

**THE IMPACT OF POLICY REFORMS ON POULTRY INDUSTRY: CASE STUDY
FINANCIAL PERFORMANCE OF PT. JAPFA COMFEED INDONESIA, TBK**

Wiwiek Mardawiyah Daryanto
Putra Gusrianto
Akhamad Fahmi Hikmatiyar

ABSTRACT

In the period 2014 to 2019, there are several policies affecting the production of poultry and the market prices of eggs and chicken meat in Indonesia. In 2016, the Indonesian government through the Ministry of Agriculture (MOA) issued regulation 26/2016 which was revised in the same year to 61/2016 and last to 32/2017 regarding the Provision, Distribution and Supervision of Chicken and Eggs for Consumption. In addition, regulations from the Minister of Trade (MOT) 27/M-DAG/PER/5/2017 were also issued in 2017, concerning the stipulation of reference purchase price at farmers and reference sales price at consumer level. These regulations were expected to impact on supply-demand balance and drive more fair competitive business climate in the poultry industry sector. Eventually, financial performance of the industry could be influenced by government policies. Therefore, the study aims to measure the financial performance of the Poultry Industry and to examine the significant differences before and after the implementation of these regulations. The data were divided into two periods, before (2014 - 2016) and after (2017 - 2019) the implementation of regulations, and it was analyzed using financial ratio, paired t-test, and wilcoxon signed rank test. The result showed that PT. Japfa Comfeed Indonesia, Tbk was still in good condition in these two periods and there was no significant difference in financial performances before and after the implementation of the regulations. This study can be useful for the government to make policies and to overcome challenges and increase the efficiency for the poultry industry.

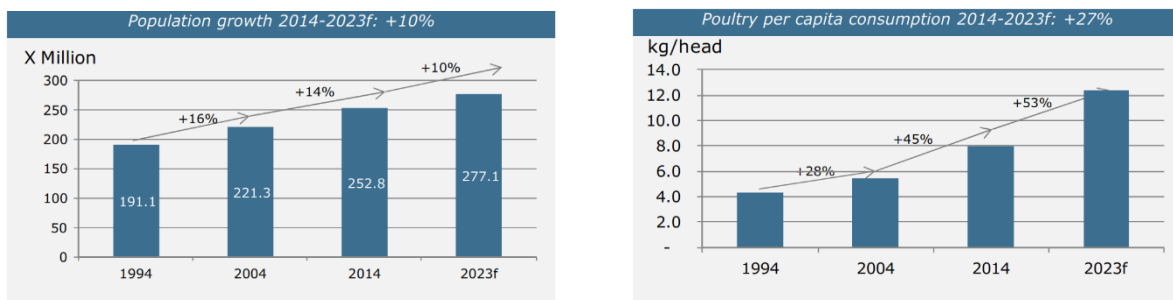
Keywords: Poultry Industry; Financial Performance; Ministry of Agriculture; Japfa Comfeed.

INTRODUCTION

The Indonesian poultry industry, although it has suffered cyclical fluctuations but has expanded steadily over the past three decades, was the main sector of the national economy. In Indonesia, the industry provides 65% of all animal protein and hires 10% of the workforce. The market was estimated to be stable and attractive, referring to the gradual entry of new foreign groups. The manufacturing method has progressed and modernized in recent decades. Five major players dominate the market: three foreign companies operating in feed production and two in the production of Day-Old Chicken (DOC) (Ferlito&Respatiadi, 2018).

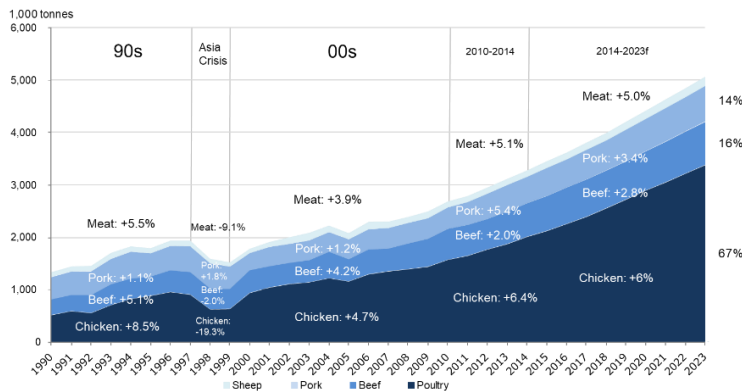
The prospect of the Indonesian poultry market from the 90s to 2023 (forecast) has experienced a growth in but slower than in the past (Figure 1) (Mulder et al, 2015). It was inversely proportional to GDP per capita growth (Graph 1). It could be assumed that the richer the population, the more chicken meat was left behind and replaced by expensive protein sources such as beef (Ferlito&Respatiadi, 2018).

Graph 1. Consumption of poultry per capita and GDP growth per capita from 2014 to 2023 (forecast / f) in Indonesia



Source: Mulder, Kumar and van Horne (2015)

Figure 1. The Indonesian meat market, 1990–2023f



Source: Mulder, Kumar and van Horne (2015)

Indonesian mostly consumes chicken to meet the needs of animal protein because it tastes good and the price is more affordable than beef. Besides, chicken meat also contains low cholesterol. Indonesia has large population and most them like chicken. It is a potential for the downstream processed food industry; including restaurants and other food and beverage providers served fast food based on processed chicken. This was in line with Table 1 which indicates that food and beverage service providers is the most widely in use of chicken meat that reaches about 44.26% of total chicken meat consumption in Indonesia (Central Bureau of Statistics, 2017).

Based on the Table 1, the household consumption of chicken meat was about 42.80%, the manufacturing industry's use of chicken meat for raw materials was 9.46% and restaurant and catering businesses reached 2.59%. The intake of chicken meat reached around 3.93 million tons in 2017, or around 15.08 kilograms per capita. There was a 16.59% increase in chicken meat consumption in 2017 compared to 2015 (Central Bureau of Statistics, 2017).

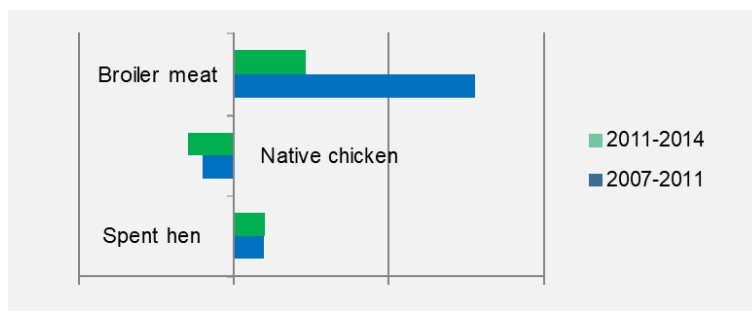
Table 1. Consumption of Chicken Meat 2014 – 2017

| Provider | 2014 | | 2015 | | 2017 | |
|--|------------------|-----------------|------------------|-----------------|------------------|-----------------|
| | Total (ton) | Per Capita (kg) | Total (ton) | Per Capita (kg) | Total (ton) | Per Capita (kg) |
| Household | 1,128,030 | 4.49 | 1,368,967 | 5.38 | 1,683,604 | 6.45 |
| Hotel | 13,704 | 0.05 | 179,499 | 0.70 | 27,599 | 0.11 |
| Restaurant and Catering | 62,227 | 0.25 | 32,738 | 0.13 | 101,779 | 0.39 |
| Bistro and Other food and beverage service providers | 1,945,302 | 7.74 | 1,743,717 | 6.85 | 1,741,133 | 6.67 |
| Medium Large Industry | 30,007 | 0.12 | 8,835 | 0.03 | 314,736 | 1.21 |
| Small Micro Industry | 12,380 | 0.05 | 26,277 | 0.10 | 57,226 | 0.22 |
| Health Services | 7,967 | 0.03 | 12,669 | 0.05 | 7,678 | 0.03 |
| Other Services | 5,973 | 0.02 | 1,286 | 0.01 | | |
| Total | 3,205,590 | 12.75 | 3,373,988 | 13.25 | 3,933,755 | 15.08 |

Source: Central Bureau of Statistics (BPS), 2017

The table above includes both broilers and native chickens. The use of broilers can be inferred to be more dominant than native chickens (Graph 2) (Mulder et al, 2015).

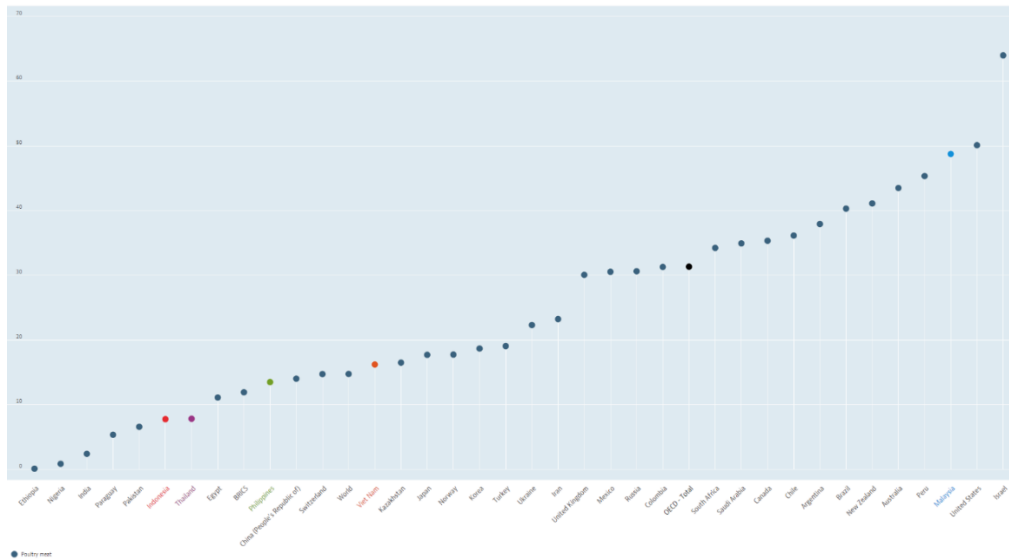
Graph 2. Consumer preference shift to broiler meat



Source: Mulder, Kumar and van Horne (2015)

The Organization for Economic Co-operation and Development released data on global consumption of poultry meat. Based on these data (Figure 2), consumption of poultry meat in Indonesia was still below Thailand, Philippines, Vietnam, and Malaysia. As a nation with the largest Muslim population in the world, Indonesia still one of the lowest poultry meat consumption per capita (Setjoadi, 2018). In Indonesia, despite of chicken meat consumption that relatively lower than neighbouring countries, the growth of poultry production and its market is still high. According to data published by BPS, the growth of poultry production especially from broiler chicken production growth in Indonesia for the 2009-2019 period was 11.06%. (Table 2) (Central Bureau of Statistics, 2019). As the poultry industry has experienced production modernization and concentration, the growth is expected to be accompanied by a continuing qualitative change (Ferlito&Respatiadi, 2018).

Figure 2. Global Meat Consumption 2009-2019



Source: OECD (2020)

Based on table 2, the development of broiler chicken production from 2009 to 2019, a striking production growth rate was between 2016 and 2017 which was 66.67% (1,905,497 to 3,175,853 tons), while the smallest growth in that period was in 2012 which only grew at 4.68%. The growth in 2017 was in line with the increase of chicken meat consumption in that year which reached 3,933,755 tons (Table 1), so there was a surplus in that year.

Table 2. Production of Broiler Chicken in Indonesia

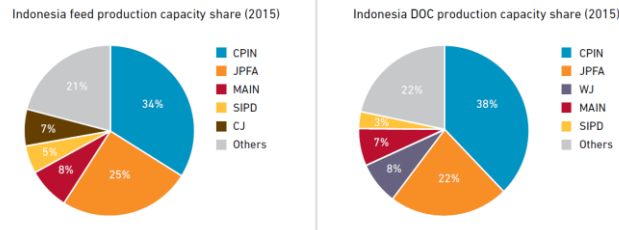
| Production of Broiler Chicken in Indonesia (Tons) | | | | | | | | | | |
|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019* |
| 1,101,766 | 1,214,339 | 1,337,909 | 1,400,468 | 1,497,876 | 1,544,378 | 1,628,307 | 1,905,497 | 3,175,853 | 3,409,558 | 3,495,091 |

Source: Central Bureau of Statistics (BPS), 2019

The presence of large companies has played an important role in enabling Indonesia to achieve an increasing level of technological modernization and self-sufficiency in poultry supplies. 60% of poultry production was estimated to come from industrial farms (closed housing system), while 40% remains in the hands of small and medium-sized players (open housing system). However, the role of independent farmers who are not bound to any larger poultry company has sharply decreased among the small players (Ferlito&Respatiadi, 2018).

There are five largest poultry companies in Indonesia. These five companies are the market leaders for Day-Old chicken (DOC) in Indonesia, namely PT Charoen Pokhpand Indonesia Tbk (CPIN), PT Japfa Comfeed Indonesia Tbk (JPFA), PT Malindo Feedmill Tbk (MAIN), PT Sierad Produce Tbk. (SIPD), and PT Wonokoyo. However, the role of independent farmers who are not bound to any larger poultry company has sharply decreased among the small players (Ferlito&Respatiadi, 2018).

Figure 3. Feed and DOC production shares in Indonesia (2015)



Source: Ferlito&Respatiadi, 2018

The Policy Reforms on Poultry Industry

The Government's primary roles are to protect the domestic poultry industry from the pressure of competition from the global market, to prevent unfair competition between domestic companies, to develop a system for preventing and overcoming outbreaks of infectious diseases, and to promote the development of other supporting infrastructure (Bahri, 2006). Based on these roles, the government is required to issue very observant policies for the growth of the poultry industry and evaluate these policies so that they are effective and targeted.

Recently, the industry has undergone heavy government intervention and policy reforms: from raw materials (e.g. maize) price guidance to end-product reference prices (e.g. broiler). Furthermore, in the past, the government had put in place several cullings and it was positive for the poultry sector such as provided temporary stability of demand-supply. The current high broiler price, however, is susceptible to new government regulations, which could be negative for the industry (Setjoadi, 2018).

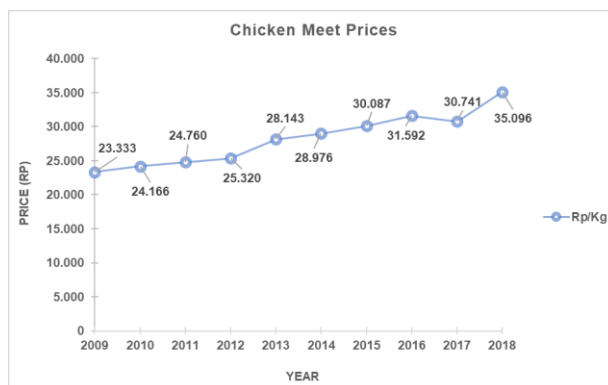
Poultry policy reforms began during the reign of President Joko Widodo in 2016 and continued in the years that followed. In 2016, the Indonesian government through the Ministry of Agriculture (MOA) issued regulation 26/2016 which was revised in the same year to 61/2016 and the last to 32/2017 to regulate the supply, distribution and supervision of chicken's breed industry with the ultimate goal to ensure the stability and availability of chicken meat in the market. In addition, this regulation aims to regulate the supply-demand balance in the poultry sector, especially for the protection of breeders, cooperatives or independent breeders without harming companies, so that a conducive and fair business climate can be created. Then, with the application of articles 9 and 11 of MOA 26/2016 which were later revised in article 6 of MOA 61/2016 and lastly revised in articles 4 and 5 of MOA 32/2017, the poultry industry does not have the freedom to import breeders according to their business needs. Otherwise, imports are regulated based on supply and demand calculations made by the government. However, this arrangement will have impact on the Day-Old chicken (DOC) on the supply of Final Stock (FS) and Parent Stock (PS) and has caused sharp price fluctuations (Yudina&Daryanto 2019).

After the issuance of MOA 61/2016 there were concerns for the poultry industries. The regulation did not regulate eggs that had been seeded to become Parent Stock-DOC or Final Stock when there was an oversupply in the market (Nainggolan, 2018). By following that MOA, in order not to cause over supply, the poultry industries were obliged to reduce the production of PS-DOC and FS so that the selling price of poultry products, both meat and eggs, do not decline in the market. However, poultry industries were still suffering because they had carried out large-scale production (according to the national production plan) which also comes from government regulations. Moreover, there was no separation in the regulation regarding the distribution of DOC FS classification of broiler and layer separately. Therefore, in a short time the government revised MOA 61/2016 to 32/2017.

PT. Japfa Comfeed Indonesia, Tbk in the annual report FY 2017 also mentioned that some regulations had impact on the company. On March 27, 2017, the Director General of Livestock and Animal Health Services of the Ministry of Agriculture of the Republic of Indonesia on behalf of the Minister of Agriculture issued Decree of the Minister of Agriculture of the Republic of Indonesia No. 3035/KPTS/PK010/F/03/2017 on Reduction of DOC FS Broiler, DOC FS Male Layer and FS Chicken Layer. Then on May 23, 2017 the Director General of Livestock and Animal Health Services of the Ministry of Agriculture of the Republic of Indonesia issued Circular Letter No. 0523SE/TK.010/F/05/2017 on the Adjustment of DOC FS Broiler Production. On 21 June 2017 the Director General of Livestock and Animal Health Services of the Ministry of Agriculture of the Republic of Indonesia on behalf of the Minister of Agriculture issued Decree of the Minister of Agriculture of the Republic of Indonesia No.6073/Kpts/PK.000/F/06/2017 on Population Reduction of Parent Stock Broiler. On September 4, 2017, the Minister of Agriculture of the Republic of Indonesia issued Regulation of the Minister of Agriculture of the Republic of Indonesia No.32/PERMENTAN/PK.230/9/2017 on the Supply, Distribution and Monitor of Broilers and Consumption Eggs. On October 25, 2017, the Director General of Livestock and Animal Health Services of the Ministry of Agriculture of the Republic of Indonesia issued Circular Letter No. 10647/SE/PK.230/F/10/2017 regarding reduction of DOC FS Broiler.

Another regulation also implied on May 5, 2017. The Minister of Trade of the Republic of Indonesia issued Regulation of the Minister of Trade No. 27/M-DAG/PER/5/2017 regarding the Stipulation of Reference Purchase Price at Farmers and Reference Sales Price at Consumers Level. On July 18, 2017 the Minister of Trade of the Republic of Indonesia issued Regulation of the Minister of Trade No. 47/M-DAG/PER/7/2017 regarding the Amendment to Regulation of the Minister of Trade No. 27/M-DAG/PER/5/2017 on the Stipulation of Reference Purchase Price at Farmers and Reference Purchase Price at Consumers Level. Unfortunately, the data from the Ministry of Agriculture show that the price of chicken meat has always increased from year to year (Figure 4) (Susanti, 2019).

Figure 4. Chicken Meet Prices from 2009 to 2018.



Source: Susanti (2019)

PT. Japfa Comfeed Indonesia, Tbk is used as the subject of this study which is the second largest poultry industry in Indonesia (Setjoadi, 2018). It is reported that PT. Japfa Comfeed Indonesia, Tbk experienced significant fluctuation growth of sales revenue since 2017. In 2017 the growth of sales is 9,38% with total sales 29.6 trillion (Integrated Annual Report 2017, 2018). In 2018, increasing sales revenue 14,90% with 34 trillion (Annual Report 2018, 2019). While in 2019, they decreased the sales revenue 8,03% with 36 trillion (Annual Report 2019, 2020). However, net profit growth also has significant fluctuation. In 2017, the profit growth is minus 49% (-49%) but in 2018 the profit growth increase about 103%. While, in 2019 the profit growth is also minus 16% (-16%). This is in line with the price of chicken meat. In 2018, the price of chicken meat experienced a significant increase in prices that reached 14% from the previous year (Susanti, 2019). Nevertheless, it is necessary to know whether these fluctuations were caused by government policy reforms in the poultry industry in 2016-2017 which were discussed in this study or the policy packages issued in that period had a significant effect on the financial performance of PT. Japfa Comfeed Indonesia, Tbk.

This study analyze the financial performance ratios of PT. Japfa Comfeed Indonesia Tbk during the 2014-2019 period to find out whether there was any significant impact caused by policy reforms in poultry sector such as regulations from the Director General of Livestock and Animal Health of the Ministry of Agriculture and the Minister of Trade which were issued in 2016 and 2017. Then the data are divided into two periods, before implementation (2014-2016) and after implementation (2017-2019) of these regulations. The indicators used in this study are the ratio of profitability, liquidity, activity, and solvency. The calculated ratio in this study is compared between before and after the implementation of regulations.

The study is conducted in six parts. The first part deals with the introduction, followed by the previous financial performance studies in part two. The third part discusses the methodology, the results and the discussions are covered in part four and the limitations are addressed in part five. The last part is conclusion and recommendation. Furthermore, the study can be useful for the government to make policies and the poultry industry to overcome challenges and increase their efficiency.

PREVIOUS RESEARCHES ABOUT FINANCIAL PERFORMANCE

Financial ratio is a good assessment method for measuring the performance of the company. Company usually uses this method to compare their performance with other competitors (Daryanto, 2018). Numerous financial performance studies have been conducted using financial ratio analysis in different types of industries around the world, such as the electrical power industry (Sueyoshi, 2005), hospitality (Kim & Ayoun, 2005), retail and manufacturing (Gombola & Ketz, 1983), and commercial banks (Islam, 2014). Especially for Poultry Industry, Yudina, D., & Daryanto, W. M. (2019) have been published journal regarding financial performance analysis in poultry companies in Indonesia from 2013 - 2017, as a comparative study between companies.

Companies are encouraged to maintain their profitability by increasing their activity ratios. Further financial performance has relationship with asset management, size, and operational efficiency of the companies (Daryanto, 2018).

Accounting and market measurement are approaches for calculating financial performance. Many researchers prefer to use accounting instead of market measurement (Waddock and graves, 1997; Cochran and Wood, 1984) even though some of them use both approaches (Alexander and Bucholz, 1978; Vance, S. C., 1975). The difference between accounting and market measurement is in looking at the time of period. In accounting, the organization uses historical data to assess its financial success (McGuire, Schneeweis, & Hill, 1988) and it potentially has a bias that contributes to manipulation. On the other hand, the method of market measurement is straight forward, concentrates on performance, and represents a company's ability to generate future revenue (Daryanto, 2018).

The ratio of profitability, liquidity, activity, and solvency can be calculated from the primary source of balance sheet and the income statement data. According to Yakubu, et al., (2018), a static view at a time of the assets and liabilities of the poultry industry is presented in the balance sheet. Balance sheet is a summary at a certain time of the poultry industry's financial resources. A simple balance sheet may indicate the past performance of poultry industry. On the other hand, the income statement shows how its industry's resources were normally developed at the end of the business year within a given period of time. It also revealed the

outcome of the industry's activities, showing how the industry was based on the resources employed within the year, whether it is successful or not. The results of a successful operation are not a profit, while there is no loss of unsuccessful operational records. The balance sheet, unlike income statements, which give a static view of the industry's financial position, show how the different resources developed in the poultry industry's operation have performed in the accounting period. Finally, financial ratios and efficiency ratios have been used in financial analysis as an index or measurement system for assessing a company's financial position. It is also an indicator of the company or a project's strength and weakness (Yakubu, et al., 2018).

METHODOLOGY

Research Model

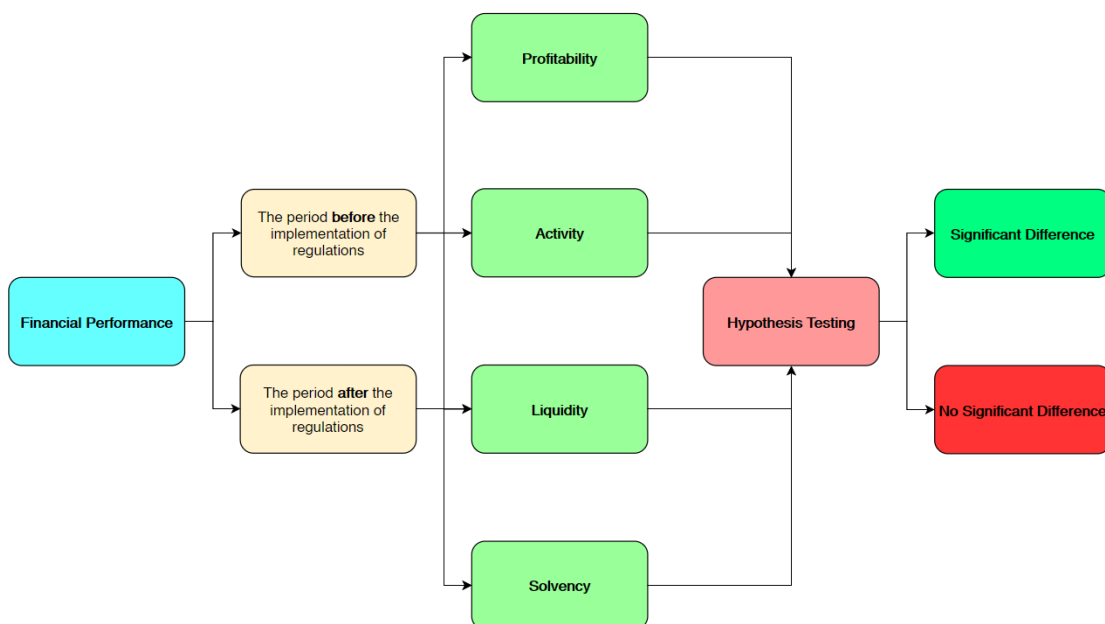
The results of company performance related to financial collection and allocation as measured by capital adequacy, liquidity, solvency, efficiency, leverage and profitability for a certain period are defined as financial performance (Fatihudin et al, 2018). To measure the health of a company is to observe its financial performance, which is how much the company is able to create profits, ability to pay debt, control debt, turnover of capital, etc. Therefore, the financial report can be used as study material.

This study uses financial performance ratios sourced from the balance sheet and income statement of PT. Japfa Comfeed Indonesia, Tbk annual report which consists of two periods, they are 2014 – 2016 period and 2017 – 2019 period. The period 2014-2016 was before the implementation of supply, distribution, and supervision of chicken breed industry regulations and the period 2017-2019 was when the regulation has been implemented. It develops learning with progressively useful experience, adapted from the previous study by Daryanto, et al., (2018). Then, PT. Japfa Comfeed Indonesia, Tbk is used as the subject of this study because it is the second-biggest poultry industry that operation in Indonesia.

There are several ratios to measure the financial performance of the company. They are liquidity ratio, profitability ratio, solvency ratio, efficiency ratio, leverage ratio (Fatihudin et al, 2018). However, this study uses profitability ratio, activity ratio, liquidity ratio, and solvency ratio (Figure 5). Profitability ratios measure how much the company's ability to generate profits (Prasetyo, 2019). Furthermore, activity ratio shows how the company optimally utilized its resources (Abbas, 2019). Utilization of assets by companies can be analyzed related to the level of profit which is formulated by the ratio of the total assets used to generate profits. Liquidity refers to the ability of the company to satisfy its current obligations. The liquidity tests therefore focus on the size of current liabilities and current assets and also relationships between them. Solvency, on the other hand, refers to the ability of the company to meet its long-term obligations in respect of interest cost and repayment schedules (Anthony, 2011).

Hypotheses derived from financial performance variables are tested based on the distribution of data from each sample period where data that is normally distributed is tested by Paired t-test while data that is not normally distributed are tested with the Wilcoxon signed rank test. A paired t-test is used, in reference to Shier (2004), to compare two populations in which analyses in one sample can be paired with analyses in the other sample. In addition, Kim (2015) included that Paired t-tests are a type of t-test for a solitary sample that checks the differences between two matched results. Furthermore, Bowerman, et al., (2007) indicated that when N is small, the distribution is non-normal and the measurement is ordinal, the t-test is not valid and it is necessary to use the Wilcoxon signed-rank test.

Figure 5. Research Model



The Variables

In general, this study has two variables, namely financial performance and year period which are described in the table 3.

Table 3. The Variables

| No. | Variables | | Formula | Description |
|----------------------------|-----------------------------------|-----------|--|---|
| | Financial Performances | Period | | |
| Profitability Ratio | | | | |
| 1 | Return on Invested Capital (ROIC) | 2014-2016 | $(\text{Net Income/Long Term Liabilities} + \text{Shareholder Equity}) \times 100\%$ | ROIC is a profitability or performance ratio that aims to measure the percentage return that a company earns on invested capital. The ratio shows how efficiently a company is using the investors' funds to generate income. |
| | | 2017-2019 | | |
| 2 | Return on Equity (ROE) | 2014-2016 | $(\text{Net Income/Total Shareholder's Equity}) \times 100\%$ | ROE measures the efficiency of capital or financial management. |
| | | 2017-2019 | | |
| 3 | Return on Assets (ROA) | 2014-2016 | $(\text{Net Income/Total Asset}) \times 100\%$ | ROA measures the efficiency of operating management by utilizing its total assets to generate income. |
| | | 2017-2019 | | |
| 4 | Net Profit Margin | 2014-2016 | $(\text{Net Income/Revenue}) \times 100\%$ | Net Profit Margin illustrates how much of each dollar in revenue collected by a company translates into profit. |
| | | 2017-2019 | | |
| Activity Ratio | | | | |
| 5 | Asset Turnover | 2014-2016 | $(\text{Revenue/Capital Employed})$ | Asset Turnover measures the value of a company's sales or revenues relative to the value of its assets. |
| | | 2017-2019 | | |
| 6 | Equity Turnover | 2014-2016 | $(\text{Net Sales/ Average Shareholder's Equity})$ | Equity Turnover presents information about how much revenue the shareholder's equity is able to generate over a course a year. |
| | | 2017-2019 | | |
| Liquidity Ratio | | | | |
| 7 | Current Ratio | 2014-2016 | $(\text{Current Asset/Current Liabilities})$ | Current Ratio indicates a company's ability to pay its short-term obligations. |
| | | 2017-2019 | | |
| 8 | Acid Test (Quick) Ratio | 2014-2016 | $(\text{Monetary Current Asset/Current Liabilities})$ | Acid- Test (Quick) Ratio shows the company's ability to pay its current liabilities when they come due with only quick assets. |
| | | 2017-2019 | | |
| Solvency Ratio | | | | |
| 9 | Debt Equity Ratio (DER) | 2014-2016 | $(\text{Total Liabilities/Shareholder's Equity})$ | DER measures of the degree to which a company is financing its operations through debt versus wholly-owned funds. |
| | | 2017-2019 | | |
| 10 | Total Debt to Total Assets | 2014-2016 | $(\text{Short Term Debt} + \text{Long Term Debt})/\text{Total Asset}$ | Total Debt to Total Assets shows the degree to which a company has used debt to finance its asset. |
| | | 2017-2019 | | |
| 11 | Times Interest Earned | 2014-2016 | $(\text{Pretax Operating Profit/Interest (Expense)})$ | Times Interest Earned used to measure a company's ability to meet its debt obligations. |
| | | 2017-2019 | | |

Hypothesis

There are 11 hypotheses based on financial performance variables and the period of the year where each financial performance ratio differs significantly between before and after the start of policy reforms in the poultry industry in 2016 when the issuance of regulations regarding the Provision, Distribution, and Supervision of Chicken and Eggs for Consumption was initiated. On the other hand, H0 is no significant difference in financial performance after the implementation of these regulations.

H1: Using the value of return on invested capital, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.

H2: Using the value of return on Equity, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.

- H3: Using the value of return on assets, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H4: Using the value of net profit margin, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H5: Using the ratio of asset turnover, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H6: Using the ratio of equity turnover, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H7: Using the current ratio, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H8: Using the acid test (quick) ratio, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H9: Using the debt equity ratio, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H10: Using the ratio of total debt to total assets, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.
- H11: Using the ratio of times interest earned, there is a significant difference in financial performance after the implementation of policy reforms in the poultry industry.

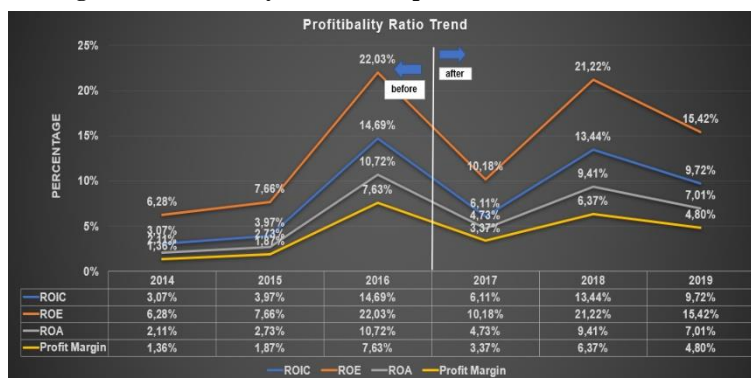
RESULT AND DISCUSSIONS

Profitability Performance

The Figure 6 below gives information regarding the percentage of ROE, ROA, ROIC and Profit Margin in PT. Japfa Comfeed Indonesia, Tbk between 2014 until 2019. Overall, the percentage of ROE, ROA, ROIC and Profit Margin were increase during the years and there was decrease in 2017, but a sharp decreased at -11,85% in the percentage of ROE in 2017. In the period 2014 to 2017, the percentage of four ratios were increase around 6% - 15%. There was a significant decrease in 2016 to 2017 from 14,69% to 6,11% for ROIC, it indicates the long-term liability increase significantly. This aspect is in accordance with the PT Japfa Comfeed Indonesia Tbk 2017 annual reports that also mentioned that the company’s total liabilities reached Rp 11,293.2 billion or 14.3% higher compared to the previous year (2016) total liabilities of Rp 9,878.1 billion. The increase of total liabilities was primarily due to the increased of trade payables in 2017. The liabilities composition of the Company in 2017 was mostly dominated by noncurrent liabilities. This composition changed from the previous year, where the amount of current liabilities was greater than noncurrent liabilities.

Furthermore, from figure 6, it is also found a significant decrease on return equity 22,03% to 10,18% that cause to a decrease in stock price. The return on asset also decreases from 10,72% to 4,73% that shows the inefficiency of operating management by utilizing its total assets to generate income (less asset-intensive of the company).

Figure 6. Profitability Ratio PT. Japfa Comfeed Indonesia Tbk

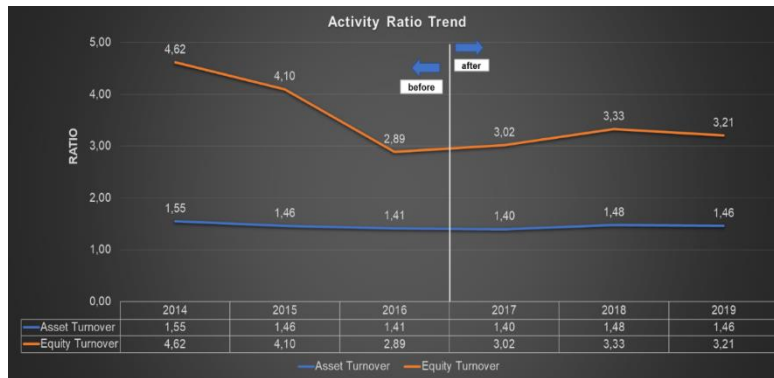


Activity Performance

The line chart below (Figure 7) gives information about the ratio of asset turnover and equity turnover from 2014 to 2019. Overall, both ratios were decrease but more significant on equity turnover. It shows that the regulations affect the growth of sales volume. In 2016, equity turnover ratio significantly decreases from 4,10 to 2,89. From the annual report of PT. Japfa Comfeed Indonesia, Tbk in 2016, there was a significant increase of the shareholder equity (in million rupiah) from 6.109.692 to 9.372.964. It indicates that the company using more equity investment instead of debt to gain the capital. The ratio of asset turnover was not significantly growing but tend to be stable during the years. In average, from 2014 to 2019, asset turnover ratio was 1,46. It indicates that every 1 (one) rupiah of asset can be turn into 1,46 rupiah of the revenues. Increasing the number of assets (such as building new factories and new farms) can be an alternative approach to increase revenue (Sudiyatno et al, 2012). This can increase revenue in numbers even though the ratio will be constant (asset turnover ratio is stable during the years). This is in line with the strategy adopted by

PT. Japfa Comfeed Indonesia, Tbk which in 2017 increased the capital expenditures twice to boost revenues. (Annual Report, 2017).

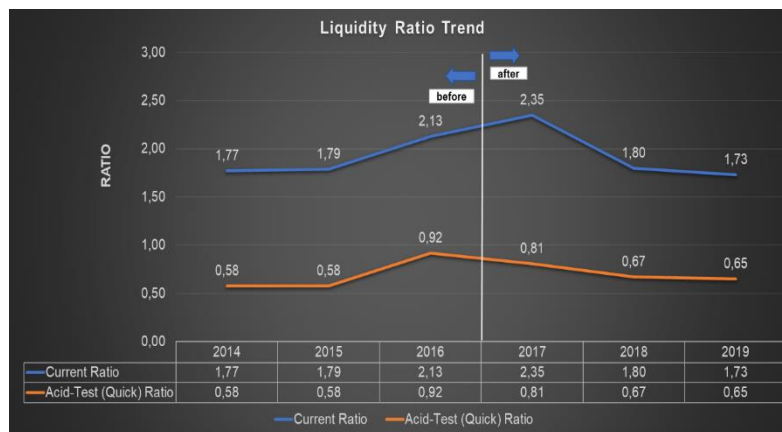
Figure 7. Activity Ratio PT. Japfa Comfeed Indonesia, Tbk



Liquidity Performance

The Figure 8 shows the trend line of quick ratio and current ratio of PT. Japfa Comfeed Indonesia, Tbk from 2014 to 2019. Lancaster & Stevens (1998), the current ratio (current assets divided by current liabilities) and the quick ratio (current assets minus inventory divided by current liabilities) are utilized to quantify liquidity since these measures compare the amount of debts to the amount of available resources to meet the debts. Overall, all ratios were stable and there was a slight difference in the decreasing percentage of current ratio and quick ratio. In 2017, current ratio increases from 2,13 to 2,35 but the quick ratio decreases from 0,92 to 0,81. It indicates that there was a significant increase from the Annual Report of PT. Japfa Comfeed Indonesia, Tbk in 2017 on inventories (in million rupiah) from 6,259,101 to 7,331,907. This causes a quick ratio was degenerated because the inventory is considered to still need time to turn into cash asset. Based on the current ratio, the company is in a liquid condition, but seen from the quick ratio, the company is considered ill-liquid. However, in general PT. Japfa Comfeed Indonesia, Tbk can still be considered liquid because short-term debt obligations can be guaranteed by one or more current assets owned by the company. The company is still considered to be able to meet its short-term debt obligations.

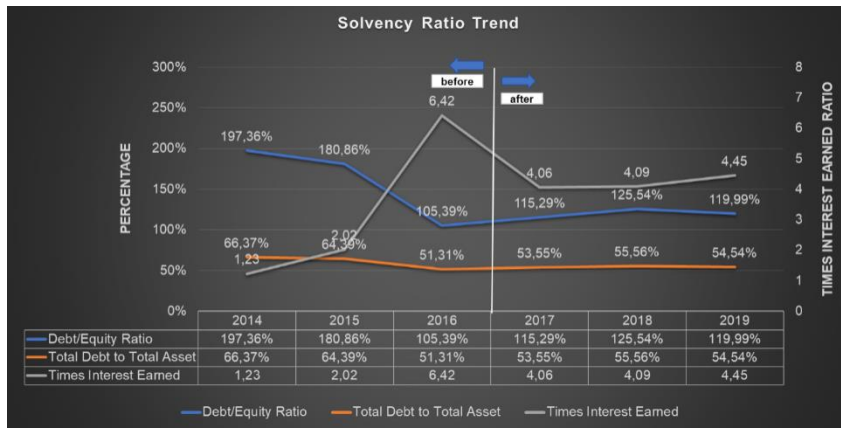
Figure 8. Liquidity Ratio PT. Japfa Comfeed Indonesia, Tbk



Solvency Performance

Figure 9 below gives the information about the percentage of debt/equity ratio, total debt to total asset, and times interest earned from PT. Japfa Comfeed Indonesia, Tbk in 2014 to 2019. Overall, the three ratios were fluctuated. Even though ratio of total debt to total asset was more stable, there was significant decrease in 2016 from 64,39% to 51,31%. It indicates that the company gaining owned funds over the debt (liabilities) to financing its asset. Its cause significant decrease of debt to equity ratio (DER) from 180,86% to 105,39%. Lower DER gives lower risk of loan default for a company. It means that the lower DER the better it is for a company. Lower DER is also a good thing for shareholders because it decreases the probability of bankruptcy in the economic downturn. Times interest earned ratio shows the ability of the company to pay the interest-expanses. The most significant fluctuated from 1,23 in 2014 increase to 6,42 in 2016 but decrease to 4,06 in 2017. In general, the company still consider in good condition and able to meet the debt obligations in short term and long-term period.

Figure 9. Solvency Ratio PT. Japfa Comfeed Indonesia, Tbk



Hypothesis Testing

The following is the summary table of the financial ratios tested in this study (table 4), according to the results of the paired t-test sample and Wilcoxon signed rank test.

Table 4. Hypothesis Test

| No. | Variables | | Means | Std. Deviation | Tests of Normality (Sig.) | Test Method | P-value (Sig.) | Decision |
|---------------------|-----------------------------------|-----------|----------|----------------|---------------------------|---------------------------|----------------|-----------------------|
| | Financial Performances | Period | | | | | | |
| Profitability Ratio | | | | | | | | |
| 1 | Return on Invested Capital (ROIC) | 2014-2016 | 7.2433 | 6.46468 | 0.133 | Paired Samples Test | 0.608 | Reject the hypothesis |
| | | 2017-2019 | 9.7567 | 3.66514 | 0.983 | | | |
| 2 | Return on Equity (ROE) | 2014-2016 | 12.000 | 8.6885 | 0.151 | Paired Samples Test | 0.598 | Reject the hypothesis |
| | | 2017-2019 | 15.600 | 5.50273 | 0.944 | | | |
| 3 | Return on assets (ROA) | 2014-2016 | 5.1867 | 4.80202 | 0.123 | Paired Samples Test | 0.600 | Reject the hypothesis |
| | | 2017-2019 | 7.05 | 2.34026 | 0.972 | | | |
| 4 | Net Profit Margin | 2014-2016 | 3.62 | 3.48211 | 0.14 | Paired Samples Test | 0.626 | Reject the hypothesis |
| | | 2017-2019 | 4.8467 | 1.50054 | 0.949 | | | |
| Activity Ratio | | | | | | | | |
| 5 | Asset Turnover | 2014-2016 | 1.4733 | 0.07095 | 0.688 | Paired Samples Test | 0.71 | Reject the hypothesis |
| | | 2017-2019 | 1.4467 | 0.04163 | 0.463 | | | |
| 6 | Equity Turnover | 2014-2016 | 3.87 | 0.88764 | 0.568 | Paired Samples Test | 0.344 | Reject the hypothesis |
| | | 2017-2019 | 3.1867 | 0.15631 | 0.752 | | | |
| Liquidity Ratio | | | | | | | | |
| 7 | Current ratio | 2014-2016 | 1.8967 | 0.20232 | 0.094 | Paired Samples Test | 0.844 | Reject the hypothesis |
| | | 2017-2019 | 1.96 | 0.33956 | 0.197 | | | |
| 8 | Acid Test Quick Ratio | 2014-2016 | 0.6933 | 0.1963 | 0.01 | Wilcoxon signed rank test | 1.00 | Reject the hypothesis |
| | | 2017-2019 | 0.71 | 0.08718 | 0.28 | | | |
| Solvency Ratio | | | | | | | | |
| 9 | Debt Equity Ratio (DER) | 2014-2016 | 161.2033 | 49.03477 | 0.323 | Paired Samples Test | 0.291 | Reject the hypothesis |
| | | 2017-2019 | 120.2733 | 5.13087 | 0.909 | | | |
| 10 | | 2014-2016 | 60.69 | 8.18342 | 0.232 | | 0.332 | |

| | | | | | | | | |
|----|----------------------------|-----------|---------|---------|-------|---------------------|------|-----------------------|
| | Total Debt to Total Assets | 2017-2019 | 54.5833 | 1.05567 | 0.932 | Paired Samples Test | | Reject the hypothesis |
| 11 | Times Interest Earned | 2014-2016 | 3.2233 | 2.79643 | 0.271 | Paired Samples Test | 0.52 | Reject the hypothesis |
| | | 2017-2019 | 4.4667 | 0.41525 | 0.934 | | | |

In the period 2017-2019, after the implementation of policies in the poultry industry, the ROIC was increased compared to the period 2014-2016, from 7.243 to 9.757. This also happened to ROE, ROA, and Net profit Margin, respectively increase by 3.6, 1.8633, and 1.2267. However, the changes in the all profitability performance did not differ significantly that has been evidenced by paired t-test, which all have p-value > 0.05. It means that the first, second, third, and fourth hypotheses are rejected. That indicated that there is no significant difference on profitability performance (ROI, ROA, ROE, and Net profit margin) both before and after the implementation of policy reforms in the poultry industry in 2016 dan 2017.

Then, activity performance is represented by Asset Turnover and Equity Turnover data. Asset Turnover in 2014-2016 and 2017-2019 periods were stable. However, Equity Turnover decreased slightly in the two periods, namely 3.87 in the 2014-2016 and fell to 3.1867 in the 2017-2019. Based on both hypotheses tests using paired t-test, the obtained result was p-value > 0.05. It can be concluded that there is no significant difference on activity performance both before and after the implementation of policy reforms in the poultry industry in 2016 and 2017. Hence, the fifth and sixth hypotheses are rejected.

There is a different method used to calculate the p-value in the hypothesis test of the Acid Test Ratio (Quick). Because the Acid Test (Quick) Ratio data were not normally distributed, the analysis used Wilcoxon signed rank test. Meanwhile, the rest used paired t-test because the data were normally distributed. In the analysis of hypothesis testing carried out on the performance of liquidity and solvency, it turns out that the p-value > 0.05 so that the seventh to eleventh hypotheses are also rejected.

Discussion

Based on the analysis of financial performance ratios, it can be seen that profitability performance shows a slight increase trend from 2014 to 2019. However, there have been quite sharp fluctuations during 2016 to 2018. The implementation of the policy is expected to increase the profitability of the poultry industry, but on the contrary. This shows that profitability performance is affected by government policies but not significantly different. The policy of reference prices and regulated supply and distribution of chicken meats are seen to show more disruption of sales revenue in the short term, even though in the long term the company can return sales revenues.

On the contrary, the activity ratio tends to decline from 2014 to 2019. This happened because the company in 2016 shifted its funding from the money market to the capital market. This has an influence on the equity turnover. However, this happened a year before the regulations were implemented so it can be concluded that the decline in the equity ratio was not caused by policies related to reference prices and supervision of chicken supply by the government.

The company's liquidity performance tends not to change from 2014 to 2019. However, based on the current ratio, the company is considered liquid while the quick ratio is considered illiquid. Lancaster & Stevens (1998) mention that the current ratio and quick ratio are designed to measure the ability to meet obligations through the liquidation of assets. Company liquidity, in general sense, refers to the ability of the company to pay its debts as they become due. This shows that the company can pay off short-term debt (one year), but the company will probably find obstacles to meet obligations in less than one year. This condition occurred both before and after the policy implementation. This shows that government policies do not affect the liquidity performance of the companies.

The solvency ratio shows declining trend for DER and increasing for Time Interest Earned but significant fluctuation occurred in 2016 when the policies have not been implemented. This shows that the company's solvency ratio is not significantly affected by government policy which the company able to pay the debts before and after policies are implemented.

In general, financial performance ratios are not significantly affected by government policies in the field of reference purchase prices and supply, distribution, and supervision of chicken's breed to ensure the stability and availability of chicken meat in the market. This is also being supported by the results of the Hypotheses testing of the paired t-test sample and Wilcoxon signed rank test against this ratio before and after the implementation of the policy. It indicates that there are other factors that may give more influence on the performance of the poultry industry than reference price policies and supply arrangements. Agustina, Gunawan, and Chandra (2018) in the study of *The Impact of Tax Amnesty Announcement towards Share Performance and Market Reaction in Indonesia* conclude that tax amnesty implementation in 2016 has increased the average of stock returns. It means that tax amnesty has a significant impact on the capital market in Indonesia. Thus, external conditions could be considered to influence such as strengthen of the capital market which affects the company's decision to source funds from the capital market rather than the financial market, as experienced in the activity ratios of PT. Japfa Comfeed Indonesia, Tbk.

LIMITATION

This research only uses one of the poultry industries in Indonesia, while we know that there are five large poultry companies in Indonesia. To determine the impact of government policy reforms in the poultry industry, which began in 2016, requires the same analysis of four other poultry companies and independent farmers so that it can be concluded whether government policies and regulations in 2016 will subsequently have an effect on the poultry industry. The policies discussed in this study are limited to pricing, supply, and distribution policies for chicken, namely MOA 26/2016 which was revised to MOA 61/2016 and subsequently revised to MOA 32/2017, in addition there is a Minister of Trade Regulation No. 27 / M-DAG / PER / 5/2017 regarding the Stipulation of Reference Purchase Price at Farmers and the revision of the Minister of Trade Number 47 / M-DAG / PER / 7/2017. So, it is furtherly suggested to the future studies measuring the financial performance of more companies to strengthen the findings of this study. The use of various methodologies and measurement instruments is also important. In addition, the study only used financial approach to measure the impact of regulation. It is suggested to measure the other aspects such as operational and administrations to give more comprehensive result.

CONCLUSION AND RECOMMENDATIONS

This study aims to measure the financial performance of Poultry Industry and to examine the significant differences before and after the implementation of policy reforms in the poultry industry in 2016 dan 2017. The result showed that there was no significant difference in financial performances before and after the implementation of policy reforms in the poultry industry, especially in this study is PT. Japfa Comfeed Indonesia, Tbk, based on paired t-test and Wilcoxon signed rank test analysis of four financial performance; they are profitability performance, liquidity performance, activity performance, and solvency performance. On the contrary, government policies should be able to make a significant difference to the industry. If these differences do not occur, the policy will not have a maximum effect on business growth.

In addition, in terms of financial ratio analysis, the company is still in good condition from 2014 to 2019 based on this financial performance, even though there was a decline in profitability performance in 2017. It is suggested that the company should highly concern in profitability performance which was the most significant fluctuated tend to be decreased before and after the period. Furthermore, company should consider in gaining revenues rather than in keeping inventory asset. Moreover, the market sales need to be concerned to convert inventories into cash/sales revenues.

Finally, this study is expected to become a reference for government to make policies in the future in which a policy that has a real impact. For the poultry industry, this study is expected to become reference to overcome challenges and increase their efficiency.

REFERENCES

- Abbas, Dirvi. (2019). Activity Ratio Influence on Profitability (At the Mining Company Listed in Indonesia Stock Exchange Period 2010-2013). 48-69. 10.17605/OSF.IO/7G2VP.
- Agustina, L., Gunawan, Y., & Chandra, W. (2018). The Impact of Tax Amnesty Announcement towards Share Performance and Market Reaction in Indonesia. *Accounting and Finance Research*, 7(2), 39-47.
- Alexander, G. J., and Rogene A. Buchholz (1978) "Corporate social responsibility and stock market performance." *Academy of Management Journal*, 21 (3): 479-486.
- Annual Report 2014: A Strong Foundation for Sustainable Success. (2015). Jakarta: PT Japfa Comfeed Indonesia Tbk.
- Annual Report 2015: Building A Sustainable Future. (2016). Jakarta: PT Japfa Comfeed Indonesia Tbk.
- Annual Report 2016: Nurturing A Sustainable Future. (2017). Jakarta: PT Japfa Comfeed Indonesia Tbk.
- Annual Report 2018: Strengthening Our Legacy. (2019). Jakarta: PT Japfa Comfeed Indonesia Tbk.
- Annual Report 2019: Heading Towards Sustainable Growth. (2020). Jakarta: PT Japfa Comfeed Indonesia Tbk.
- Anthony, R. N., Hawkins, D. F., & Merchant, K. A. (2011). *Accounting: Text and cases* (13th ed., p. 391). New York: McGraw-Hill.
- Bowerman, B. & O'Connell, R. (2007). *Business statistics in practice*. New York: McGraw-Hill Irwin Publishing Co.
- Central Bureau of Statistics, Jakarta. (2018). *The study of consumption of primary commodities in 2017* (p. 41). Jakarta: BPS RI.
- Central Bureau of Statistics, Jakarta. (2019). *Production of Broiler Chicken by Province 2009-2019*. Jakarta: BPS RI.
- Daryanto, W.M. (2018). Financial Performance of Cement Industry During Infrastructure Development in Indonesia. *South East Asia Journal of Contemporary Business, Economics and Law*, Vol .16, Issue 1 (August). ISSN 2289-1560.
- Fatihudin, Didin&Mochklas, Mochamad. (2018). How Measuring Financial Performance. *International Journal of Civil Engineering and Technology*. 9.
- Ferlito, C., and HizkiaRespatiadi (2018) "Policy Reforms on Poultry Industry in Indonesia." Center for Indonesian Policy Studies.
- Gombola, M. J., & Ketz, J. E. (1983). Financial Ratio Patterns in Retail and Manufacturing Organizations. *Financial Management*, 12(2), 45. doi:10.2307/3665210.
- Integrated Annual Report 2017: Building Long-Term Value. (2018). Jakarta: PT Japfa Comfeed Indonesia Tbk.
- Islam, MD Aminul, An Analysis of the Financial Performance of National Bank Limited Using Financial Ratio (October 1, 2014). Available at SSRN: <https://ssrn.com/abstract=2512776> or <http://dx.doi.org/10.2139/ssrn.2512776>.
- Kim, T. K. (2015). T-test as a Parametric Statistic. *Korean J Anesthesiol*, 540-546.
- Kim, W. G., & Ayoun, B. (2005). Ratio Analysis for the Hospitality Industry: A Cross Sector Comparison of Financial Trends in the Lodging, Restaurant, Airline, and Amusement Sectors. *The Journal of Hospitality Financial Management*, 13(1), 59-78. doi:10.1080/10913211.2005.10653800.
- McGuire, J. B., A. Sundgren, and T. Schneeweis (1988) "Corporate social responsibility and firm financial performance." *Academy of Management Journal*, 31 (4): 854- 872.

- Mulder, N.-D., Kumar, P., and van Horne, P. (2015), Indonesian Poultry industry towards 2025. Long term perspective on the Indonesia poultry value chain, Jakarta, Rabobank.
- OECD (2020), Meat consumption (indicator). doi: 10.1787/fa290fd0-en (Accessed on 20 October 2020).
- Lancaster, C., & Stevens, J. L. (1998). Corporate Liquidity And The Significance Of Earnings Versus Cash Flow. *Journal of Applied Business Research (JABR)*, 14(4), 27-38.
- Prasetyo, Ery. (2019). Profitability Ratio Analysis for Determining Stock Investment in PT. Unilever Indonesia 2008-2018 Period.
- Setjoadi, Michael W. (2018) "Report Indonesia Poultry Sector Update." PT RHB Sekuritas Indonesia.
- Shier, R. (2004). Statistics: 1.1 Paired t-test. *Mathematics Learning Support Centre*, 1-3 (1).
- Sudiyatno, et al. (2012) "The companys policy, firm performance and firm value: an empirical research on Indonesian stock exchange," *American International Journal of contemporary Research*.
- Sueyoshi, T. (2005). Financial Ratio Analysis of The Electric Power Industry. *Asia-Pacific Journal of Operational Research*, 22(03), 349-376. doi:10.1142/s0217595905000509.
- Susanti, A. A. (Ed.). (2019). Descriptive Analysis of Broiler Meat. In 1086753301 824637622 A. (Ed.), *Livestock Commodity Outlook Book: Broilers* (p. 17). Jakarta: Center for Agricultural Data and Information Systems Secretariat General of the Ministry of Agriculture.
- Vance, S. C. (1975) "Are socially responsible corporations good investment risks?" *Management Review*, 64: 18-24.
- Waddock, S. A., and Samuel B. Graves (1997) "The corporate social performance- financial performance link." *Strategic Management Journal*, 18 (4): 303-319.
- Yakubu, A. A., Jabo, M. S. M. and Suleiman, M. N (2018), Financial ratio analysis and performance of two commercial poultry farms in Zamfara State, North- Western, Nigeria, "Direct Research Journal of Agriculture and Food Science.", DOI: 10.26765/DRJA.FS.2018.9178.
- Yudina, D., &Daryanto, W. M. (2019). Financial Performance Analysis through Value Based Measurement in Integrated Poultry Companies in Indonesia from 2013-2017. *South East Asia Journal of Contemporary Business, Economics and Law*, 18(1), 1-9.

Wiwiek Mardawiyah Daryanto
Sekolah Tinggi Manajemen IPMI
Email: wiwiek.daryanto@ipmi.ac.id

Putra Gusrianto
Sekolah Bisnis dan Manajemen, Institut Teknologi Bandung
Email: putra_gusrianto@sbm-itb.ac.id

Akhmad Fahmi Hikmatiyar
Sekolah Bisnis dan Manajemen, Institut Teknologi Bandung
Email: akhmad_hikmatiyar@sbm-itb.ac.id