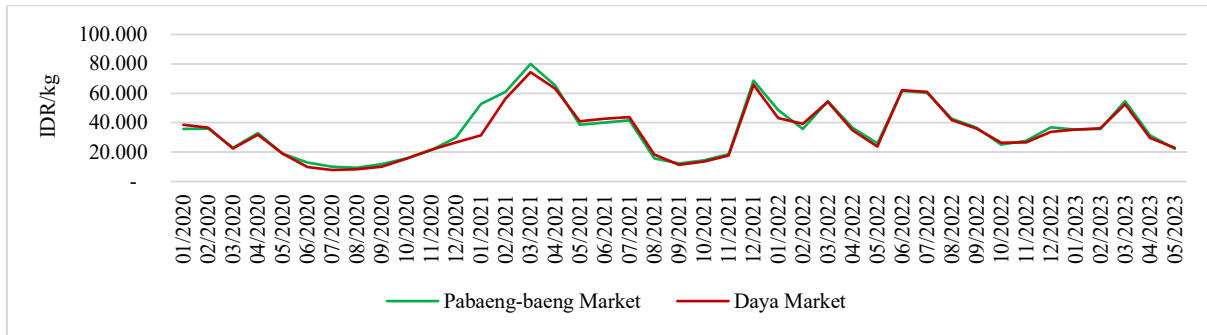


Figure 3. Fluctuations in Red Cayenne Pepper Prices in the Pabaeng-baeng and Daya Market

The average chili commodity price in the Makassar traditional market per kilogram is IDR 24,528.09 for large red chili, curly red chili IDR 28,300.61 and red cayenne pepper IDR 34,450.00. The price of red cayenne pepper tends to be the highest compared to the price of other chili. The price of curly red chili has a higher level of spiciness compared to large red chili, so when the price of red cayenne pepper is expensive, curly red chili can be a substitute item, so the price of curly red chili becomes relatively more expensive. The stability of chili prices can be seen from the value of the coefficient of variation obtained, which shows the level of price fluctuation, the lower the value of the coefficient of variation, the more stable the price is because it has a low level of fluctuation. The value of the coefficient of variation in chili prices in general in Makassar City Traditional Market was 36.41 percent for curly red chili, 40.04 percent large red chili and 50.13 percent red cayenne pepper. Red cayenne pepper commodity has a high level of price fluctuation, so the price of red cayenne pepper tends to be unstable in the Makassar City Traditional Market (Table 1).

Table 1. Chili Commodity Price Fluctuations in Makassar Traditional Market

Market	Big Red Chili			Curly Red Chilies			Red Cayenne Pepper		
	Average Price (Rp/kg)	Coefficient of Variation / CV (%)	Fluctuation	Average Price (Rp/kg)	Coefficient of Variation / CV (%)	Fluctuation	Average Price (Rp/kg)	Coefficient of Variation / CV (%)	Fluctuation
Pabaeng-baeng	25,259.76	38.17	moderate	28,630.49	36.71	moderate	35,080.49	50.41	high
Daya	23,796.34	42.46	moderate	27,970.73	36.35	moderate	33,819.51	50.44	high
Average	24,528.09	40.04	moderate	28,300.61	36.41	moderate	34,450.00	50.13	high

The price of large red chilies in Jambi City has a coefficient of variance of 0.38, while curly red chilies are 0.40. The coefficient of variance visibly shows a difference where the coefficient of variance of the price of curly red chili is higher than the coefficient of variance of the price of large red chili. But statistically these two coefficients of variance do not show a noticeable difference [9]. The disparity in chili prices illustrates the diversity of prices every month, in large red chilies the highest national price occurred in March 2019 at IDR 60,200.00 /kg, while the lowest price occurred in March 2020 at IDR 28,600.00 /kg. In cayenne pepper, the highest national price occurred in August 2019 at IDR 77,350.00 /kg, while the lowest price in October 2020 was IDR 32,000.00. The occurrence of price disparity is certainly strongly influenced by seasonal price fluctuations that occur almost every year [15].

Food prices, especially red chili and cayenne pepper between regions in Traditional Markets in Indonesia in 2019 (before the Covid19 Pandemic) had a coefficient of variation value of 20.45 for red chili and 23.65 percent for cayenne pepper, while in 2020 (during the Covid19 Pandemic) it reached 24.14 for red chili and 31.7 for cayenne pepper. Changes in the coefficient of variation of horticultural products in each province, especially cayenne pepper and red chili in traditional markets, increased by 0.07 and 0.04 [16].

Chili Price Trend

Red Chili Price Trend

The price of large red chilies in Pabaeng-baeng Market in Makassar City during the period of January 2020 to May 2023 has an upward trend. The price increase of red chili is large in this market amounting to Rp 192.27 /kg/month. After the Covid-19 Pandemic, almost all strategic food commodities have an upward trend, due to the recovering economy.

The price trend of large red chilies in Lombok Regency in 2020 has a trend line that is leaning towards a decrease every month. The average price of large red chili reaches IDR 33,608.00 per kilogram, with a price reduction rate of IDR 1,298.50 /kg/month [17].

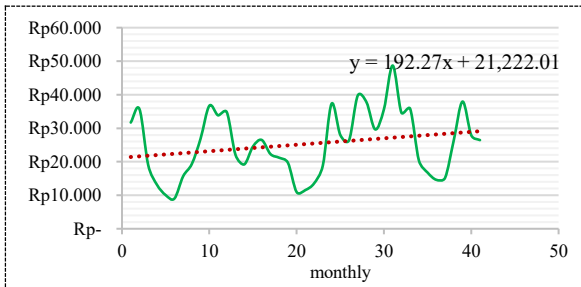


Figure 4. Trend of Large Red Chili Prices at the Pabaeng-baeng Market

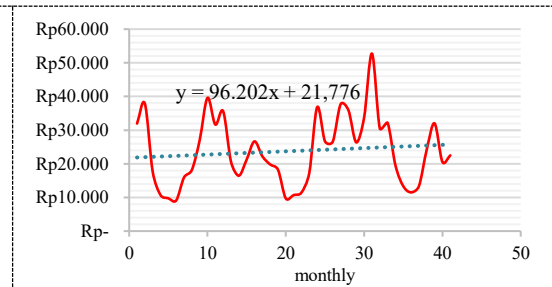


Figure 5. Trend of Large Red Chili Prices at the Daya Market

The price of large red chilies in the Daya Market of Makassar City during the period of January 2020 to May 2023 has an upward trend. The price increase of red chili is large in this market amounting to Rp 96.20 /kg/month. The large red chili price increase in Daya Market is relatively smaller compared to Pabaeng-baeng Market. This can happen because Pabaeng-baeng Market is located almost in the middle of Makassar City, while Daya Market is relatively far from the city center (direct border with Maros Regency). Thus, price spikes are relatively stable because real demand is lower than in urban centers.

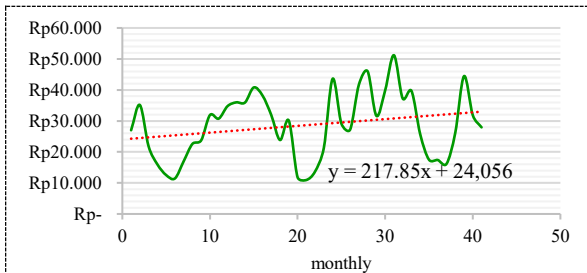


Figure 6. Price Trend for Curly Red Chilies at the Pabaeng-baeng Market in Makassar City

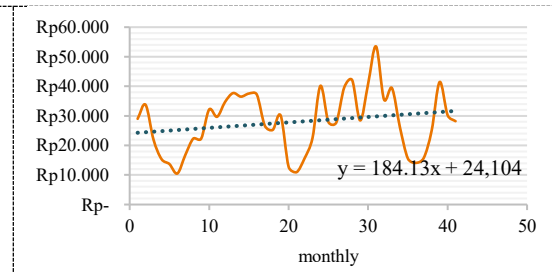


Figure 7. Price Trend for Curly Red Chilies at the Daya Market in Makassar City

The price of curly red chili in Pabaeng-baeng Market Makassar City during the period of January 2020 to May 2023 has an upward trend. The price increase of curly red chili in this market amounted to Rp 217.85 per kilogram per month. The price of curly red chili in Daya Market during the period of January 2020 to May 2023 has an upward trend. The price increase of curly red chili in this market amounted to Rp 184.13 per kilogram per month. For more details, the price trend of curly red chili can be seen in Figure 6 and Figure 7.

The price trend of curly red chili in Pabaeng-baeng Market in Makassar City during the period of January 2020 to May 2023 has a higher uptrend (IDR 33.72/kg/month) compared to the upward trend in the price of curly red chili in the Daya Market. This phenomenon can occur due to the same conditions as the price trend of large red chili in the two markets, namely the difference between regions close to the urban center. Pabaeng-baeng Market is in the urban center, while Daya Market is on the outskirts of the urban area, so this causes different amounts of demand.

Red Cayenne Pepper Price Trend

The price of red cayenne pepper in Pabaeng-baeng Market in Makassar City during the period of January 2020 to May 2023 has an upward trend. The price increase of red cayenne pepper in this market amounted to Rp 347.40 per kilogram per month.

In Lombok Regency, the price of red cayenne pepper in 2020 has a trend line that is leaning towards a decrease every month. The average price of red cayenne pepper reaches IDR 48,708.00 per kilogram, with a price reduction of IDR 3,198.80 per kilogram per month [17]. The price of red cayenne pepper in the Makassar City Power Market during the period of January 2020 to May 2023 has an upward trend. The price increase of red cayenne pepper in this market amounted to Rp 377.43 per kilogram per month.

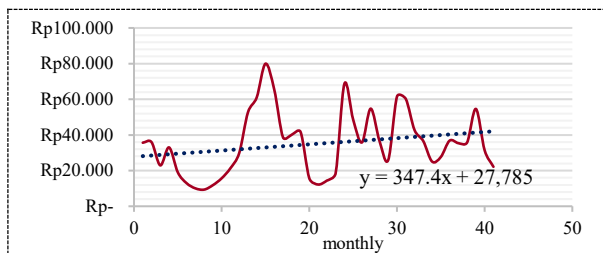


Figure 8. Trend of Red Cayenne Pepper Prices in the Pabaeng-baeng Market

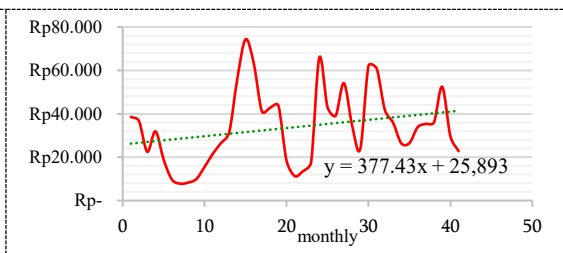


Figure 9. Trend of Red Cayenne Pepper Prices in the Daya Market

The price trend of cayenne pepper in the traditional market of Makassar City shows a downward trend during the period from January 2017 to May 2021. From this trend line, it can be seen that the price of cayenne pepper in the traditional market of Makassar City decreased by IDR 223.53 per kilogram per month [13].

The price of chili (large red chili, curly red chili, red cayenne pepper) in Pabaeng-baeng Market as a whole has an average price that tends to be higher than in Daya Market. This is in line with the existing condition of Pabaeng-baeng Market which is always crowded every day with buyers because it has a more strategic location in meeting market demand. To find out the trend of chili commodities in the Makassar City Traditional Market, it can be observed in Table 1.

Table 2. Chili Commodity Price Trend in Makassar Traditional Market (January 2020 – May 2023)

Market	Big Red Chili			Curly Red Chilies			Red Cayenne Pepper		
	Price (IDR/kg)	Regression Coefficient	Trend	Price (IDR/kg)	Regression Coefficient	Trend	Price (IDR/kg)	Regression Coefficient	Trend
Pabaeng-baeng	25,259.76	192.27	increase	28,630.49	217.85	increase	35,080.49	347.40	increase
Daya	23,796.34	96.20	increase	27,970.73	184.13	increase	33,819.51	377.43	increase
Average	24,528.09	144.24	increase	28,300.61	200.99	increase	34,450.00	362.42	increase

The price of chili commodities in the traditional market of Makassar City has an upward trend, both in Pabaeng-baeng Market and Daya Market. The price of red cayenne pepper has the highest rate of increase (IDR 362.42 /kg/month) followed by the price of curly red chili (IDR 200.99 /kg/month), and large red chili (IDR 144.24 /kg/month). During the period of 2016 to 2018 in the South Sulawesi Province, the price trend of red chili increased by IDR 78.73 /kg/month, with an average price of IDR 24,808.00 /kg [18]. The price trend of red chili in the traditional market of Makassar City shows an upward trend during the period from January 2017 to May 2021. From this trend line, it can be seen that the price of red chili in the traditional market of Makassar City increased by IDR 23.38 /kg/month [13].

3.3. Chili Price Comparison

Red chili peppers are a commodity of high economic value for farmers and a real contributor to general price inflation in aggregate. The impact on farmers' income and inflation is mainly related to chili prices which are very fluctuating as a result of seasonal harvests [19]. To examine the results of the comparison of chili commodity prices can be seen in Table 3 below.

Table 3. Comparison of Chili Commodity Prices in Makassar Traditional Market

No.	Commodity	Pabaeng-baeng Market			Daya Market		
		Price (IDR/kg)	t stats	t table (0.05)	Price (IDR/kg)	t stats	t table (0.05)
1	Big Red Chili	25,259.76	1.4945	1.6644	23,796.34	1.8420	1.6644
	Curly Red Chilies	28,630.49			27,970.73		
2	Big Red Chili	25,259.76	3.0836	1.6698	23,796.34	3.1972	1.6686
	Red Cayenne Pepper	35,080.49			33,819.51		
3	Curly Red Chilies	28,630.49	1.9829	1.6686	27,970.73	1.8627	1.6686
	Red Cayenne Pepper	35,080.49			33,819.51		

The price of red cayenne pepper is significantly higher compared to the price of large red chili and the price of curly chili, both in Pabaeng-baeng Market and Daya Market. The price of large red chili and the price of red wrinkled chili did not have a significant price difference, in the two markets.

The price of chili commodities in the Makassar City Traditional Market during January 2020 to May 2023 was compared between types of chili. The price of red cayenne pepper is significantly higher compared to the price of large red chili and the price of curly chili, both in Pabaeng-baeng Market and Daya Market. The price of large red chili peppers and the price of curly red chili do not have a significant price difference, in the two markets.

Table 4. Comparison of Chili Commodity Prices at Pabaeng-baeng Market and Daya Market

Market	Big Red Chili			Curly Red Chilies			Red Cayenne Pepper		
	Price (IDR/kg)	t stats	t table (0.05)	Price (IDR/kg)	t stats	t table (0.05)	Price (IDR/kg)	t stats	t table (0.05)
Pabaeng-baeng	25,259.76	0.6627	1.6641	28,630.49	0.2853	1.6641	35,080.49	0.3246	1.6641
Daya	23,796.34			27,970.73			33,819.51		

The price of chili commodities in the Makassar Traditional Market during January 2020 to May 2023 is compared between market locations. The prices of large red chili, curly red chili, and red cayenne pepper in Pabaeng-baeng Market and Daya Market were not significantly different, although the average value of these prices was higher in Pabaeng-baeng Market. Thus, buyers or consumers can choose the location of traditional markets according to the distance from where they live, because the difference in chili commodity prices between traditional markets is not significantly different.

4. Conclusion

The fluctuation of chili prices in the Makassar Traditional Market during the period of January 2020 to May 2023 is quite fluctuating for the prices of large red chilies and curly red chili, while for red cayenne pepper has high fluctuations. The price of large red chili is more volatile than curly red chili. The price of large red chilies is more volatile in Daya Market compared to Pabaeng-baeng Market, while the price of curly red chili is more volatile in Pabaeng-baeng Market. The price trend of large red chilies increased by IDR 144.24 per kilogram, curly red chilies by IDR 200.99 per kilogram, and cayenne pepper by IDR 362.42 per kilogram. The price trend of large red chilies and curly red chilies in the Pabaeng-baeng Market is higher than the Daya Market, but for the price trend of cayenne pepper is higher the upward trend in the Daya Market. The price of cayenne pepper proved to be significantly higher than the price of large red chili and the price of curly red chili. The price of red chili and cayenne pepper in Pabaeng-baeng Market and Daya Market does not have a significant difference.

References

- [1] Maula LR, Rianti TSM. Fluktuasi dan Peramalan Harga Cabai Rawit di Kabupaten Malang. *Media Agribisnis* 2021;5:9–13. <https://doi.org/https://doi.org/10.35326/agribisnis.v5i1.1179>.
- [2] Windhy AM., Jamil AS. Peramalan Harga Cabai Merah Indonesia: Pendekatan ARIMA. *Agriekstensia* 2021;20:78–87. <https://doi.org/https://doi.org/10.34145/agriekstensia.v20i1>.

- [3] Oktarina Y. Determinan Konsumsi Cabai Merah Keriting pada Rumah Tangga di Baturaja Kabupaten OKU. *J Ilm Univ Batanghari Jambi* 2019;19:110–3. <https://doi.org/10.33087/jiubj.v19i1.565>.
- [4] Susanti L, Pririzki SJ, Zeleansi, Z dan Dalimunthe DY. Prediksi Harga Cabai Rawit Merah sebagai Kebutuhan Pangan Masyarakat di Kota Pangkalpinang. *Semin. Nas. Penelit. dan Pengabd. pada Masy.* 2022, Pangkalpinang: Fakultas Teknik Universitas Bangka Belitung; 2022, hal. 140–145.
- [5] Wardhana MY, Widyawati, Hermawan R, Kesuma TM. Analisis Faktor-faktor yang Mempengaruhi Harga Cabai Rawit (*Capsicum Frutescens* L.) di Aceh. *Paradigma Agribisnis* 2022;4:69–83. <https://doi.org/10.33603/jpa.v4i2.6789>.
- [6] Puspitasari A, Priyadi R, Sufyadi D. Struktur, Perilaku dan Kinerja Pemasaran Cabai Rawit Merah di Kecamatan Cigalongtang. *Agibussines Syst Sci J* 2021;1:43–55.
- [7] Siregar YJ, Hartono R, Hardana AE. Peramalan Harga Cabai Rawit di Kota Malang dengan Metode Holt-Winters Exponential Smoothing. *Agricore J Agribisnis dan Sos Ekon Pertan Unpad* 2022;6:99–110. <https://doi.org/10.24198/agricore.v6i2.34778>.
- [8] Timisela NR, Salampessy YE, Apituley YMTN. Analisis Pembentukan Harga Komoditas Cabai Rawit dan Bawang Merah Pada Tingkat Eceran di Kota Ambon. *J Budid Pertan* 2020;16:31–41. <https://doi.org/10.30598/jbdp.2020.16.1.31>.
- [9] Wulandari SA. Fluktuasi Harga Cabai Merah di Masa Pandemi Covid 19 Di Kota Jambi. *J MeA (Media Agribisnis)* 2020;5:112–20. <https://doi.org/10.33087/mea.v5i2.82>.
- [10] Rahmanta R, Maryunianta Y. Pengaruh Harga Komoditi Pangan terhadap Inflasi di Kota Medan. *J Agrica* 2020;13:35–44. <https://doi.org/10.31289/agrica.v13i1.3121>.
- [11] BPS Provinsi Sulawesi Selatan. *Statistik Tanaman Hortikultura Provinsi Sulawesi Selatan 2021*. Makassar: Badan Pusat Statistik Provinsi Sulawesi Selatan Pencetak.; 2021.
- [12] Nugrahapsari RA, Arsanti IW. Analisis Volatilitas Harga Cabai Keriting di Indonesia dengan Pendekatan ARCH GARCH. *J Agro Ekon* 2019;36:1–13. <https://doi.org/10.21082/jae.v36n1.2018.25-37>.
- [13] Hafied N, Mardiyati S, Fattah MA. Pengaruh Fluktuasi Harga Komoditas Pangan Strategis terhadap Inflasi di Kota Makassar. *J Ekon Pertan dan Agribisnis* 2022;6:1520–9. <https://doi.org/https://doi.org/10.21776/ub.jepa.2022.006.04.26>.
- [14] Swastika Y, Syamsinar, Mega DAU. Analisis Faktor-Faktor yang Mempengaruhi Fluktuasi Harga Cabai Rawit di Kota Makassar (Studi Kasus di Pasar Niaga Daya). *ASE J* 2022;1:12–20. <https://doi.org/https://doi.org/10.59638/asejournal.v1i01.18>.
- [15] Padapi A, Mursalat A, Hasbi AR. Disparitas Cabai Rawit Merah di Indonesia. *J Agriovet* 2022;5:133–48. <https://doi.org/10.51158/agriovet.v5i1.818>.
- [16] Firdaus M. Disparitas Harga Pangan Strategis Sebelum dan Saat Pandemi COVID-19. *J Ekon Indones* 2021;10:107–20. <https://doi.org/10.52813/jei.v10i2.104>.
- [17] Utomo DP. Analisis Fluktuasi Harga Pangan di Kabupaten Lombok Timur. *JPEK (Jurnal Pendidik Ekon dan Kewirausahaan)* 2022;6:48–62. <https://doi.org/10.29408/jpek.v6i1.5792>.
- [18] Jam'an, Mardiyati S, Ruliaty. Analisis Trend Produksi, Konsumsi, dan Harga Komoditas Pangan Strategis di Sulawesi Selatan. *Agrokompleks* 2019;19:1–8. <https://doi.org/https://doi.org/10.51978/japp.v19i1.123>.
- [19] Miftahuljanah N, Sukiyono K, Asriani PS. Volatilitas dan Transmisi Harga Cabai Merah Keriting pada Pasar Vertikal di Provinsi Bengkulu. *J Agro Ekon* 2020;38:29–39. <https://doi.org/10.21082/jae.v38n1.2020.29-39>.