

Research Article

The Structure-Conduct-Performance of Indonesian Coffee Processing Industry

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Abstract.

Coffee industry in Indonesia in the short- and long terms has the potential to boost the country's economy which can be seen in the form of structure, behavior, and performance. Market forces affect the market structure in an industry. The formation of the market structure affects a company's behavior which further affects the performance of the company. The data used in this study is sourced from the Central Statistics Agency. The study measures the relationship of structure and other factors that affect the performance of the Indonesian coffee industry using a multiple regression model. Our findings show that the coffee processing industry in Indonesia has an oligopoly structure with a fairly high market barrier. The market behavior of the coffee processing industry is seen in terms of price strategy, products, and promotion. The performance of the coffee processing industry in Indonesia has an increasing trend every year. A positive trend results in good performance for the company so that it will increase the level of profit. Based on the regression results, the Minimum Cost Price which represents the performance of the Indonesian coffee processing industry is significantly influenced by the Efficiency Value. CR4 value and Labor Productivity have no real effect on the Minimum Price Cost. The pattern of the relationship between Efficiency and Labor Productivity to the Minimum Price Cost has a positive effect while CR4 has a negative effect.

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1. Introduction

The industrial sector has an important role in the economy in Indonesia because it contributes significantly to the formation of Gross Domestic Product (GDP) and foreign exchange receipts. Products produced from the industrial sector are believed to have high terms of trade with great added value compared to products of other sectors. So that the industrial sector has a variety of products with high benefits for its users [1].

One of the macroeconomic indicators to determine the role and contribution of a business sector to national income is gross domestic product (GDP). According to [2] Indonesia's economic condition in 2006 as measured by the increase in GDP increased by 5.5 percent against 2005. All sectors of the economy experienced positive growth, with the highest growth in the transportation and communication sector at 13.6 percent

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and the lowest sector in the mining and quarrying sector at 2.2 percent. In general from 2006 to 2021, the highest contribution that contributed to total GDP on the basis of constant prices was from the manufacturing sector which ranged from 20 to 22 percent. In addition, the manufacturing industry sector can be said to play an important role in the running of the economy, as evidenced by the consistency of its largest contribution to national GDP.

It is known that Indonesia's total GDP for the last 5 years (2016 to 2021) has been relatively fluctuating. From 2016 to 2019 it continued to increase. However, in the following 3 years, the value of GDP continued to decline, this can be seen in seven out of eleven sectors experiencing a decline, even the sector that made the largest contribution also experienced a decline. Technological and economic developments have changed people's consumption patterns. Currently consumers choose to live practically in consideration of consumption. Ready-to-drink products are starting to become popular on the market, one of which is the product of the coffee processing industry, such as packaged coffee, ready-to-drink coffee, ground coffee and various other variations.

Coffee is one of the most famous caffeine drinks in the world with the second largest product after petroleum in the global competition. Coffee plantation commodities play an important role in supporting the structure of the Indonesian economy which is managed optimally through the cultivation, processing and marketing of coffee in order to compete in the world coffee trade [3]. There is a development of the production of various types of coffee in the world. Each type of coffee has its own advantages such as Arabica coffee has a distinctive taste so that it has a special market, while Robusta coffee is one of the commodities that has strategic value in the context of empowering the people's economy where Indonesia is the fourth largest producer of Robusta coffee globally [4]. Arabica and Robusta coffee varieties play an important role in supplying world coffee market production with total production in 2020 reaching 9,897.18 tons, most of which came from Brazil, Vietnam, Colombia and Indonesia [5].

The phenomenon of world coffee trade has become a culture today because commercially coffee is among the most prominent international transaction commodities because the main suppliers are located in developing countries and the main customers are developed countries with concentrated coffee demand [6]. According to the National Coffee Association almost every country consumes coffee as the most demanded drink besides mineral water. This coffee consumption pattern is known as "Coffee Break" which has become an important part of society's norms because during working hours it can help maintain energy throughout the day. The giant coffee company from the

United States is the main player in the largest sales in the world that markets its products through films indirectly to introduce Starbucks to the global market, this is what is the enthusiasm of local farmers in improving the quality and quality of coffee [7].

Indonesia as a coffee producer is trying to take advantage of the added value of coffee, by developing organic coffee, specialty coffee including developing coffee certified by Geographical Indications, such as Kintamani Coffee (Bali), Gayo Coffee (Aceh) and Flores Bajawa Arabicikan Coffee (NTT). Coffee commodities also have an important role in various regions in Indonesia as a source of livelihood for coffee farmers and coffee entrepreneurs. Coffee commodities in Indonesia are found in various provinces, one of which is in the provinces of Aceh, West Sumatra, South Sumatra, North Sumatra, Lampung, Bengkulu, East Java, Bali, East Nusa Tenggara, and South Sulawesi..

TABLE 1: Production and Consumption of Indonesia Coffee Beans in 2016-2020.

Year	Production (thousand sacks)	Production (ton)	Consumption (thousand sacks)	Consumption (ton)
2016	11.541	692.460	4.650	279.000
2017	10.852	651.120	4.750	285.000
2018	9.618	577.080	4.800	288.000
2019	11.433	685.980	4.806	288.360
2020	12.100	726.000	5.000	300.000

Source: International Coffee Organization, 2021

According to data published by ICO (2021) shows that Indonesia’s coffee bean production over the past 5 years tends to fluctuate, but on average it has increased. According to the Directorate General of Plantations of the Ministry of Agriculture, the highest increase in coffee production occurred in 2019 by 18.87 percent with the largest contribution from smallholder plantations compared to large state and private plantations which were relatively constant. Meanwhile, national coffee consumption shows a consistent increase, if it is estimated that Indonesia’s population is around 260 million people, the average coffee consumption per capita is currently 1.11 kg / capita / year.

The prospects of the coffee industry in Indonesia in the short and long term have the potential to improve the economy in Indonesia which can be seen from the structure, behavior and performance of the Indonesian Coffee Processing Industry.

2. Theory, Literature Review, Hypothesis

Industrial organization theory explains a concept of SCP or known as Structure-Conduct-Performance. The theory explains that the performance of an industry is basically heavily influenced by market structure. The market structure shows the market attributes that affect the nature of the competitive process. Market structure is very important because it will determine the behavior and strategy of companies in an industry and then this behavior will affect performance [8].

The simplest relationship of the three variables is a linear relationship where structure affects behavior and then behavior affects performance. In SCP these three components influence each other including the presence of other factors such as technology, progressivity, strategy and efforts to encourage sales [9].

The structure of an industry will determine how the behavior of industry players (conduct) will ultimately determine the performance of the industry. The market structure is an important key to the pattern of conventional concepts in the field of industrial economics. Figure 1 shows the SCP linear relationship of a company.

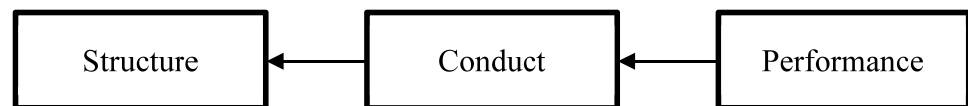


Figure 1: Industry Structure, Behavior and Performance Framework. Source: Martin (2002).

This research is supported by several journal references such as research conducted by [10], which explains that the influence of production factors on area size and number of workers in the stripping, cleaning and coffee sorting industry in Indonesia significantly affects the amount of coffee production in Indonesia. In addition, the level of efficiency in the pulping, cleaning and sorting coffee industry in Indonesia tends to be inefficient.

Structural analysis using the CR4 approach found that the structure of the Indonesian plantation industry is a strict oligopoly. Meanwhile, based on the IHH approach, the market structure is Strict Oligopoly and Ordinary Oligopoly [11]. Similarly, pricing by a company in the industry will be influenced by its competitors because it is in an oligopoly market structure [12]. The market structure of the wood furniture industry in Pekanbaru City also belongs to the oligopoly market based on the IHH method. Also, this research is in accordance with the hypothesis and theory which says that PCM is not affected by market share dominance [13].

Factors that influence the coffee industry within the scope of production supply and demand for national coffee exports. Factors inhibiting the development of the national

coffee industry include the international coffee crisis, tax policies and trade administration. The majority of Indonesia's coffee exports are from coffee beans (green coffee) and the remainder from soluble coffee (roasted coffee, instant coffee, roasted and ground coffee and others), while the ready-to-drink coffee market share is controlled by the world's giant coffee industry which gives an attractive product image. consumer heart. Indonesia is classified as difficult to compete and develop its products for consumer countries [14]. Indonesian coffee is mostly known internationally. However, the share of Indonesian coffee in traditional markets in other countries (Japan and Germany) has declined relatively. Therefore, it is necessary to increase marketing efficiency in terms of the trader level, as well as from the exporters and importers or consumers [15].

The hypothesis of this study shows that the market structure of the coffee processing industry in Indonesia has an oligopoly structure with quite high market barriers. Market behavior is assessed in terms of several market strategies and the performance of the Indonesian coffee processing industry has resulted in good and profitable performance.

3. Research Methods

The data analysis techniques in this study are analysis of market structure (market share, concentration, and market entry barriers), analysis of market behavior (price, product, and promotion), and analysis of market performance (price cost margin, efficiency, and labor). Then it will be continued by conducting multiple linear regression analysis using the E-Views calculation tool. Here is the model in the study.

$$PCM_t = \beta_0 + \beta_1 CR4_t + \beta_2 EFS_t + \beta_3 PTK_t + U_t \quad (1)$$

Where : β_0 =Intercept; t=t year; PCM=Company profit in year t (%); CR4= Concentration ratio of four companies in year t (%); EFS=The company's internal efficiency in year t (%); PTK=Labor productivity; $\beta_1\beta_2\beta_3$ =Coefficient; U_t = error ($\beta > 0$).

The first stage carried out to analyze market share using the Herfindahl Index is to calculate the market share of each of the four largest coffee processing companies in Indonesia. Each company has its own market share, and the magnitude ranges from 0 to 100 percent of the total sales of the entire market. The role of market share is as a source of profit for the company [8].

$$Msi = Si / Stot \times 100\% \quad (2)$$

Where : Msi is company market share i (percent); Si is company sales i (million rupiah); Stot is total sales of the entire enterprise (million rupiah).

The Herfindahl Hirschman Index is the sum of the two market shares of all companies in the industry, and is formulated as follows [16]:

$$HI = S_{i1}^2 + S_{i2}^2 + S_{i3}^2 + \dots + S_{in}^2 \tag{3}$$

Where : HI = Herfindahl Index; Si= The market share of the i-th company in the Indonesian coffee processing industry; n = The number of companies involved in the Indonesian coffee processing industry.

TABLE 2: Herfindahl Index Value Category.

No	HHI Index	Category
1	1800 - HHI	Highly Concentrated
2	1000 - 1800	Concentrated
3	0 - 1000	Competitive

Source : Heather, (2002)

The CR4 method is used to measure the percentage of market share by a number of companies in an industry as a whole. The commonly used ratio is the sum of the market shares of the four largest companies in an industry. The calculation of the concentration ratio can be formulated by the following formula:

$$CR4 = S1 + S2 + S3 + S4 \tag{4}$$

Where: CR4 = Concentration ratio; S(1,2,3,4) = The largest company’s market share (percent).

According to [8] in general, the concentration ratio value ranges from 0 to 100 percent. The criteria set are that when CRn approaches 0 percent then the market structure will lead to perfect competition, low concentration 0 percent – 40 percent then this market structure ranges from perfect competition to oligopoly, moderate concentration 40 - 70 percent then this market structure is most likely to lead to oligopoly, high concentration 70 - 100 percent then market structure leads to oligopoly to monopoly.

Market entry barriers are calculated by the MES (Minimum Efficiency Scale) method by looking at the state of the level of output produced by an industry as a whole with the industry with the largest output income. The higher the value of MES, the more difficult it is for new industries to enter the market. The calculation of market barriers using MES is indicated by the following formula:

$$MES = \frac{\text{Output of the largest company}}{\text{Total Output}} \times 100\% \tag{5}$$

According to [17] if the amount of MES value is greater than 10% then other actors will find it difficult to enter the market. The high value of MES is a barrier for other business actors if they want to enter the market [18].

According to [19] market behavior is analyzed descriptively to obtain information about the behavior of companies in an industry. The things that can explain the behavior of the industry include the following: Price strategy is an important factor in influencing the marketing of a product. The price policy will affect the company's revenue and product competitiveness. Product strategy is a way of establishing or providing a product that suits the wishes of consumers to be sold on the market. This strategy is aimed at achieving market goals in increasing profits and the ability to compete with other companies' products. An enterprise cannot last long without creating a new product. Promotion strategy is a company's activity in introducing a product/service to attract consumers to increase sales of the product or service.

The PCM (Price Cost Margin) method is a performance indicator in the form of a rough estimate of the company's profit or profitability. Price Cost Margin can be obtained by dividing the difference between the added value minus the wages on the goods produced [8].

Mathematically it can be formulated as follows:

$$PCM = \frac{VA - W}{VO} \times 100\% \tag{6}$$

Where : PCM = Price Cost Margin; VA =Value Added; VO = Output Value; W = Wages.

Based on this formula, the higher the added value, the more efficient the industrial performance will increase so that the profits obtained will be greater.

Method XEff (Efficiency) is a performance indicator to show the ability of an enterprise in an industry to reduce production costs. Efficiency means producing maximum output by using a certain number of inputs.

$$XEff : \frac{Industry\ value\ added}{Input\ Value} \times 100\% \tag{7}$$

Based on these calculations, the greater the added value and the lower the input value, it will result in increased efficiency.

The PTK (Labor Productivity) method is the result achieved by labor or the factor of a unit of production within a certain period of time. In general, the level of productivity is influenced by technological developments, means of production and expertise possessed by labor [20].

$$PTK = \frac{VA}{VI} \frac{Output\ Value}{number\ of\ labor} \times 100\% \tag{8}$$

The results of the calculation of work productivity can describe the achievement of results carried out by workers in accordance with company standards or not so that they become evaluation material for companies in making policies.

4. Results and Discussion

The market structure has three main elements, namely market share, market concentration, and barriers to entry [16]. The structure of the coffee industry in Indonesia is calculated and analyzed by looking at the market share of the sales development of each company, the concentration of the ratio with the four largest companies (CR4) and market barriers. The more concentrated a company in the Indonesian coffee processing industry, the market power or ability to determine the price of an industry will increase.

Market share describes the strength of each company/industry that exists in the market. The higher the value of market share owned, the greater the market power [21]. There are several concentration measurement tools that are commonly used to describe the distribution of market share among companies in the industry, namely: concentration ratio and Herfindahl Hirschman Index (HHI).

According to [22], the Herfindahl-Hirschman Index is the sum of the results of the squared market share of each company in the industry. The high-value Herfindahl-Hirschman index shows that some players tend to overwhelm the market by paying attention to the distribution of market share from each company. The increase in the Herfindahl Index will generally reduce competition and will increase market strength, a company manages to increase its market share by seizing the market share of competitors, on the contrary if it decreases then the level of competition is lower.

Table 3 shows that the average value of the Herfindahl Index in the Indonesian coffee processing industry over the past 15 years (2006-2020) is concentrated with an index value of 1025. A concentrated market means that some players have monopoly power. The more concentrated the market, the higher the monopoly power and the lower the level of competition. The distribution of market share (Table 3) of the four largest companies in the Indonesian coffee processing industry shows that one company (company A) has monopoly power compared to the market share value of other companies (companies B, C and D), meaning that this is in accordance with the results obtained from the Herfindahl Index, which is a concentrated market.

In research conducted by [23] regarding the competitiveness of tea in the international market, it shows that the tea market structure faced by Indonesia is moderately concentrated and has an oligopoly market structure with the calculation of the average value of the Herfindahl Index / HHI (1124). This is in line with the research of [24] the results of their calculations show that the basil vegetable market in the traditional market tends to lead to a concentrated oligopoly market structure with fairly high competition, with an HHI value of 1,700 which indicates that the market is at a value condition above

TABLE 3: Market Share Calculation Results, Herfindahl Index and CR4.

Year	Market share of the Four Largest Companies (%)				HI (%)	CR4 (%)
	A	B	C	D		
2006	8,78	8,58	7,59	7,38	2,627	32,32
2007	23,19	14,77	8,43	5,68	8,594	52,07
2008	22,17	15,99	15,49	14,42	11,950	68,07
2009	28,16	23,37	15,68	4,38	16,043	71,59
2010	67,95	10,68	4,43	2,90	47,592	85,97
2011	20,11	19,62	10,99	9,90	10,082	60,62
2012	26,06	16,34	11,2	7,49	11,287	61,15
2013	13,65	13,40	7,60	7,23	4,761	41,89
2014	18,06	14,43	12,73	10,12	7,988	55,34
2015	36,07	14,54	7,93	6,19	16,132	64,72
2016	6,44	1,89	1,64	1,20	0,492	11,17
2017	0,71	0,25	0,19	0,12	0,006	1,27
2018	15,48	8,33	5,26	0,72	3,372	29,79
2019	14,78	8,01	5,03	14,68	5,234	42,50
2020	14,15	7,72	4,82	21,81	7,588	48,50
Average	21,05	11,86	7,94	7,62	10,250	48,46

Source: Secondary Data Research Results from the Indonesian Statistics (Processed Data, 2022)

0 to 10,000 then the market will be concentrated. However, the position of the two is not enough to dominate the market share so that they only become market followers.

Industrial concentration is a situation that shows the degree of market control by industrial companies that are in the market [25]. Meanwhile, according to [16], market concentration shows the market share controlled by some of the largest companies that dominate the market, so it can be said that market concentration shows how much influence some of these companies have on the overall market share. The higher the level of market concentration, the greater the market power, this will have an impact on the form of imperfect competition market. If the level of concentration increases, then the level of competition in the market will decrease, and if the level of concentration decreases, then the level of competition increases [26] in [27].

The results of the calculation of the concentration ratio of the four largest companies in Table 3 show a moderately concentrated category (48.46 %), so the market structure in the Indonesian coffee processing industry is likely to lead to an oligopoly market structure. The value of the concentration ratio which tends to decrease from 2006 to

2020 is due to the increasing number of companies in the Indonesian coffee processing industry, so that the market share of the four largest companies is taken over by other companies which results in the market concentration of the four largest companies decreasing. This shows that an agreement between Indonesian coffee processing industry companies to set prices is very difficult or impossible.

In contrast to the research of [28] which obtained the results that the market concentration (CR4) in four Indonesian processed coffee companies during 2009 to 2011 was 84.53 percent which was categorized in a very large concentration (> 40 percent) which means that the market structure is a monopoly market. Then [29] conducted a study in the Sumberwringin Regency area with the results of calculating the market concentration value obtained by more than 80 percent. The figure also shows that the structure of the coffee market is classified as a monopsoni or oligopsoni market with a heavy concentration. In this case, the production of farmers' Arabica-type coffee is sold to cooperatives in the local area as a whole. In addition, in Central Aceh Regency, arabica coffee farmers are gayo and have a reafestive attitude to face the market structure incorporated into oligopsoni. The market structure that is formed also results in a coffee pricing process that tends to be dominated by exporters as buyers. In other words, farmers mostly act as recipients of prices [30].

According to [26], there are three common things regarding market entry barriers. First, obstacles arise in fundamental market conditions, not only legal or in the form of rapidly changing conditions. Second, obstacles are divided into several levels, ranging from unimpeded, low, medium to high-level obstacles where there is no longer an entrance. Third, large obstacles can strengthen the market strength of a dominant enterprise. The barrier to market entry is calculated by the Minimum Efficiency Scale method.

The Minimum Efficiency Scale value can be calculated from the percentage of the largest company's output to the total output of the coffee processing industry in Indonesia. The high value of Minimum Efficiency Scale will then be a barrier for new competitors to enter the market of an industry.

Figure 2 shows that the barriers to entry to the Indonesian coffee processing industry from 2006 to 2020 were high with an average Minimum Efficiency Scale value of 21.11 percent. The high value of Minimum Efficiency Scale can be a barrier to the entry of new companies into the Indonesian coffee processing industry which is influenced by the provisions of product quality standards. Although the barriers to entry to the Indonesian coffee processing industry are high, the Minimum Efficiency Scale trend shows a declining value from 2015 to 2020 (Figure 2). The decline in the value of

Minimum Efficiency Scale was caused by an increase in the number of companies, thereby reducing the market share of the four largest companies (Concentration Ratio) which means that the barriers to entry are reduced.



Figure 2: Minimum Frequency Efficiency Scale of Coffee Processing Industry in Indonesia. Source : Secondary Data Research Results from Indonesian Statistics (Processed Data, 2022).

The behavior of each company in the market is the company’s policy on the products and services of the goods sold that come from the market structure it faces, including the possibility of policy changes that will be made in reaction to product and price policies made by competitors. Analysis of the behavior of an industry is carried out descriptively with reference to the structure of the market. The results of the analysis, the market structure of Indonesia’s coffee processing industry is oligopoly. The oligopoly market structure will give rise to several behaviors carried out by industry players. The behaviors that will be carried out include price strategies, product strategies and promotion strategies. The results of this analysis agree with the findings made by [14], he stated that the structure of the coffee market in Indonesia and internationally is still oligopoly so that there is a need for a strategy so that coffee companies can survive in the market.

Every company that competes in an industry must have a strategy in pricing. In the coffee processing industry where according to the analysis has the results of an oligopoly market structure that indicates that there is interdependence and mutual influence between a company and its competitors, so that every company in the coffee processing industry has less potential for collusion. Companies cannot determine prices according to their wishes because they must still consider the buying ability of people who have the power to influence pricing [11]. This is the same as the results of research by [31] which states that people’s purchasing power can be influenced by marketing patterns so that it can affect prices due to an increase in market share.

Pricing at companies in the coffee processing industry is influenced by pricing by other competitors and can be through pricing made based on regulations from the government [11] this is evident in the prices of coffee that are not much different from one another. The development of Indonesian coffee prices in a few years as shown in the following table:

TABLE 4: Development of Indonesian Coffee Prices in the Domestic Market.

Year	Coffee Price (Rp/Kg)	Growth (%)
2014	17.510	10,24
2015	19.135	9,28
2016	19.813	3,55
2017	24.802	25,18
2018	25.305	2,03
2019	28.000	10,65
2020	35.000	25,00
2021	40.000	14,28
2022	50.000	25,00
Average	28.841	13,91

Source: Agricultural Data Center and Information Systems, 2018 & Plantation Media, (Processed Data, 2022)

Based on data obtained from [32] shows that the growth that occurred in the price of Indonesian coffee commodities in the domestic market during the period 2014 to 2018 experienced a fairly fluctuating state. Continuing from 2019 to 2022 growth is still experiencing fluctuations but in a fairly large number, reaching tens of percent [33]. In Table 4, it can be seen that in the 9-year period (2014-2022) in general, coffee prices continue to increase. The highest coffee price obtained in the last year, namely 2022, reached IDR 50,000 per kilogram with a growth rate of 25.00 percent from the previous year. Meanwhile, in 2014 the price of coffee was at the lowest position of 17,510 IDR per kilogram. The results of this analysis are in line with those carried out by [3], where the results of her research state that the development of the coffee processing industry every year is experiencing development. Related to this, in determining the price, a company should, especially in coffee commodities, first pay attention to the price of Indonesian coffee in the domestic market which can be used as a benchmark.

Every industry needs to carry out a strategy in terms of producing products produced with good quality and can generate maximum profit for the company. Companies cannot survive without creating new products or not innovating products. The products produced earlier will be better if they innovate regularly [34].

Every company must have a product strategy by following the development of the product itself. The position cycle of a product is always changing, so the strategy taken must be in accordance with the development of the product. Periodic inspection of the resulting product can provide information on where the product is positioned in the product cycle. Several phases of the product or product position produced consist of the product introduction phase, product growth phase, product maturity phase and

finally the product decline phase. This phase of product development is in line with the results of research conducted by [35].

In the first period or introduction period, the product is still looking for its identity in the market, so the level of sales is still low because consumers are familiar with the product being marketed. This stage will be a lot of efforts by the company to introduce and market its products by means of research and development of modified products and building a distribution network. Coffee processing companies have made many product modifications, one of which is making processed coffee with a mixture of additional milk, creamer and other ingredients that make the taste of coffee more attractive and varied. As time goes by, the product design can be said to be stable, so the determination of production stock in the future must be taken into account. The addition of production must always be ready to be carried out in anticipation of an increase in demand for the goods produced. The increase in demand for the products produced indicates that the sales value is also increasing, this will provoke the arrival of new products from competing companies that will be ready to shift the position of the company's products. If the company cannot improve performance, product sales will continue to decline and will reach the end point of the product cycle, namely the decline phase.

The decline phase can be overcome by means of, first maintaining production capacity by providing various product innovations so as not to lose market share. Developing or updating products is the main way that can be done by following the wishes of the times such as creating products that are practical or ready to drink. This is what the coffee processing industry is doing that floods various types of ready-to-drink coffee with various flavors, sizes and appearances that are as attractive as possible to maintain their market share.

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Second, create new products from pre-existing ones. For example, during the Covid-19 pandemic, coffee processing companies created a new product, namely ginger coffee. The launch of this product is considered to attract the interest of public buyers considering that health is an important variable in a person's survival.

Third, carry out product differentiation as done by the Indocafe coffee company. INDOCAFE (Incofood Corporation LTD) by not only producing one type of product. This strategy is carried out so that consumers do not feel bored with a product. Indocafe Company innovates and creates products of various flavors and variants, not only producing coffee drinks but also various types of coffee that have been varied with various other types of raw materials. Not only that, this company also produces drinks other than coffee, for example products made from cereal.

Promotion is one way to sell a product or increase sales and distribution of the products produced either directly or indirectly, while according to the results of research [36] states that promoting products will increase product distribution which has an impact on marketing expansion. One of the benefits of a promotional strategy is to provide information about the trunk or services that will be offered. Basically, there are many promotional strategies carried out by the Indonesian coffee management industry such as advertisements, discounts or discounts, as well as placing display products on the market. The most widely used strategy in the coffee processing industry is the digital marketing method (advertising) based on factors that must be considered such as product type, marketing budget, and target audience, this is in line with what [37] and [38] researched. . Promotion for any product or service is very important for any company, because only through promotion will one find out about the product. After knowing about a product, consumers will consider buying because there are many companies and brands competing to sell their products to the same group of customers, advertising and promotion are important tools to ensure each brand is thoroughly distinguished and identified.

The types of promotional strategies that can be used are from the aspect of brand and packaging that is used as a product identity, personal selling as an effort to create direct interaction with consumers, and through the use of social media as a means to reach consumers widely as well as play a role in providing education about coffee from Indonesia [39]. In addition, promotion can be carried out in practice based on goals including to remind or maintain the brand in the hearts of the public, persuade, notify, and modify the behavior and opinions of consumers to be encouraged to make purchases [40].

The indicator used to analyze the performance of the coffee processing industry in Indonesia is by using profit generations in the industry. However, data related to profits is not published by the company or industry. To replace the profit data, Price Cost Margin is used as a proxy for profits from every coffee processing industry in Indonesia. Internal efficiency shows the level of efficiency of an industry in minimizing production costs

and labor productivity to improve the way things work and be able to find out what is a factor in reducing productivity and renewing something to increase profits.

Figure 3 shows that the value of Price Cost Margin and the efficiency value of Indonesia's coffee processing industry fluctuated from 2006 to 2020. A significant increase occurred in 2012 by 16.17 percent in the efficiency value and was followed by an increase in the price cost margin value of 6.94 percent. The significant increase in 2012 was due to the added value of the coffee processing industry increasing to 67.78 percent. The high added value is caused by a surge in the use of input costs such as the use of raw materials and auxiliary materials, building rentals, machinery and other tools which is quite high from the previous year of 56.32 percent.

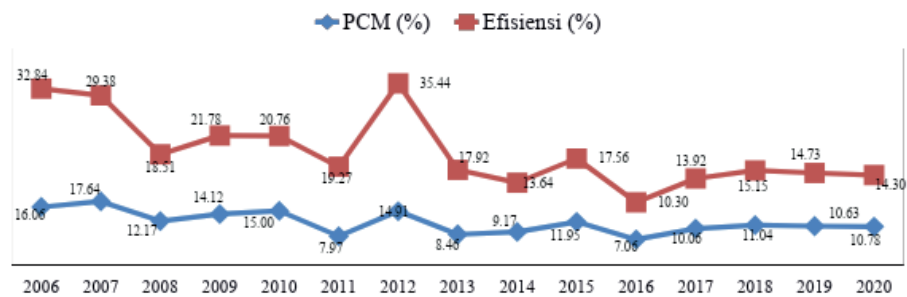


Figure 3: Price Cost Margin value and Efficiency of Indonesia Coffee Processing Industry
 Source : Secondary Data Research Results from the Indonesian Statistics (Processed Data, 2022).

Productivity is a comparison of the results of work with the amount of resources managed in the Indonesian coffee processing industry. Labor productivity can usually be seen from how much the wage level is given, so the higher the wage level, the higher the labor productivity will determine the high labor productivity [41]. According to [42] the level of wages can determine the level of a person to work, the higher the level of wages, the higher the desire of a person to work.

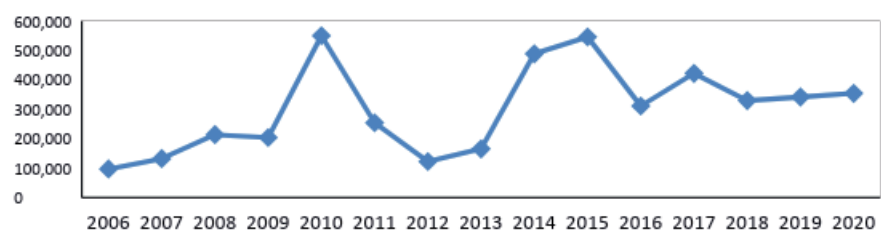


Figure 4: The Value of Labor Productivity of the Indonesian Coffee Processing Industry. Source: Secondary Data Research Results from the Indonesian Statistics (Processed Data, 2022).

The labor productivity value of the Indonesian coffee processing industry in Figure 3 has a volatile value. The increase in 2010 shows that the value of labor productivity has the most significant increase. This is due to the increase in the value of output (industrial services received from other parties and other receipts from non-industrial services) which increased almost five times compared to the previous year. In 2012 based on Figure 4 it was stated that a significant decrease in the value of labor productivity. The decrease was caused by the addition of a fairly large number of workers, namely 40,574 workers with an increase in the value of low output, the results of this study are in line with what was studied by [43] they stated that the labor aspect becomes an important role in business development, because if the workforce is added continuously without being balanced with increasing output, will be a weakness in the development of an industry.

TABLE 5: Estimation Results.

Variables	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-2.650287	1.928378	-1.374361	0.1967
CR4	-0.014215	0.046688	-0.304480	0.7664
EFS	0.881920	0.205734	4.286704	0.0013
PTK	0.204996	0.118925	1.723746	0.1127
Summary				
R ²	0.714455			
Adj.R ²	0.636579			
F-statistic	9.174259			

Source: Processed Data (2022)

Variable independent affects dependent variable at significance levels of 5 and 1 percent, except CR4 and PTK. The calculated t value is greater than the t table value (= 1.75) also amplifies the result according to that probability value. This means that there is enough fact that the variable EFS statistically affects PCM while the CR4 variable has an insignificant negative effect and the PTK variable has an insignificant positive effect on PCM. Meanwhile, in significance testing using Test F, the results were obtained that the hypothesis that states all independent variables simultaneously affect the PCM variable is true. This is shown from the probability value F statisticak less than 0.05 supported also with a calculated F value greater than the F value table (= 2.90).

After testing the classical assumptions and significance problems, in this section the results of the estimates will be explained using a multiple regression model. Based on Table 8, the regression equation obtained can be written, namely:

$$PCM = -2,650 - 0,0142CR4 + 0,8819EFS + 0,2049PTK + e$$

The CR4 variable had a negative and insignificant effect on the PCM of coffee commodities in Indonesia during 2006 to 2020. It can be determined based on the probability value and coefficient on this variable. The probability value of the variable CR4 is 0.7664. While the value of the coefficient in the CR4 variable is -0, 014215 shows that if CR4 increases by 1 percent, then the profit rate of coffee commodities in Indonesia will decrease by 0.014215 percent. A multiple regression gets a positive relationship between profit and high concentrating products. With this positive relationship, this is an indication of an entry barrier for new companies. The level of profit obtained indicates that companies in the industry are trying to increase their concentration again.

The EFS variable has a probability value of 0.0013 (< 0.05). As for the value of the coefficient of 0.881920 which means that if the efficiency value of coffee commodities increases by 1 percent, it can cause the level of profit of coffee commodities in Indonesia to also increase by 0.881920 percent. So that based on the probability value and coefficient obtained, it can be seen that the EFS variable has a positive and significant effect on the PCM variable of coffee commodities in Indonesia in the period 2006 to 2020.

Variable PTK in this study obtained a probability value with a significance level above 0.05, which was 0.1127. While the coefficient in this variable is positive, which is 0.204996 which means that if labor productivity in coffee commodities increases by 1 percent, it can cause an increase in the profit rate of Indonesian coffee commodities by 0.204996 percent. This shows that the influence of the PTK variable on the PCM variable of Indonesian coffee commodities was positive and insignificant during 2006-2020.

The renewal of increasingly sophisticated technology can create a new work and can increase the productivity of an existing production of goods. The existence of technological advances can increase production, costs will be more efficient and even decrease, and the price to be given will also fall, which will affect a better level of profit. The development of technology makes a company well managed so that it describes the maximum effort of the workers and will avoid saturation in the implementation of the course of the company, so that labor productivity will increase and show increased performance. Improved performance will result in more profits for the company or industry.

5. Finding and Conclusion

The market structure in the coffee processing industry in Indonesia is oligopoly structured with fairly high market barriers despite the Minimum Cost Price trend that according to each year. The market behavior of the coffee processing industry is seen in terms of price strategy, products and promotion. The performance of the coffee processing industry in Indonesia in terms of Price Cost Margin and Efficiency Value has an increasing trend every year. A positive trend results in good performance for the company so that it will increase the level of profit.

The regression results, the Price Cost Minimum which represents the performance of the Indonesian coffee processing industry is significantly influenced by the Efficiency Value. Meanwhile, the value of CR4 and PTK has no real effect on the Price Cost Minimum. The pattern of the relationship between EFS and PTK to the Price Cost Minimum had a positive effect while CR4 had a negative effect in the study, which did not match the initial hypothesis of the study.

6. Implications, Limitations, and Suggestions

Some suggestions that can be considered for the Indonesian coffee processing industry, the first is that the coffee processing industry can develop new products according to consumer needs with various innovations for various types of processed coffee products. Second, it can improve the performance of the coffee processing industry by using optimal production factors so as to increase production yields and increase the profits of the coffee processing industry. The higher quality the raw materials used, the better the final product produced.

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