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IMPACT OF GOVERNMENT INCENTIVES ON SMALL-SCALE BROILER FARMS IN JOHOR, MALAYSIA

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ABSTRACT

Currently, in the Eleventh Malaysian Plan, three main elements had been stressed out in the agro-food subsector; food security, the income of farmers, and sustainability. Hence, several governments' tax incentives had been introduced in assisting farms to enhance their profitability. The scheme of policy tax incentives is Pioneer Status (PS), Incentive Tax Allowance (ITA), and Accelerated Capital Allowance (ACA). However, the implementation and the acknowledgment regarding the incentives are still lacking effectiveness in the concern of the poultry industry. Hence, the aim of this study is to reveal the impact of government tax incentives on small-scale broiler farms in Johor, Malaysia. The study applies the indicators of financial appraisal namely Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index (PI), and Payback Period. The method is conducted by using questionnaires and face-to-face interviews with 22 small-scale broiler farms in Johor. The results reveal that the small farms with higher production capacity per cycle as the range between 20,001-30,000 are more financially viable by means of obtaining higher profitability and shorter payback period need to overcome the initial investment, rather than small farms with capacity production < 10,000 per cycle which is sensitive towards an increase in cost and a decrease in revenue.

Keywords: *Government Incentives, Small Broiler Production, Financial Appraisal*

INTRODUCTION

The poultry production in Malaysia has become largely self-sufficiency since the self-sufficiency level had been decline by means the production output production had been slightly increased and in line with the expectations of domestic demand growth (The Poultry Site, 2014). According to the Ministry of Agriculture & Agro-based Industry, poultry production in 2010 shows the second-highest self-sufficiency level in livestock food commodities (105.6%) after eggs (114.6%). However, poultry production expected to show a decline in self-sufficiency level in 2015 and 2020 as shown in table 1. Hence, these show that poultry productions have achieved self-sufficient in Malaysia. However, in order to ensure the continuous supply for Malaysians, the Malaysian governments had provided full attention to agro-food supply in Eleventh Malaysia Plan.

Table 1 Self Sufficiency Level of Food Commodities, 2010-2020(%)

	2010	2015	2020
Crops			
Rice	63.1	71.4	100
Fruits	103.38	101.6	106.5
Vegetables	89.8	91.8	95.1
Livestock			
Beef	30.1	27.2	50
Mutton	12.2	17.3	24.6
Poultry	105.6	104.6	103.7
Pork	94.7	88.7	83.1

	2010	2015	2020
Eggs	114.6	122.1	130
Milk	8.5	13	13.6
Fish	93.9	92.6	95.8

Sources: Ministry of Agriculture & Agro-based Industry

In the Eleventh Malaysia Plan, three elements had been highlighted in agro-food subsector development which is food security, the income of farmers and sustainability. Those three elements in line with the National Agro-food Policy (NAP) 2011-2020 which focuses on a consistent supply of raw materials for resources based industries in coping with the growing demand for nutritional and affordable food. Table 2 below show the demand for poultry meat is slightly higher and poultry meat leading the highest per capita consumption for livestock commodities about 46.0 kg/year for 2013 and an increase in 0.6 kg in 2014. The pattern of consumption and the rise in population might provide greater pressure for the poultry industry such as the hikes in the price for raw material needs for the industry to provide large outputs for now and future demand.

Table 2 Per Capita Consumption of Livestock 2013-2014

Agriculture Commodities	Per Capita Consumption	
	2013	2014
	Per Kilograms / Year	
Livestock		
Mutton	1.0	1.2
Beef	5.9	5.9
Poultry	46.0	46.6
Pork	18.5	18.3
Eggs	18.1	19.1

Sources: Agrofood Statistics, Ministry of Agriculture and Agrobased Industry Malaysia

According to the report from the Department of Veterinary and Services, about 72.8% of production costs come from the feeds. The poultry industry in Malaysia utilizes about 4 million tons of feed per year (Zulkifli Idrus, 2016). The sources for chicken feed consist of imported soybeans and corn. Malaysia facing two problems in feed supply price manipulation due to money exchange since the transaction had been done in the dollar and the shortage supply due to hikes in biofuel price that put pressure impact on the food prices. Thus, this condition will lead to enclose of small farms due to profitability problem since the production costs will be higher compared to the revenue gain for the small farmers. Malaysia government had introduced several government incentives in the agriculture sector that tends to helps the farmers regarding profitability issues and encourage the farmers in enhancing their productivity. Therefore through this study, we can see the current circumstance of small broiler farms through capital budgeting analysis, stimulate the impact of unpredictable circumstances event towards its financial projection, and also the impacts of government incentives towards small broiler farms.

Literature Review

Decision-makers should asses and evaluate investment alternatives, basing on their knowledge, experience and subjective judgment (Lin et al., 2010).Hence, project appraisal is vital and become the basis in decision making process regarding the feasibility of the project (Marc, 2008). This study focusing on the analysis of project appraisal of a firm in order to ensure the sustainable production of broiler farm industry. The project appraisal involves the understanding on profitability, return, and cost benefit of three classifications of small broiler farms in terms of number of production. There are four financial indicators involves in this study which are Net Present Value (NPV), Internal Rate of Return(IRR), Profitability Index(PI). Those financial indicators had been selected since the relationship between those indicators could be fully understood if the fact that the associated costs and benefits expression is made using discounted present values (Ascott, 2006).NPV is known as company earnings for project activities. Commonly, NPV become a part of decision making criteria for specific project conducted. The positive NPV impose the positives impression regarding theproject by means the project propose economically feasible and accepted to be implemented. Instead of that, IRR

also play important role in project evaluation since, the IRR is an efficiency indicator for any investment which gives a value to judge the investment (Bruce, 2003), and easily understood by the investors. Profitability Index also known as benefit cost ration indicates the rate of return per penny invested for the selected project. Payback Period represents the length of time required for the stream of cash proceeds produced by the investment to be equal to the original cash outlay (D. Rymbai et. al, 2012).

Poultry industry in Malaysia consists of two types Poultry industry in Malaysia consists of two types of producers, the commercial farm and the conventional farm. The commercial farm commonly run the contract farming basis with Integrator Company, while the conventional farm belongs to the independent entrepreneurs Currently in Malaysia almost all small farms had been involved with contract scheme in order to ensure the small farm be able to survive longer. It had been proven according to Ariffin, A.S., Lamsali, H., & Mohtar, S. (2012a) stated that, the contracting scheme is more likely to be sustained by its ability to support entrepreneurs than it is by its ability to produce highly competitive product. Feedstock supply does provide a greater pressure towards the small farmers since feedstock is vital input in broiler production industry and acquire about 70% of production costs.

Therefore, in order to ensure the consistent supply and the survival of small broiler farmers, Malaysia government does provide several incentives that had been manage by Malaysia Industrial Development Authority (MIDA).Instead of ensuring the consistent supply and survival of small broiler farmers the incentives aims in boost potential of agribusiness sector in enhancing the GDP.Usually, the agricultural sector, the company which relates with the agro-based cooperative societies, associations, sole proprietorships and partnerships, would acquire the tax incentives. There are three types of government incentives had been applicable for agriculture sector in Malaysia known as pioneer status (PS), investment tax allowances (ITA), accelerated capital allowances (ACA).Pioneer status offer the tax exemption about 70% of arising statutory income in five years period. Investment tax allowances grants 60% of the additional qualifying capital expenditure incurred within a period of 5 years. The allowance can be offset against 70% of the statutory income in each year of assessment. Unutilized allowances can be carried forward until fully absorbed. ACA provides a special allowance, where the capital expenditure is written off within three years, i.e. an initial allowance of 40% and an annual allowance of 20%.

METHODOLOGY OF STUDY

Sampling Method

The data had been collected at 22 small broiler farms under PPNJ Poultry and Meat Sdn. Bhd. Site visit, interview session had been done to complete the structure questionnaires regarding the costs involves in investment and farm operations. Thequestionnaire consists of basic financial questions regarding the input and output cost of the farm operation and also the initial investment of the broiler farm. Those 22 small farms had been selected as the case study according to DVS criteria in classification of production scale for broiler farm 2012, which stated for small scale production isbelow 30,000 number of birds per cycle, for medium scale production is about 30,001 until 125,000 number of birds per cycle, meanwhile for large scale production is above 125,000 number of birds per cycle.

Data Analysis

For this study, the analysis part focuses more on capital budgeting calculation which represented through four common financial indicators: Net Present Value (NPV), Internal Rate of Return (IRR), Profitability Index (PI) and Payback Period. The discount rate for this study is 10%. The discount rate used to determine a time value of money to the cost of capital along with the project assessment.

Net Present Value

Net present value is the summation of total discounted cash flow for the firms. Net present value imposes the net profit gain by the company from the selected project. The positive and negative value of NPV ensures either the project accepted or not.

$$NPV = \sum_{t=0}^{N} \frac{CFt}{(1+r)t}$$

Where,
CF = Cash Flow
r = Discount Rate
t = Time

Internal Rate of Return

Internal Rate of Return is the discount rate when the net present value of the project equal to zero. IRR should be compared to the company's cost of capital or hurdle rate. The hurdle rate means the rate that the project must surpass to create positiveshareholder wealth.

$$NPV = \sum_{t=0}^{N} \frac{CFt}{(1+IRR)t} = 0$$

Where,
CF = Cash Flow
r = Discount Rate
t = Time
IRR = Internal Rate of Return

Profitability Index

Profitability index or also known as benefit cost ratio is the present value of cash flow divided by initial cost. I used to determine the potential of profit gain from every single penny of investment.

$$PI = \frac{PV\ of\ future\ cash\ flow}{Initial\ Cost}$$

$$= \frac{\sum_{t=0}^{N} \frac{CFt}{(1+r)t}}{CFo}$$

Where,
CF = Cash Flow
r = Discount Rate
t = Time
PV = Present Value

Payback Period

Payback period is the time needed for the company to gain profit that can recover the initial investment.

$$Payback\ Period: \frac{Initial\ investment}{Periodic\ Cash\ Flow}$$

RESULTS & DISCUSSION

Capital Budgeting Analysis for Small Farms

According to the Department of Veterinary Services Malaysia, small-scale broiler production is in the range of fewer than 10,000 broilers per cycle until 30,000 broilers per cycle. For this study, those 22 small farms had been divided into three ranges according to the number of production < 10,000, 10,000 -20,000, and 20,001-30,000 per cycle. Figure 1 below shows the net present value of three different capacity of production per cycle. The NPV slightly increases according to the number of production. Overall the Net Present Value of the small broiler farm recorded is positives values by means all the three ranges of small broiler farm are feasible and worthy to be implemented.

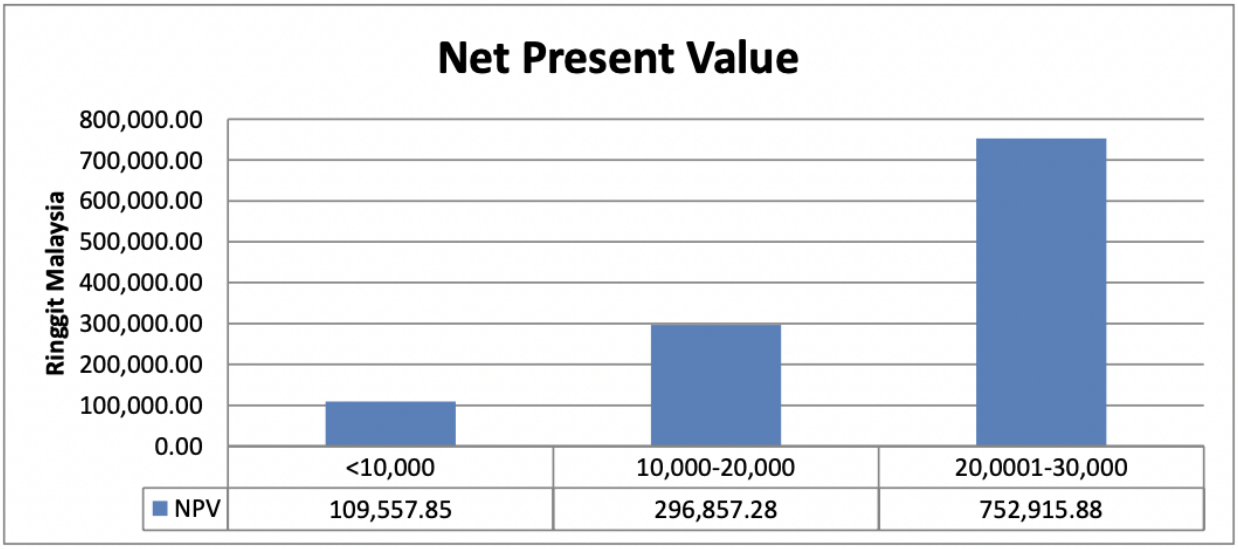

Figure 1: Net Present Value of Small Farms in Johor

Figure 2 below, show the IRR for small broiler farms. The IRR results indicate that all those three ranges of small farm are viable for investment since the positive IRR recorded. However, for the IRR results there are in congruent situation which the production scales <10,000 IRR is more viable about 2% compare to 10,000-20,000 numbers of productions per cycle.

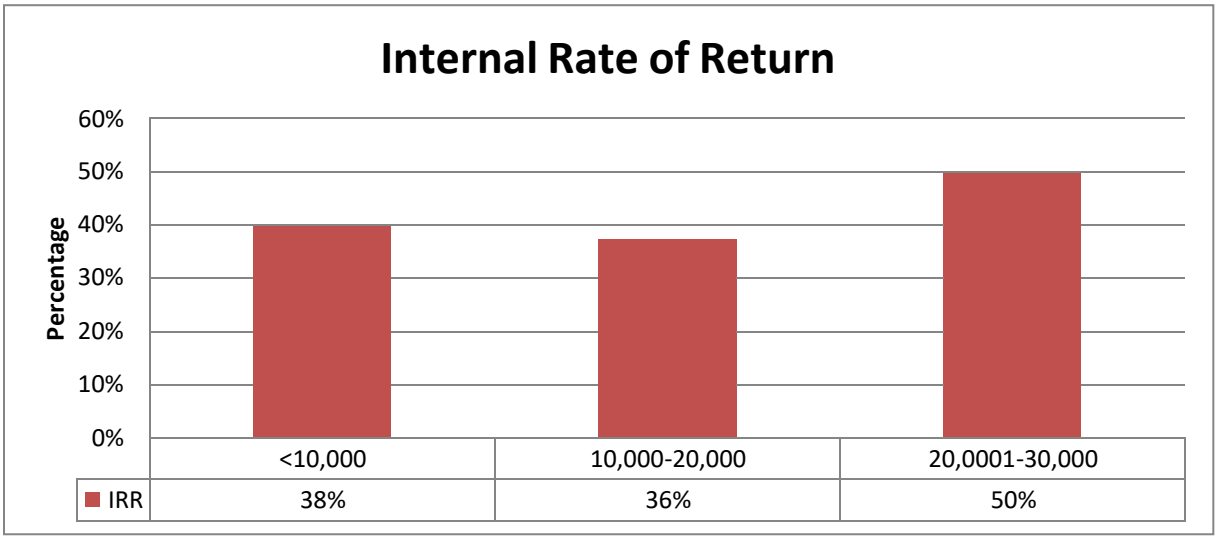

Figure 2: Internal Rate of Return for Small Broiler Farms in Johor

The payback period is necessary for the selection of a project and usually the lowest payback period would be selected since the return on investment take a short period of time. The results show in Figure 3 show that the range of 20,001-30,000 production per cycle is more profitable since it takesa short period to recover the return in investment.

Meanwhile small farms with a range of < 10,000 and 10,000 to 20,000 production per cycle show the longer time period need for return in investment. However, the results show for those three ranges that the time period is not too significantly longer in the range 2-3 years for the small farms to obtain the return of investment.

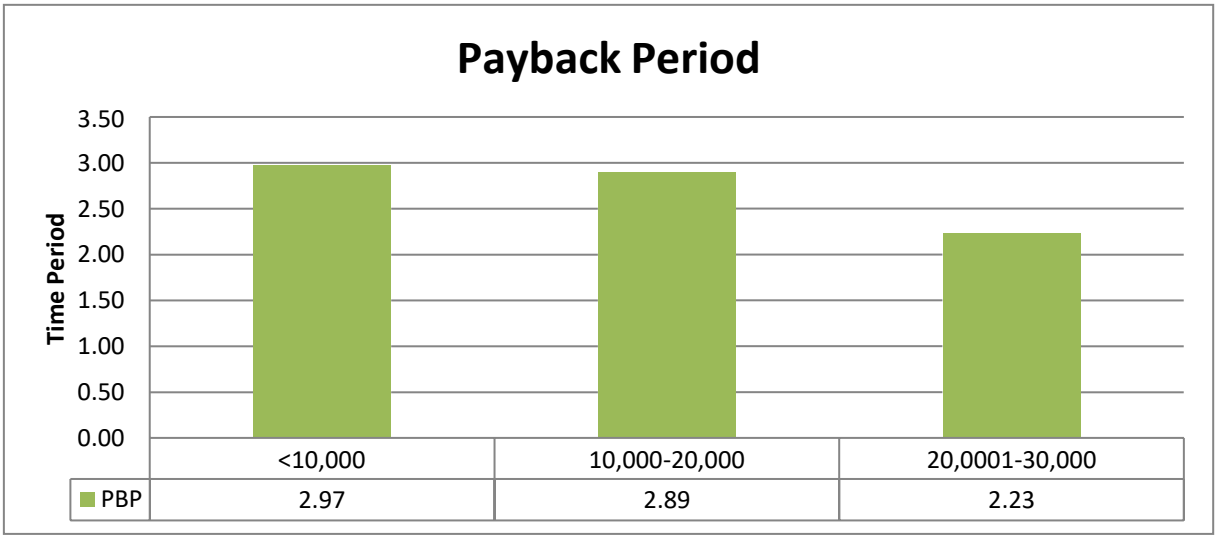

Figure 3 :Payback Period for Small Broiler Farm in Johor

The profitability index had been recorded in Figure 4 for those three range number of production. The results reveal that production of 20,001 to 30,000 productions per cycle is higher compare to the other two stages. Hence, due to this condition small broiler farm with 20,001 to 30,000 productions per cycle preferable selected project since every one ringgit invested for this project the farms will get RM 3.87 in return. Meanwhile, the small broilerfarm with <10,000 productions per cycle imposes the lowest return in investment when each ringgit invested small farm will gain RM 2.34 in return. Overall, those three ranges of 22 small farms in Johor show the positive profitability index.

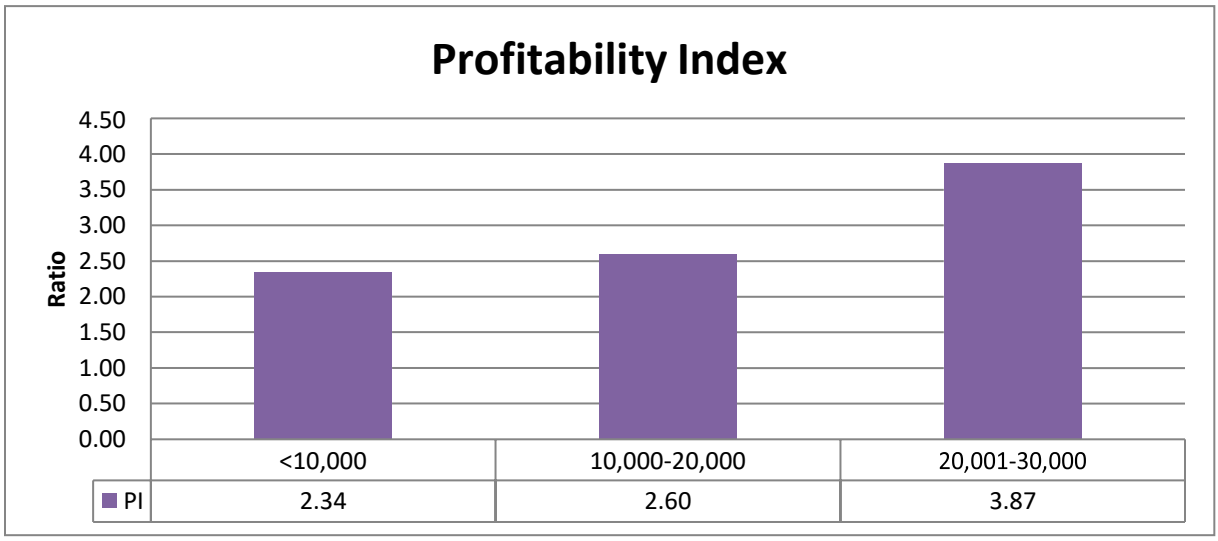

Figure 4: Profitability Index for Small Broiler Farms in Johor

Sensitivity Analysis

Table 1 below showed the sensitivity analysis for three ranges of small broiler farms in Johor. There are three unpredicted events that had been used for this sensitivity analysis whereas the reduction of revenue at 5 %, the increase in feed price at 5%, and the combination of reduction of revenue and the increase in feed price. The results show thereduction of revenue at 5% for those three stages impose less impact on NPV, and IRR since the decrease in NPV, IRR and BCR but those threeranges of small farms are still feasible and worthy for future investment. However, the payback period has taken a bit longer about three years for return in investment. For Situation 2, the feed cost had been increased 5% from the actual expenses, and the results have shown similar conditions with Situation1 in which the NPV, IRR and BCR slightly decrease and those indicators for situation 2 are positives by means of small broiler farms are economically feasible and the increase in feed cost at 5% may affect the company profitability but the project is able to survive. However, due to the increase infeed cost the payback period for small broiler farm production <10,000 become longer than usual. Thus, this situation shows that the increase in cost affected the most for small broiler farm with a capacity of less than 10,000. In situation 3, the decrease of revenue at 5% and the increase in feed cost at 5% indicates the worst scenarios since the slightly big difference for those three projects financial evaluation, the significant drop of NPV. IRR and BCR from the actual financial evaluation. However, those three ranges of small farms in Johor are still viable for future investment.

Table 3 the Sensitivity Analysis

Investment Items	Range of Production		
	<10,000	10,000-20,000	20,001-30,000
Situation 1			
NPV	93,339.14	270,659.10	666,930.40
IRR	35%	33%	49%
BCR	1.47	2.20	3.81
PBP	3.09	3.01	2.22

Situation 2			
NPV	56,883.11	250,344.90	676,051.10
IRR	21%	27%	47%
BCR	0.85	1.97	3.79
PBP	10.32	3.52	3.31
Situation 3			
NPV	43,021.71	236,304.60	606,184.20
IRR	21%	27%	43%
BCR	0.76	1.94	3.56
PBP	7.41	2.70	3.30

Government Incentives Effects towards Small Broiler Farms

Table 4 below show the effects of government tax incentives on the financial evaluation of small broiler farms. There are 4 criteria's of government tax incentives implemented: Pioneer Status (PS), Incentive Tax Allowances (ITA), a combination of Accelerated Capital Allowance (ACA) with PS, and ACA with ITA. From the results shown, the most preferable government tax incentives for small broiler farms for all ranges listed are PS, since the IRR value is much greater than 4 government tax incentives. Instead of that, the return of investment period is shorter by using PS compare to other government tax incentives listed in the table. Other than that, small broiler farms in the range of 10,000-20,000 and 20,001-30,000 production per cycle can choose ACA with PS tax incentives since the IRR is greater compare to ITA and ACA with ITA tax incentives. Another optional tax incentives for small broiler farm production<10,000 per cycle ACA with ITA should be the option since the payback period for return in investment is lower compare to ITA and ACA with PS. In a conclusion all the tax incentives criteria applicable for all ranges of production for small broiler farms. However, theselection must be done based on the rationale of financial projection of the current situation and the government should play its roles in managing the government tax incentives that might bring benefits to small broiler farms and for the future continuous supply of chicken meat.

Table 4 Goverment Incentives on Small Broiler Farm

Investment Items	Range (RM)		
	<10,000	10,000-20,000	20,001-30,000
PS			
NPV	123,730.70	325,936.39	845,854.90
IRR	44%	40%	59%
BCR	2.61	2.77	4.23
PBP	2.66	2.74	1.89
ITA			
NPV	103,164.79	301,731.24	743,784.42
IRR	26%	32%	43%
BCR	1.63	2.38	3.44
PBP	3.62	3.51	2.51
ACA with PS			
NPV	77,667.58	305,406.97	775,736.51
IRR	22%	36%	49%
BCR	1.48	2.52	3.63
PBP	3.81	3.44	2.17
ACA with ITA			
NPV	84,752.18	303,526.09	741,386.05
IRR	26%	35%	45%
BCR	1.60	2.46	3.49
PBP	2.75	3.02	2.25

Note:
PS:Pioneer Status
ITA:Incentives Tax Allowance
ACA: Accelerated Capital Allowances

CONCLUSION

In conclusion, the study tends to evaluate the function of government incentive towards financial evaluation for 22 small farms in Johor. The capital budgeting technique is used to evaluate the farm's profitability and efficiency by using four common indicators of financial evaluation such as NPV, IRR. PI and Payback Period. The results indicate the four indicators show relatively positive results for the 22 small farms, indicating the small broiler farms are economically feasible. Moreover, the sensitivity analysis shows that although there are changes in certain variables, the small-scale broiler farms are still economically viable, while an increase of feed cost affects tremendously to the system. The study also suggested that the broiler farm is considered as potential investments, hence the government incentives must be proactively strengthened and promoted to small broiler farms inorder to support the farm's profitability.

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