CHAPTER I INTRODUCTION

A. Background of Research

Palm oil commodities are essential to economic growth and contribute to Indonesia's foreign exchange. According to BPS-Statistic Indonesia (2023), Indonesia's total exports in 2022 will be worth USD 291.90 billion, consisting of oil and gas exports of USD 16 billion and non-oil exports of USD 275.91 billion. The processing industry is the largest sector contributing to non-oil exports, with a 78,69 percent percentage. Palm oil exports are becoming the most significant contributor to the processing industry sector, with an export value reaching USD 29.63 billion, an increase of 3.57 percent from 2021.

The role of palm oil in the industrial sector is that it is a primary commodity that helps provide employment opportunities. The Ministry of Agriculture (2022) states that the palm oil industry absorbs 16 million Indonesian workers. These job opportunities are divided into two types: job opportunities that are directly and indirectly related to the palm oil industry. Job opportunities in the palm oil industry are directly related to work in the processing process. Meanwhile, work is not directly associated with palm oil operational services activities, such as product transportation and distribution. This makes palm oil a positive contribution to the national economy.

The development of the palm oil industry is caused by increased palm oil production in line with increasing community needs. One of the potential uses for palm oil production is the production of crude palm oil (CPO). According to the Ministry of Agriculture (2019) since 1980, palm oil production in the form of CPO in Indonesia has increased by an average of 11.48 percent per year. The use of CPO in Indonesia can be in the form of raw materials for oil products for food and non-food purposes. Domestically, CPO is used as raw material in cooking oil production.

Cooking oil has a strategic role in the national economy as one of the nine essential commodities in Indonesia. The critical role of cooking oil aligns with the increasing public demand. Based on BPS-Statistic Indonesia (2022), during the period from September 2019 to September 2021, 90.27% of households

participated in the consumption of cooking oil. Palm oil emerged as the primary type of oil used, accounting for 90% of consumption compared to other cooking oils such as coconut oil and corn oil in 2021. Additionally, according to the results of the National Socio-Economic Survey (Susenas) in September 2021, the average household expenditure in Indonesia for cooking oil consumption was 1.35%, or IDR. 17277, out of a total average monthly household expenditure of IDR. 1.281.327.
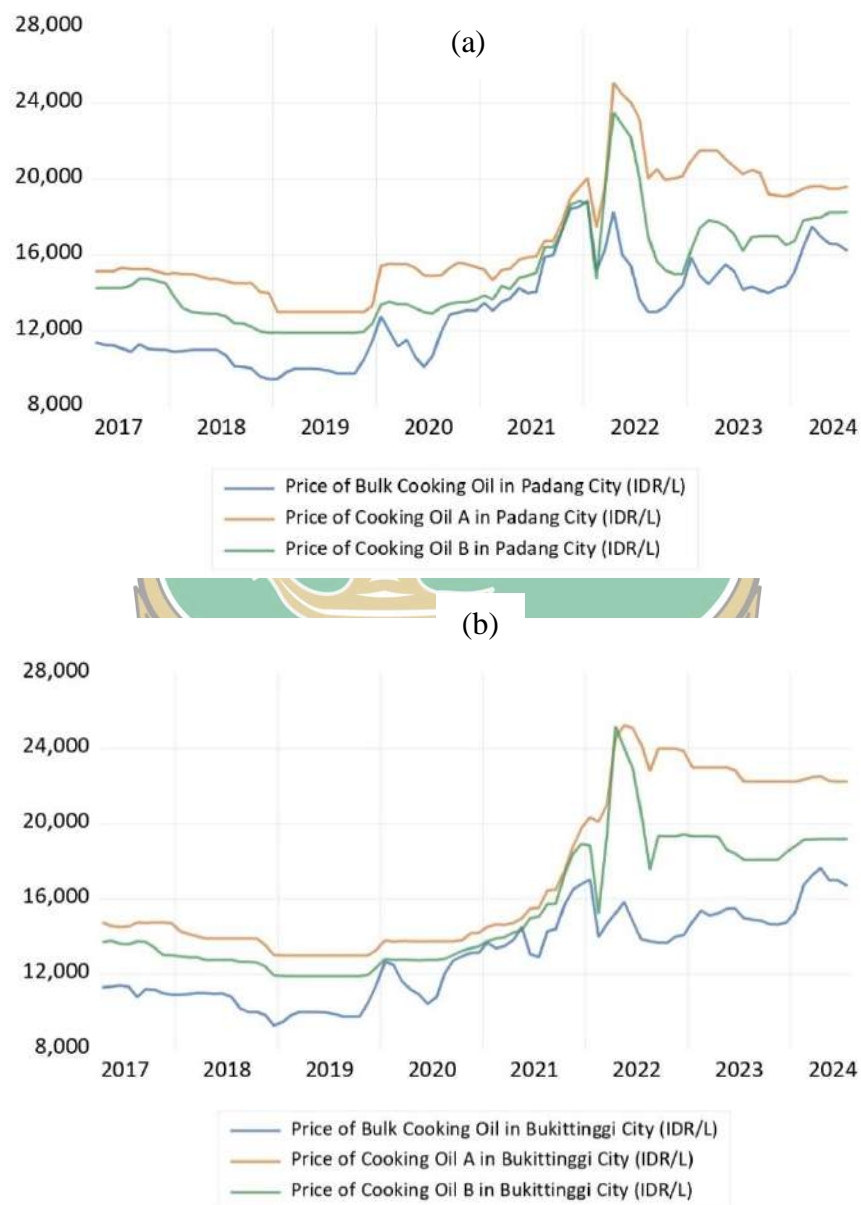

Figure 1. (a) The Price of Palm cooking Oil in Padang (b) The Price of Palm Cooking Oil in Bukittinggi

Source: National Strategic Food Price Information Center (2024)

Based on Figure 1. show a significant increase in palm cooking oil prices occurred from October 2021 to mid-2022. The increase in cooking oil prices that occurred on a national scale also occurred, especially in West Sumatra Province. The increase in cooking oil prices triggers an increase in the inflation rate. According to Bank Indonesia, (2021) West Sumatra in the food, beverage and tobacco group experienced inflation of 3.20%, where cooking oil was one of the main factors. Therefore, cooking oil plays a role in influencing the increase in inflation.

To control the price of palm cooking oil at the consumer level, the government implemented several policies in response to the policy of Minister of Trade Regulation Number 6 of 2022 concerning the highest retail price (HET) for palm cooking oil. This regulation contains palm cooking oil subsidies, domestic market obligations (DMO), and domestic price obligations (DPO), where the government requires CPO exporters to sell 20% of their export volume for foreign consumption for IDR. 9.300/Kg. The policy also sets the highest retail price (HET) at IDR 11.500/liter for bulk cooking oil and IDR 14.000/liter for premium packaged cooking oil.

However, with the implementation of the highest retail price (HET) policy, product scarcity remains a problem (Nafisah & Amanta, 2022). This is indicated by price increases that continue to occur, especially in West Sumatra. This government policy was then updated with the policy of Minister of Trade Regulation Number 11 of 2022, which regulates HET for bulk cooking oil. This policy regulates the highest retail price (HET) for used cooking oil at IDR 14.000/liter or IDR 15.500/kg and premium cooking oil at the same price.

B. Research Problem

In this research Padang and Bukittinggi represent forecasting the price of palm cooking oil in West Sumatra. Padang City is the capital of West Sumatra province, making it the industrial center and reference for the provincial economy. This is shown by the 2022 GRDP produced by Padang, which ranked first at IDR. 72.961,65 billion. Based on the district/city GRDP results per capita, Bukittinggi City has the highest GRDP compared to other regions. GRDP is an indicator that provides an overview of the level of welfare in an area, although it does not

necessarily show it well. However, this indicates that Bukittinggi City is a city that has a better level of welfare in West Sumatra (Badan Pusat Statistik (BPS) Sumatera Barat, 2022).

Padang and Bukittinggi's selection consideration BPS-Statistic Indonesia (2012) stated two cities using the Consumer Price Index (CPI) represent West Sumatra. This selection is based on Gross Regional Domestic Product (GRDP), per capita expenditure, geographical location, and other considerations. CPI is a collection of data needed to measure the level of inflation. One of the basic materials used in calculating the CPI is the Cost of Living Survey (SBH). The city of Padang is also called a city that has long been considered. However, the City of Bukittinggi has only been considered since 2012 to be able to represent urban SBH in West Sumatra Province.

Forecasting is an activity carried out to describe events that will occur in the future. Therefore, the solution to the problem of rising cooking oil prices is by making forecasts. Various forecasting methods with multiple assumptions can be used to predict data or events. Forecasting methods were created to provide better implementation and can be realized in multiple fields, especially in the trading industry, such as cooking oil trading (Puteri, 2022).

The cooking oil prices used in this research are monthly data called a time series. A time series is defined as a collection of observations or observations made sequentially or sequentially over time. The goal of time series analysis is to find patterns in historical data. Observations within a short period are said to be improper or inadequate. Thus, it results in a different method approach because there is no need for procedures based on free assumptions (Sumarjaya, 2016).

The determination method used in the research refers to Kusdarwati et al. (2022) by looking at time patterns. Based on Figure 1. Time series data on the Padang and Bukittinggi cooking oil prices shows a horizontal pattern. There are increases and decreases in the price of cooking oil. Therefore, the model chosen in this research based on the time series pattern and linear model selection is the ARIMA method.

Therefore, research is needed regarding forecasting the increase in cooking oil prices with the title "Forecasting the Price of Palm Cooking Oil at the Consumer

Level in West Sumatra". Based on the problem formulation above, the questions in this research are:

1. What is the best forecasting model for palm cooking oil prices in Padang City and Bukittinggi City from Maret 2017 – July 2024 using the ARIMA method?

2. What is the result of forecasting palm cooking oil prices in Padang City and Bukittinggi City in the August 2024 to July 2025 period using the ARIMA method?

C. Objectives of Research

Based on the problem formulation that has been explained, the objectives to be achieved in this research are as follows.

1. Determine the best ARIMA model for estimating the price of palm cooking oil in Padang City and Bukittinggi City.

2. Perform a forecast using the best ARIMA model for the price of cooking oil in Padang City and Bukittinggi City for the period from August 2024 to July 2025.

D. Benefit of Research

The researchers anticipate that this study will yield benefits for various stakeholders. The specific advantages of this research are as follows:

1. Academic Contributions: This research aims to provide new insights into the fluctuations of cooking oil prices in Padang and Bukittinggi, thereby enhancing the analysis and identification processes within this field of study.

2. Industry Insights for Producers: The cooking oil industry can utilize this research as a valuable resource for informed decision-making, particularly concerning the planning and marketing of cooking oil products.

3. Policy Formulation for Government and Stakeholders: This research aspires to inform policymakers and relevant parties by elucidating the patterns of cooking oil price fluctuations. Such understanding can facilitate the development of strategies aimed at minimizing price volatility in Padang and Bukittinggi.