

Financial Study of Coffee Commodities

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ABSTRACT

The financial feasibility analysis is conducted by observing the financial aspects of coffee farming regarding investment costs, financial capital, operational costs, and maintenance as well as the income received by farmers. The financial analysis of coffee is aimed to determine whether coffee in Indonesia is financially profitable or not. The financial feasibility analysis of coffee farming in Indonesia can be seen from the investment criteria of a farm. Several investment criteria to assess the feasibility of coffee farming include the NPV (Net Present Value), B/C (Benefit/Cost) ratio, IRR (Internal Rate of Return), and PP (Payback Period). The method used in this study was a review journal. A review journal is a study carried out by collecting several journals that are in accordance with the problems and objectives in this study. The purpose of this study is to find out the financial feasibility of coffee commodities in Indonesia. The result of this study showed that coffee commodities are financially feasible to cultivate. Based on this study, it is expected that coffee farmers in Indonesia will continue to preserve a financially decent coffee commodity. Coffee is also a commodity that can support the Indonesian economy.

Keywords: Analysis, Coffee, Financial Feasibility, Indonesia, Maintenance strategy

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1. INTRODUCTION

Coffee is a prominent commodity from the agricultural sector in Indonesia. As a plantation commodity, coffee plays an important role in the Indonesian economy. The composition of coffee plantation ownership in Indonesia is dominated by smallholder plantations (PR) with a 96% share of the total area in Indonesia, and the remaining 2% are Large State Plantations (PBN) and 2% are Large Private Plantations (PBS) (Zakaria, 2019). Coffee is one of the commodities that play a major role in the Indonesian economy and can provide the farmers' prosperity directly. It is necessary to know whether coffee in Indonesia is financially feasible or not. Financial aspects are things that must be

considered in a company. In financial analysis, the things that become a measuring tool to determine the whole thing whether a project is feasible or not is using the investment criteria. The investment criteria is an index to measure and compare the benefits of various projects, therefore it can be assessed whether a project is profitable or not (Dewi, Budiasa & Dewi, 2015). Financial analysis is based on the criteria for the value of NPV (Net Present Value), B/C (Benefit / Cost) ratio, IRR (Internal Rate of Return), and PP (Payback Period). Based on the above criteria, it will be used to determine whether it is feasible to be implemented or not.

NPV (Net Present Value) is the calculation of the present value of the difference between benefits and costs at a certain discount rate in effect at the time the research or study was conducted (Nursamsiyah, Kusmiati and Ridjal, 2014). The NPV value can be seen in previous study, namely the Robusta coffee farming in Kalibaru Manis Village is feasible to cultivate with a positive 20-year NPV value, which is IDR 78,984,296.43 (Kusmiati and Wati, 2020). as well as the arabica coffee in Suntenjaya Village, Lembang District, West Bandung Regency, based on the results of the financial feasibility analysis, a net income of Rp.4,693,625 is obtained in each hectare of land under management, with an interest rate of 14%, a positive NPV value of Rp. 9,104,913,375 (Zakaria, 2019). Positive NPV values can also be seen in the study on the Financial Feasibility of Arabica Coffee Farming in Karangpring Village, Sukorambi District, Jember Regency with an NPV value of 2,898,700 (Sulatri, 2017). Meanwhile, the study conducted in Tegangus Village, Lampung was not financially feasible because it had a negative NPV value of IDR 181,518,037 (Nurrochmat et al., 2020).

B/C ratio can be interpreted as the net profit received by the business generated from every single unit loss from the business (Hariance, Annisa, and Budiman, 2018). The benefit-cost ratio (B/C) is one of the criteria for financial feasibility analysis. The benefit-cost ratio in coffee farming can be seen in previous study, namely, Arabica Coffee Farming cultivated by farmers in Bandung Baru Village, Kabawetan District, Kepahiang Regency, Bengkulu, which has a B/C ratio of 1.28 which means it is feasible to implement (Wahyuni, Utama and

Mulyasari, 2012). Whereas in study in Tegangus Village, Lampung, the B/C ratio was 0.781. A B/C ratio value of less than 1 indicates that coffee in Tegangus Village, Lampung is not financially feasible (Nurrochmat et al., 2020).

IRR or Internal Rate of Return is a calculation of the rate of return that results in the NPV of cash inflows equal to cash outflows. In previous study, Arabica coffee farming in Karangpring Village had an IRR value of 34.38%. This means that Arabica coffee farming in Karangpring Village has an income that can cover the costs incurred (Nursamsiyah, Kusmiati & Ridjal, 2014). Other study in Kepahiang Regency, Bengkulu Province showed an IRR of 45.83, which means that the project is feasible to continue (Romdhon, Andani & Ayu, 2018). Meanwhile, South Sulawesi province has a smaller IRR value in its financial feasibility analysis, which is 25.34% (Alam, 2007).

The method used in this study was a literature review. Although it can be said that library research and literature study are similar, they are different. Literature study is another term for literature review, theoretical study, theoretical basis, literature review, and theoretical review. What is meant by library research is research that is done based on written work only, including the results of research that have been or have not been published (Melfianora, 2019). So in this study, journals related to the financial analysis of coffee commodities in Indonesia will be reviewed.

The novelty of this study is to summarize, compare, and review the results of the previous studies in the financial feasibility analysis of coffee commodities carried out by rice farmers in Indonesia. The findings from this study are

expected to be able to provide input for those who need a comparison of coffee commodity farming between regions in Indonesia.

This study was conducted due to coffee is a leading commodity in Indonesia. It is necessary to know whether at a recent time, coffee commodity is feasible to be continued in Indonesia or not. It is also necessary to know whether coffee is a capable commodity for prospering farmers or not. The objectives of this study were (1) to assess the NPV (Net Present Value) of coffee in Indonesia, (2) to assess the B/C (Benefit/Cost) ratio of coffee commodities in Indonesia, and (3) to assess the IRR value (Internal Rate of Return) for coffee commodity in Indonesia.

2. METHODS

The method used in this study was qualitative research. The type of data used was secondary data sourced from journals, previous studies, government agencies, or institutions related to this study. The data collection method was literature study, this method was in line with the study (Sari & Asmendri, 2018). Furthermore, in this study, the method used was literature study. Library research is a research activity

carried out by collecting information and data with the help of various materials in the library such as reference books, similar results of previous research, articles, notes, and various journals related to the problem to be solved. Library research or literature study is more than just serving the functions mentioned for obtaining research data. This means that library research limits its activities to library collection materials only without the need for field research (Sari & Asmendri, 2018).

3. RESULT AND DISCUSSION

A. NPV (*Net Present Value*) coffee commodities in Indonesia

Net Present Value (NPV), is the difference between the benefits (revenues) and the costs (expenditures) that have been estimated benefits from the planned project. Thus, the NPV calculation relies on discounted cash flow techniques. This NPV criteria states that the project will be selected if the NPV is > 0 , or positive (Nurul & Warana, 2017). Therefore, the NPV is said to be feasible and gives an advantage if it has a positive value. On the other hand, negative NPV will give losses and infeasible to continue.

TABEL I
NPV (*Net Present Value*) Coffee Commodities in Indonesia.

No	Location	Province	Researcher	NVP Value	Information
1	Belimbing	Bali	(Winantara, Bakar & Puspitaningsih, 2014)	208,982,441	Feasible
2	Bangli	Bali	(Dewi, Budiasa & Dewi, 2015)	667,757,620	Feasible
3	Ulian	Bali	(Surya, Sudarma & Wijayanti, 2016)	3,324,980,784.49	Feasible
4	Kabawetan	Bengkulu	(Wahyuni, Utama & Mulyasari, 2012)	18,847,733	Feasible
5	Kepahiang	Bengkulu	(Hamdan <i>et al.</i> , 2019)	2,930,908,063	Feasible
6	Rejang Lebong	Bengkulu	(Premono & Lestari, 2018)	76,250,582	Feasible
7	Sutenjaya	West Java	(Zakaria, 2019)	9,104,913.38	Feasible
8	Nogosari	East Java	(Oka, Apriyani & Candra, 2021)	278,603,269.80	Feasible

9	Karangpring	East Java	(Kusmiati & Nursamsiyah, 2015)	3,690,704	Feasible
10	Kalibaru	East Java	(Kusmiati & Wati, 2020)	78,984,296.43	Feasible
11	Sukorambi	East Java	(Nursamsiyah, Kusmiati & Ridjal, 2014)	2,898,700.00	Feasible
12	Malang	East Java	(Fariyanti, Sariyanti & Dewi, 2016)	4,005,956	Feasible
13	Jember	East Java	(Fariyanti, Sariyanti & Dewi, 2016)	4,402,512	Feasible
14	Tanggamus	Lampung	(Nurrochmat <i>et al.</i> , 2020)	-181,518,037	Infeasible
15	West Lampung	Lampung	(Fariyanti, Sariyanti & Dewi, 2016)	40,612,524	Feasible
16	Manggari	East Nusa Tenggara	(Hartatri & Rosari, 2011)	8,530,105	Feasible
17	East Manggari	East Nusa Tenggara	(Hartatri & Rosari, 2011)	2,465,833	Feasible
18	Intan Jaya	Papua	(Purwadi, 2018)	56,272,978	Feasible
19	Enkregan dan Tana Toraja	South Sulawesi	(Alam, 2007)	32,157,39.26	Feasible
20	Muara enim	South Sumatera	(Investment and Integrated One-Stop Services Agency Muara Enim Regency, 2016)	41,005,288	Feasible

Source: Secondary data processing 2021

Based on table I, it is explained that the coffee commodities in Indonesia based on the NPV (Net Present Value) value criteria have a positive value. The positive value is obtained because of the geographical and climatic conditions in Indonesia, which is a tropical country and accordance with the characteristics of coffee. The suitable climate causes coffee well-produced in Indonesia. The highest NPV value is found in coffee commodity farming in Ulian Village, Kintamani District, Bangli Regency, which is IDR. 3,324,980,784.49. Only in the village of Tangkapus, Lampung province, which has a negative NPV value. Negative values are caused by the less than the optimal business model used. Thus, it was decided that the coffee commodities in Indonesia were feasible to continue or be implemented.

B. B/C (Benefit/ Cost) ratio) coffee commodities in Indonesia.

Based on the Table 2, the highest B / C Ratio value is found in the coffee commodity in Kepahiang Regency, Bengkulu Province, which is 4.48. The majority of coffee plantations in Indonesia have a value of B / C Ratio > 1, which means that the capital or cost is Rp. 1 generates profitable receipts. However, B / C Ratio < 1 occurred in the village of Tegangus, Lampung Province, which means that the revenue received was unable to meet the costs needed. This happens because the costs incurred are too large. Too large costs occur as a result of the inappropriate farming system or model. Tanggamus Regency, Lampung Province is the only area that is not suitable for coffee commodity farming. The B / C ratio is 0.781, which means it is less than 1. This

happens because the costs incurred are too large. Thus, the production process is ineffective.

TABEL II
B/C (*Benefit/ Cost*) ratio Coffee Commodities in Indonesia

No	Location	Province	Researcher	B/C Ratio Value	Information
1	Belimbing	Bali	(Winantara, Bakar & Puspitaningsih, 2014)	2.56	Feasible
2	Bangli	Bali	(Dewi, Budiasa & Dewi, 2015)	2	Feasible
3	Ulian	Bali	(Surya, Sudarma & Wijayanti, 2016)	3.25	Feasible
4	Kabawetan	Bengkulu	(Wahyuni, Utama & Mulyasari, 2012)	2.11	Feasible
5	Kepahiang	Bengkulu	(Hamdan <i>et al.</i> , 2019)	4.48	Feasible
6	Rejang Lebong	Bengkulu	(Premono & Lestari, 2018)	2.28	Feasible
7	Sutenjaya	West Java	(Zakaria, 2019)	2.067	Feasible
8	Nogosari	East Java	(Oka, Apriyani & Candra, 2021)	2.44	Feasible
9	Karangpring	East Java	(Kusmiati & Nursamsiyah, 2015)	1.5	Feasible
10	Kalibaru	East Java	(Kusmiati & Wati, 2020)	3.571	Feasible
11	Sukorambi	East Java	(Nursamsiyah, Kusmiati & Ridjal, 2014)	1.4	Feasible
12	Malang	East Java	(Fariyanti, Sariyanti & Dewi, 2016)	1.78	Feasible
13	Jember	East Java	(Fariyanti, Sariyanti & Dewi, 2016)	1.9	Feasible
14	Tanggamus	Lampung	(Nurrochmat <i>et al.</i> , 2020)	0.781	Infeasible
15	West Lampung	Lampung	(Fariyanti, Sariyanti & Dewi, 2016)	3.63	Feasible
16	Manggari	East Nusa Tenggara	(Hartatri & Rosari, 2011)	4.2	Feasible
17	East Manggari	East Nusa Tenggara	(Hartatri & Rosari, 2011)	8.1	Feasible
18	Intan Jaya	Papua	(Purwadi, 2018)	1.94	Feasible
19	Enkrengan dan Tana Toraja	South Sulawesi	(Alam, 2007)	2.29	Feasible
20	Muara enim	South Sumatera	(Investment and Integrated One-Stop Services Agency Muara Enim Regency, 2016)	1.2	Feasible

Source: Secondary data processing 2021

C. IRR (*Internal Rate of Return*) coffee commodities in Indonesia

Based on Table 3, the IRR (*Internal Rate of Return*) value of coffee in Indonesia will provide a greater return on investment

compared to banking interest rates. The interest rate of one of the national banks, namely BRI, is 9.95%, so that the implementation of the coffee powder agro-industry in Nogosari Village is feasible to

run. The highest IRR value occurred in Manggari Regency, East Nusa Tenggara Province at 70.76%. Based on the IRR value, coffee in Indonesia is feasible to continue, whereas in the coffee commodity farming in Tanggamus Village, Lampung Province, the IRR value is less than the banking interest rate, namely -5.25%.

Based on the IRR value, Manggari Regency, Intan Jaya, and Kapahiang districts are regions that have the highest IRR value. This happens due to coffee commodity has a high selling value in the area. A high selling value results in a better profit than bank interest. So, the coffee commodity in the area has a very good opportunity.

TABEL III
IRR (*Internal Rate of Return*) Coffee Commodities in Indonesia

No	Location	Province	Researcher	IRR Value	Information
1	Belimbing	Bali	(Winantara, Bakar & Puspitaningsih, 2014)	21%	Feasible
2	Bangli	Bali	(Dewi, Budiasa & Dewi, 2015)	28.70%	Feasible
3	Ulian	Bali	(Surya, Sudarma & Wijayanti, 2016)	36.81%	Feasible
4	Kabawetan	Bengkulu	(Wahyuni, Utama & Mulyasari, 2012)	26.60%	Feasible
5	Kepahiang	Bengkulu	(Hamdan <i>et al.</i> , 2019)	45.83%	Feasible
6	Rejang Lebong	Bengkulu	(Premono & Lestari, 2018)	22%	Feasible
7	Sutenjaya	West Java	(Zakaria, 2019)	25.81%	Feasible
8	Nogosari	East Java	(Oka, Apriyani & Candra, 2021)	59.61%	Feasible
9	Karangpring	East Java	(Kusmiati & Nursamsiyah, 2015)	34.38%	Feasible
10	Kalibaru	East Java	(Kusmiati & Wati, 2020)	23.24%	Feasible
11	Sukorambi	East Java	(Nursamsiyah, Kusmiati & Ridjal, 2014)	31.93%	Feasible
12	Malang	East Java	(Fariyanti, Sariyanti & Dewi, 2016)	20.93%	Feasible
13	Jember	East Java	(Fariyanti, Sariyanti & Dewi, 2016)	20.81%	Feasible
14	Tanggamus	Lampung	(Nurrochmat <i>et al.</i> , 2020)	-5.25%	Infeasible
15	Lampung Barat	Lampung	(Fariyanti, Sariyanti & Dewi, 2016)	32.77%	Feasible
16	Manggari	East Nusa Tenggara	(Hartatri & Rosari, 2011)	70.76%	Feasible
17	East Manggari	East Nusa Tenggara	(Hartatri & Rosari, 2011)	27%	Feasible
18	Intan Jaya	Papua	(Purwadi, 2018)	48.94%	Feasible
19	Enkrengan dan Tana Toraja	South Sulawesi	(Alam, 2007)	25.34%	Feasible
20	Muara enim	South Sumatera	(Investment and Integrated One-Stop Services Agency Muara Enim Regency, 2016)	35.58%	Feasible

Source: Secondary data processing 2021

4. CONCLUSIONS

The majority of coffee commodities in Indonesia fulfill the criteria for financial

analysis based on NPV (Net Present Value), B/C Ratio, IRR (Internal Rate of Return). The infeasible coffee commodity farming was continued in Tanggamus

Regency, Lampung Province. Coffee farming is infeasible because it does not comply with the criteria for financial analysis. This condition occurs due to the business modeling used in Tanggamus Regency, Lampung Province is not optimal.

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In order to preserve the feasible coffee commodity in Indonesia, several things need to be considered, as follows,

1. The government must provide training and assistance to farmers, especially on smallholder plantations.
2. The government must provide market certainty to farmers. Therefore, they can be more active in cultivating coffee.
3. Farmers must pay attention to the climatic conditions, weather, altitude, and other natural factors in order to be able to create a business system for an optimal coffee commodities and right on target.

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