



The Impact of Financing Sources on Subjective Well-being: Empirical Study from Laying Hen Farmers in East Java, Indonesia

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Abstract. The influence of financing sources on economic outcomes has been widely discussed in the literature; however, these studies typically focus on monetary aspects, without considering non-monetary factors such as subjective well-being. To date, empirical studies the impact of financing sources on subjective well-being remain limited. This study investigates the impact of financial resources for business on the subjective well-being of laying hen farmers. The financial resources are categorized into three types: self-financing, financing from formal financial institutions, and financing from informal financial institutions. Using survey data from laying hen farming households in East Java and analyze the data using an ordered probit model, our research shows that households using self-financing exhibit higher levels of happiness and life satisfaction compared to those using financing from formal or informal financial institutions. Moreover, households that rely on informal financial institutions as their primary source of capital experience significantly lower subjective well-being, with reduced happiness and life satisfaction. The implications of these findings suggest the need for policies that support access to self-financing and improve the structure of formal financing, particularly for small-scale farmers, to enhance their subjective well-being. Furthermore, the results highlight the importance of regulating and monitoring informal financial institutions, which can negatively affect farmers' well-being. Government and relevant institutions should promote more affordable and sustainable financing alternatives to support the social and economic well-being of farming households.

Keywords: Financial resources; Laying hen farmers; Ordered probit model; Self-financing; Subjective well-being.

1 Introduction

Financial resources play a vital role in the economic functioning of enterprises, serving as a key source for covering both operational expenses and investments in fixed assets [1]. Financial resources represent a crucial determinant of success in agricultural and livestock enterprises. Financial decision-making in agricultural entities encompasses

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the strategic selection of funding sources essential for business operations [2]. Moreover, the appropriate identification and utilization of financing mechanisms is fundamental for both initiating and sustaining the agricultural sector [3]. The concept of "farm financial energy," as elaborated by Korol [2,4], refers to a farm's comprehensive financial position, primarily characterized by capital availability that both influences and results from the entity's financial and investment choices. This framework suggests that external capital acquisition enhances a farm's financial energy, facilitating investment initiatives beyond the scope of internal equity. Maintaining adequate financial energy is fundamental for initiating and sustaining agricultural activity.

Financing in farm businesses is crucial not only for fulfilling long-term agricultural goals but also for meeting immediate needs, such as acquiring new high-yield crop varieties, compensating hired labor, adopting new technologies, and improving productivity [4]. These financial investments are expected to contribute positively to the productivity and profitability of small farms and agricultural enterprises. Farmers adopt a variety of financing methods. Self-financing has historically been the primary source for funding development activities within the agricultural sector [5]. likely because it offers greater financial stability and security due to its lower risk [4]. Besides self-financing, farmers commonly rely on both formal and informal financing options to support their agricultural activities.

Financial institutions can be categorized into formal and informal sectors based on their regulatory oversight. Formal financial institutions operate within established prudential regulatory frameworks and government supervision, encompassing banks, microfinance institutions, insurance providers, capital markets, and Savings and Credit Cooperatives (SACCOs) [6, 7]. Conversely, informal financial mechanisms function outside these regulatory parameters and include social network-based lending arrangements such as informal moneylenders, Rotating Savings and Credit Associations (RoSCAs), and interpersonal borrowing from friends and family members.

While existing research on financing resources has predominantly concentrated on monetary dimensions, there is a notable gap in understanding non-monetary impacts, particularly regarding subjective well-being components such as happiness and life satisfaction. The empirical literature examining the relationship between financing sources and subjective well-being remains limited. This investigation seeks to analyze how business financing resources influence the subjective well-being of Indonesian laying hen farmers. The research findings are expected to inform policy formulation by both governmental entities and agricultural stakeholders, particularly in developing sustainable financing alternatives that enhance both social and economic welfare among farming households.

2 Research Method

2.1 Research Location and Respondents

This study was conducted in two primary egg-producing areas of Indonesia, specifically chosen for their importance to the poultry industry: Kendal Regency in Central Java

and Blitar Regency in East Java. Each region contributed an equal sample size, with 50 respondents from Kendal and 50 from Blitar, totaling 100 laying hen farmers. The researchers used purposive sampling, meaning participants were intentionally selected based on specific criteria rather than at random. Also known as judgmental sampling, this approach involves choosing individuals with particular expertise, experiences, or characteristics relevant to the study's objectives [8]. This method enables the identification of respondents capable of providing rich, context-specific data crucial for comprehensive qualitative analysis. Data collection occurred 3 months, from July to October 2024, through face to face interviews. A standardized questionnaire was used in these interviews to maintain consistency across all respondents.

2.2 Key Variable Measurement

Financial resourcing and subjective well-being are the two main variables in this study. The first variable, financial resourcing, examines how livestock farmers fund their operations through three different channels: Self-financing, Formal financial institutions (banks), and Informal financial institutions (private moneylenders and cooperatives). The second variable, subjective well-being, has emerged as a crucial metric for understanding people's quality of life. In the past decade, researchers have increasingly recognized that well-being extends beyond simple monetary measures. It is now viewed as a multidimensional concept that encompasses various aspects of life [9]. Easterlin [10] has shown that increased wealth does not necessarily lead to greater happiness. This finding has drawn attention from economists and political scientists who became interested in studying subjective well-being [11]. Diener, Suh [12] define subjective well-being as a broad concept that includes emotional responses, satisfaction in different life domains, and overall life satisfaction judgments [13, 14]. Researchers typically measure subjective well-being using two key indicators. The first is happiness, which reflects short-term emotional experiences. This is evaluated by asking, "Thinking about the past few days, how happy have you been?". Responses are rated on a 4-point scale from very unhappy (1) to very happy (4). The second indicator is Life satisfaction, which captures a long-term perspective on life. Participants are asked, "In general, how satisfied are you with your life?", also rated on a 5-point scale from not satisfied at all (1), not very satisfied (2), somewhat satisfied (3), very satisfied (4), and completely satisfied (5).

2.3 Data Analysis

This research uses an ordinal probit model to analyze how financial resources affect subjective well-being, specifically measuring happiness and life satisfaction on an ordered scale. The application of the ordinal probit model is driven by its suitability for analyzing dependent variables measured on an ordinal scale. Moreover, the model is chosen for its robustness in handling ordinal data that deviate from normal distribution, as emphasized [15].

The model assumes that a person's subjective well-being depends on both their financial situation and demographic factors. The mathematical model can be simplified as follows:

The mathematical model can be simplified as follows:

$$S_i^* = \varphi C_i + \beta X_i + e_i, \text{ with } S_i = \begin{cases} 1 & \text{if } S_i^* \leq C_1 \\ 1 & \text{if } C_1 < S_i^* \leq C_2 \\ z & \text{if } C_{z-1} \leq S_i^* \end{cases}$$

In this context, S_i^* represents subjective well-being (such as happiness and life satisfaction), assessed using ordinal variables S_i with unknown threshold values C_1, C_2, \dots, C_{z-1} . X_i refers to explanatory variables including age, farming experience, and education. The parameters φ and β are to be estimated, while e_i is a random error term.

3 Results and Discussion

The **Table 1** presents the descriptive statistics of key variables used in the analysis, providing insights into farmers' satisfaction, happiness, financial resources, and demographic characteristics. The average score for life satisfaction is 3.78, while the mean for happiness is 3.74, indicating that farmers generally experience moderate to high levels of both satisfaction and happiness. These averages suggest that, while most farmers are relatively content with their lives and circumstances, there is room for improvement. Additionally, the close proximity of these two mean values highlights a strong alignment between how farmers perceive their satisfaction with life and their overall emotional state.

Regarding the farmers' financial resources, the mean for self-financing is 0.37, suggesting that 37% of the farmers in the sample rely on their own funds for agricultural activities. In comparison, both Formal Financial Institution Loan and Informal Financial Institution Loan have identical mean values of 0.31, which indicates that 31% of farmers obtain loans from formal financial institutions, such as banks, and informal financial sources, such as family, friends, or informal lenders. These results demonstrate that a significant proportion of farmers utilize both personal savings and loans from formal or informal financial institutions to support their farming activities, with a slightly higher tendency towards self-financing. Moreover, Farmers' age is classified into six groups based on specific age ranges. With a mean value of 3.82, the data indicate that the majority of farmers fall within the middle-aged categories, specifically between 36 and 55 years. This suggests that a significant portion of the farming population is in their prime working years, a period often associated with accumulated experience and greater stability in their agricultural practices. Furthermore, the mean value for the experience of laying hen farmers is 2.55, indicating that the majority of farmers have between 10 and 20 years of experience, or possibly more. This suggests that most farmers in the sample have a significant level of expertise in poultry farming,

which may contribute to their ability to manage their farming activities effectively and navigate the challenges of the industry.

The last, the mean value for farmers' education is 4.14, indicating that the majority of farmers have completed at least senior high school or have obtained a diploma or bachelor's degree. This suggests that the farming population in the sample is relatively well-educated, which may enhance their ability to adopt new farming techniques, manage their businesses effectively, and make informed decisions regarding agricultural practices. Overall, the data highlight moderate satisfaction and happiness levels among farmers, with a significant reliance on personal capital and diverse financial sources. Farmers tend to be middle-aged, moderately to highly experienced in poultry farming, and relatively well-educated, which may influence their overall life satisfaction and productivity.

Table 1. Descriptive Statistics Result

Variable	Measure	Mean	Std. Dev.
Satisfaction	A five-point scale from 1 = not at all satisfied to 5 = very satisfied	3.78	1.36415
Happiness	A five-point scale from 1 = very unhappy to 5 = very happy	3.74	1.436215
Self-Financing	Dummy, 1 if the farmer uses own capital, 0 otherwise	0.37	0.4840159
Formal Financial Institution Loan	Dummy, 1 if the farmer uses funds from a formal financial institution, 0 otherwise	0.31	0.4636538
Informal Financial Institution Loan	Dummy, 1 if the farmer uses funds from an informal financial institution, 0 otherwise	0.31	0.4636538
Age	Age: 1)<25 years; 2)25-35 years; 3)36-45 years; 4)46-55 years; 5)56-65 years; 6)>65 years	3.82	0.986135
Experience	Duration of poultry farming: 1)<10 years; 2)10-20 years; 3)>20 years	2.55	1.715827
Education	Education: 1) No formal schooling; 2)Primary school; 3) Junior high school; 4) Senior High school; 5) Diploma/Bachelor's; 6) Postgraduate	4.14	0.8741974

3.1 The Impact of Financial Resourcing on Subjective Well-being (Happiness)

Table 2 describe the impact of financial resourcing on people happiness. The first result show that self-financing has a positive and statistically significant impact on happiness.

A coefficient of 1.910 suggests that individuals who finance themselves tend to report higher levels of happiness, with a significance level of 0.022 ($p < 0.05$). This suggests that self-financing is associated with increased happiness, reflecting stable financial conditions. As financial stability improves, individuals tend to experience greater levels of happiness [16]. Similarly, Prosper [17] noted that self-financing allows individuals, particularly farmers, to fully mobilize their own resources through savings, investments, and expenditures on their work, such as agricultural activities. This financial autonomy enables farmers to enhance the productivity of their laying hens, which, in turn, increases household income, meets basic needs, and contributes to higher levels of happiness.

Loans from formal financial institutions show no statistically significant effect on happiness ($p = 0.988$). The near-zero coefficient (0.012) indicates that whether or not an individual uses formal financial sources does not impact their reported happiness. Furthermore, Loans from informal financial institutions have a negative and statistically significant impact on happiness at 5%. The coefficient of -1.636 suggests that those who rely on informal financial institutions are likely to report lower happiness levels, perhaps due to higher interest rates, stricter repayment conditions, or other factors that may be burdensome. Allen, Chakrabarti [18] and Kondratjeva [19] explained that informal loan sources commonly used by farm households and small businesses in developing countries include friends and family, moneylenders, landlords, informal cooperatives, and associations. These sources can significantly influence farmers' psychological well-being. While such loans may provide financial support for farming activities, they also require repayment, often with interest. Farmers feel secure and experience less stress when agricultural productivity and profits are high, as they can repay these debts. However, when productivity and income decline, farmers may struggle to meet their repayment obligations, leading to increased stress and a decline in happiness levels. These dynamic highlights how informal loans are intricately tied to the well-being of low-income households.

Age has a negative significant effect on happiness ($p = 0.076$) with significant level at 10%. The negative coefficient (-0.175) suggests that as age increases, happiness tends to slightly decrease, though the effect is not strongly significant at conventional levels (e.g., $p < 0.05$). This finding aligns with Bartram [20] and [21], who observed that in certain countries, happiness tends to decrease gradually over the course of an individual's life. Experience in poultry farming has a positive and statistically significant effect on happiness ($p < 0.05$). The coefficient of 0.255 indicates that more years of experience are associated with increased happiness, possibly due to greater expertise, stability, or confidence in the business. Experienced farmers are better equipped to address challenges in laying hen production and set realistic expectations, enabling them to find contentment with their circumstances [22]. Similarly, Maharajh, Pemberton [23] and Duc [24] observed that older farmers, such as cocoa producers in Trinidad and Tobago and aquaculture growers in South Vietnam, tend to report higher happiness levels than younger farmers, largely attributed to their extensive farming experience.

Moreover, the farmer education has a positive and significant effect on people happiness with significant level at 10%. The higher of farmers education, the higher level of farmer happiness. Higher levels of education among farmers are associated with

increased happiness. Educated farmers are better equipped to enhance their skills and knowledge, which positively impacts their agricultural activities and enables them to adopt new technologies [25,27]. Good improvement in laying hen production, reflected in higher egg yields, lead to increased income and profits, ultimately contributing to greater levels of happiness.

Table 2. The Impact of Financial Resourcing to Happiness

Happiness	Coef.	Std. Err.	z	P>z
Self-financing	1.910	0.835	2.290	0.022
Formal Financial Institution Loan	0.012	0.808	0.010	0.988
Informal Financial Institution Loan	-1.636	0.822	-1.990	0.046
Age	-0.175	0.099	-1.770	0.076
Experience	0.255	0.119	2.140	0.032
Education	0.201	0.112	1.790	0.073
/cut1	-1.498	0.972		
/cut2	-0.393	0.961		
/cut3	-0.258	0.959		
/cut4	1.326	0.958		
Log likelihood = -163.55755				
LR chi2(6)	=	208.37		
Prob > chi2	=	0.0000		
Pseudo R2	=	0.3891		

3.2 The impact of Financial Resourcing on Subjective Well-being (Life Satisfaction)

Table 3 reveals several important findings regarding the relationship between different financing sources and life satisfaction. Most notably, self-financing emerges as the only statistically significant financial factor at 5%, with a substantial positive coefficient of 1.875. This suggests that individuals who can finance their own activities tend to experience higher levels of life satisfaction, possibly due to the autonomy and reduced stress associated with not being indebted to others. However, the formal financial loans and informal financial loans is not significant enough to influence people life satisfaction. This findings align with Soria, Hernandez [28] who stated that self-financing is the primary source of funding for smallholder agricultural activities, as opposed to loans from formal or informal financial institutions. Self-financing allows farmers to maintain financial security, avoid the stress of debt repayment, and reduce perceived financial burdens [29, 30]. This statement in line with Hsu [31] who found that economic satisfaction is a significant predictor of overall life satisfaction.

Among the control variables, age shows a significant negative relationship with life satisfaction (coefficient = -0.159, $p = 0.084$), suggesting that older individuals might report slightly lower life satisfaction levels. This may be attributed to older farmers earning lower incomes compared to younger farmers, as their capacity to manage farming operations and generate income diminishes, ultimately reducing their life satisfaction levels [32]. Interestingly, both farming experience (coefficient = 0.000, $p = 0.997$) and education (coefficient = 0.127, $p = 0.240$) show no significant impact on life satisfaction, indicating that these factors play minimal roles in determining subjective well-being in this context.

Table 3. The Impact of Financial Resourcing on Life Satisfaction

Satisfaction	Coef.	Std. Err.	Z	P>z
Self-financing	1.875	0.820	2.290	0.022
Formal Financial Institution Loan	0.300	0.793	0.380	0.705
Informal Financial Institution Loan	-1.275	0.805	-1.580	0.113
Age	-0.159	0.092	-1.730	0.084
Farming Experience	0.000	0.068	0.000	0.997
Education	0.127	0.108	1.180	0.240
/cut1	-2.132	0.953		
/cut2	-0.966	0.941		
/cut3	-0.708	0.938		
/cut4	0.767	0.935		
Log likelihood =	-185.24368			
LR chi2(6) =	173.62			
Prob > chi2 =	0.0000			
Pseudo R2 =	0.3191			

4 Conclusion

This study examines the influence of financial resources on the subjective well-being of laying hen farmers. The research focuses on two primary variables: financial resourcing and subjective well-being. Financial resourcing encompasses self-financing, loans from formal financial institutions (such as banks), and loans from informal financial institutions (including private moneylenders and cooperatives). Subjective well-being is measured using two indicators: life satisfaction and happiness. The empirical results reveal that happiness is positively associated with self-financing, farming experience, and farmers' education. Conversely, it is negatively affected by loans from informal financial institutions and the age of the farmers. Similarly, life satisfaction is positively influenced by self-financing, while farmers' age has a significant negative impact on

life satisfaction. These findings underscore the critical role of financial resources in enhancing life satisfaction and happiness, which contribute to improving farmers' well-being, as reflected in increased laying hen productivity.

The study's implications highlight the need for policies that facilitate access to self-financing and improve the framework of formal financial institutions, particularly for small-scale farmers, to enhance their subjective well-being. Additionally, the results emphasize the importance of regulating and monitoring informal financial institutions, which can adversely affect farmers' well-being. Policymakers and relevant stakeholders are encouraged to develop more affordable and sustainable financing options to promote the social and economic welfare of farming households. This study, however, has certain limitations. It primarily focuses on financial resourcing (self-financing and loans from formal and informal institutions) and subjective well-being (happiness and life satisfaction), excluding other potentially significant factors. Variables such as health, social support, market conditions, and environmental influences, which may also impact farmers' well-being, were not considered. Future research should address these limitations by incorporating broader social and environmental factors to provide a more comprehensive understanding of the determinants of farmers' well-being.

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