

# PROFITABILITY ANALYSIS OF BROILER FARMING LARGE SCALE PRODUCER ENTERPRISES BY SYSTEM DYNAMIC IN WEST JAVA REGION

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## Abstract

The research of broiler farming large scale producer profitability analysis by system dynamic approach was held in west java region. The aim of the research is to get an optimum solution model. Survey method and primary also secondary data collection were covered. Primary data were obtained by interview directly to the official employers and manager. The secondary data were obtained from finances documentation, statistic centre bureau and animal husbandry officials. The research conclusions are (1) phase in 1990-1996 operating income and operating expenses have increased with the growth medium, the cost of rations and cost of seed DOC also increased with the growth medium, while the of ROI (Return On Investment) increased with rapid growth reached of 12.5 percent and a peak in 1995. In the early phase of 1997-1999 model simulation of the operating expenditure and operating income decreased by slow movement, the cost of rations and the cost of seed DOC also increased with rapid growth, ROI has decreased 11.10 percent. (2) Phase in 2000-2004 operating expenses and operating revenues increased by rapid growth in the cost of rations and cost of seed DOC rising with fast movement, the ratio of ROI (Return On Investment) had a tendency down 9.17 percent. (3) Phase in 2005-2025 tendency operating expenses and operating revenues tends to slow down cost of rations and DOC estimated tends to rise slowly, while ratio of ROI (Return On Investment) is also expected to rise slowly between 6 to 7 percent.

**Key words:** broiler farming, operating income and expenses, return on investment, dynamic system, profitability

## INTRODUCTION

The development of broiler meat farms enterprises especially in West Java is so fast with variety of the scale effort, coming from big, medium, and small scale possession. Talking about developing of poultry production depend on breeding quality, feed stocks, medicines, maintenance and harvest time arrangement [1]. The stabilization on poultry development in globalization era is definitely already needs an integral policy either come from the government institutes, privates entrepreneur, educational institution and from the farmers itself [1], [6]. The actual condition in the field at several these years, these are so many problems, likes broiler meat price not stable, while the product instrument: the ration, day old chicks and medicine prices still makes polemic in West Java

[2]. Broiler meat production system is started from the process of enterprises planning, likes: the scale, infestation, broiler poultry stocks provision, and keeping the birds process as long as 28 until 32 days. This fact takes a big rips, responsibility, and capital [1].

The basic concept of this research is the positive feedback interaction between transformation process of technological path and economy, with a study case approach in broiler farming industries in West Java Region. Technological transformation as an internal aspect on the micro level serves to promote effectiveness toward output optimality, while economy as an external aspect on the macro level functions to push production efficiency leading to the stability of input and output price. The interaction of both factors can reflect maximal profit [4]. Generally, the system dynamics of industries is determined by the interaction between internal and external factors. The internal factors of broiler farming are factors

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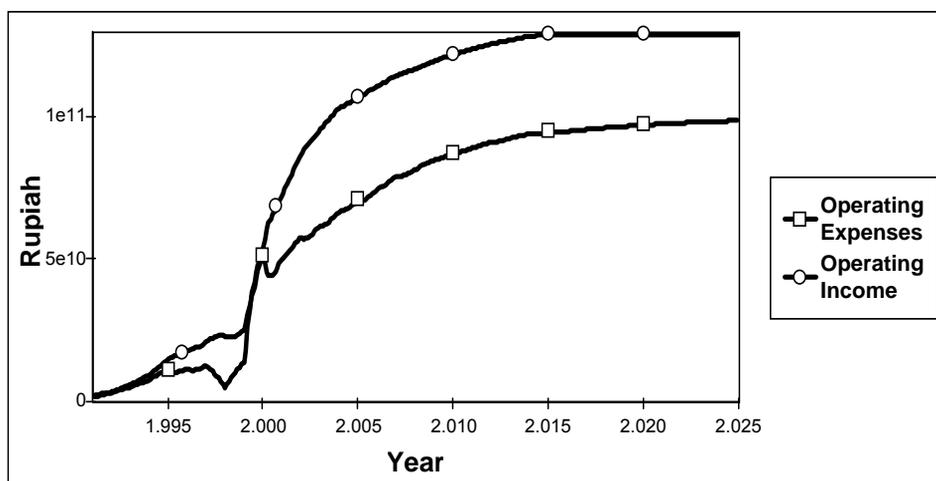
directly generated within the industrial system and controllable by the businessmen using technological approach, such as the process of chicken rearing, prevention of chicken mortality, and supply of chicken meat [7], [3]. The external factors consist of factors which are directly uncontrollable by mechanism within business units, but they directly affect performance of business units, inter alia the demand of chicken meat, substitution goods, population, income, chicken meat price, Day Old Chick price, feed price, corn price, soybean meal price, and fish meal price [6], [5].

**MATERIAL AND METHODS**

Produce a model of optimal solutions of large-scale livestock profitability of broiler through a system dynamics approach.

**RESULTS AND DISCUSSIONS**

The results behaviour of the simulation model of the operating cost (cost incurred) by operating income (sales), the cost of the ration at a cost of DOC and the ratio of seed ROI (Return On Investment), as look as on these graphics 1,2,3.

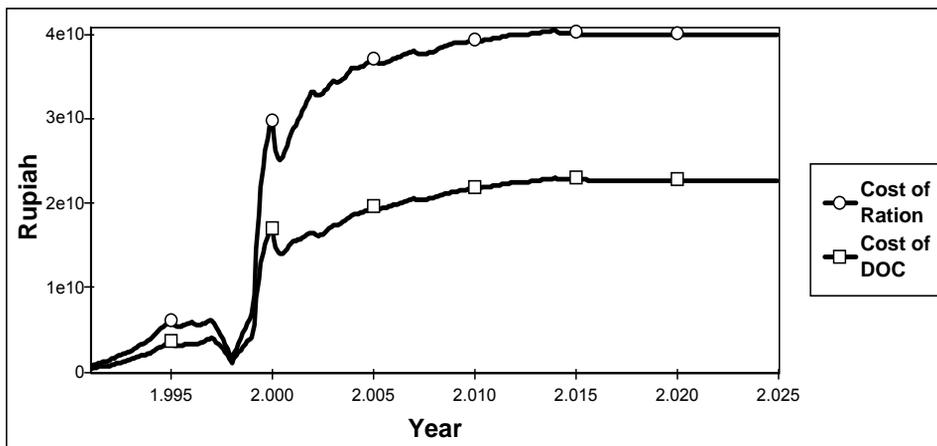


Graphic 1 Behavioural Models Operating Expenses and Operating Income

Behavioural simulation model operating expenses and operating income in Graph 1, above show that, the flow graph model of behaviour consists of some phases from 1990-2025, the phase of the year 1990 to 1996 model simulated movement increases with the growth medium, in early 1990 policy government through the Presidential Decree 22/1990 in its allowed large-scale enterprises conducting business of industrial production of broiler farms, then in year early growth of large-scale management, the main goal is to export to foreign countries, but in reality is different until now, is much more to fulfil the domestic needs of Indonesia. In the early phase of 1998-1999 model simulation of the operating expenditures and operating income decreased by slow movement, this is because of the influence of crisis monetary and

economic is felt by a large-scale enterprises at the time, so the production is reduced, because raw materials of ration for production depends on imported, consequently prices of ration falling higher and prices of chicken meat too, so consumers reduce the purchase of chicken meat and switch to other alternatives consumption. In the phase of the year 2000-2005 the behaviour of model operating expenses and operating income increased by rapid growth. In the phase of the year 2006-2010 the movement of model simulation is growing with the regular movement and phase of next year that is 2011-2025 growth in simulated moving at a slow pace.

There is also a formed large or small that is cost operating expenses is comprised of the cost of rations and cost of DOC as defined on the graph below.

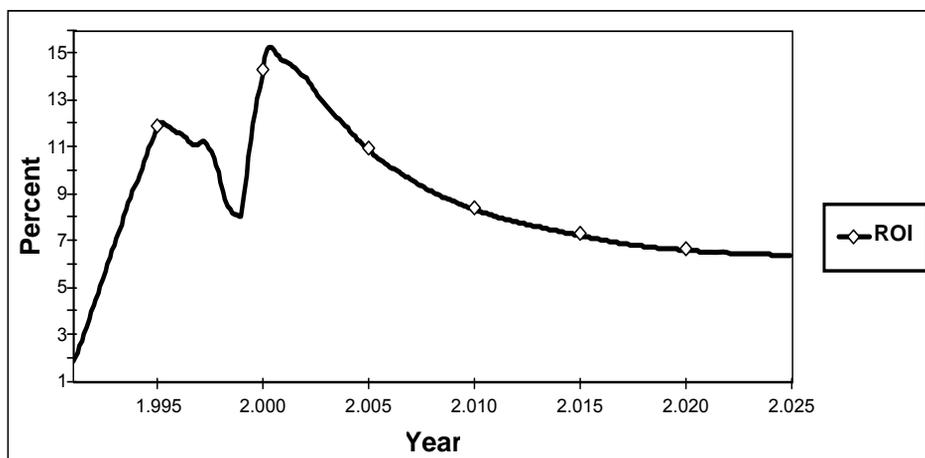


Graphic 2 Behaviour of Simulation Model Cost of Rations and Cost of DOC

In Graph 2, shows that the behaviour of the simulation model cost of rations and cost of DOC consist of some changes, that is phase 1990-1996 rations cost and DOC cost increased with regular movement. In the phase of the year 1997-1999 was registered a decline in simulated movement because of crisis monetary and economic. In the phase of the year 2000-2005 simulation model of rations cost and DOC cost increased with fast movement, this is because expected economic condition improve so the demand for rations and DOC also increased. In the phase of the year 2006-2010 simulation model moving with medium speed, then the phase of the year 2011-2025 the movements

of rations cost as well as DOC cost increased with slower growth, because at the time the production to adjust to the movement of consumer demand for chicken meat in the market, consumption of chicken meat has reached the threshold of balance, then the demand for chicken meat increased with the slow movement.

To determine the performance of large-scale enterprises management can be used by size of the ratio of ROI (Return On Investment) by calculating the profitability of ratio between gross profit before taxes or by total assets owned, as indicated on the graph below.



Graphic 3 Behaviour of Simulation Model of The Ratio ROI

Behaviour of simulation model of the ratio ROI in figure 3 explained, that during the phase of 1990 to 2025 occurred several times the growth rate that is the phase of the year 1990-1996 ROI increased with rapid growth and a peak in 1995. This is caused an increased in production followed by a sufficient operating income and at the top of Return on investment reached 12.5 percent. In the phase of the year 1997-1999 ROI decreased 11.10 percent; this is because the production rate declines with crisis monetary and economic in Indonesia. In the phase of the year 2000-2002 ROI back up with rapid growth of 14.5 percent of it's peak, and the phase of the year 2003-2005 ROI again fell 9.17 percent, this is because a large-scale enterprises to increased investment capital to spur growth in production, so that the total assets to grow larger, while profits increased by regular movement, then the simulation model ROI decreased with a slow movement, and the future will again move up with the growth mean rate of return on the investment made by businesses large-scale ranged from 6 to 7 percent.

## CONCLUSIONS

Based on the results of behavioural simulation model for cost/sales, cost of rations, cost of seed DOC and ratio of ROI (Return On Investment), are: [1] Phase in 1990-1996 operating income and operating expenses have increased with the growth medium, the cost of rations and cost of seed DOC also increased with the growth medium, while the of ROI (Return On Investment) increased with rapid growth reached of 12.5 percent and a peak in 1995. [2] In the early phase of 1997-1999 model simulation of the operating expenditure and

operating income decreased by slow movement, the cost of rations and the cost of seed DOC also increased with rapid growth, ROI has decreased 11.10 percent. [3] Phase in 2000-2004 operating expenses and operating revenues increased by rapid growth in the cost of rations and cost of seed DOC rising with fast movement, the ratio of ROI (Return On Investment) had a tendency down 9.17 percent. [4] Phase in 2005-2025 tendencies operating expenses and operating revenues tends to slow down cost of rations and DOC estimated tends to rise slowly, while ratio of ROI (Return On Investment) is also expected to rise slowly between 6 to 7 percent.

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