Household Saving Behavior: The case of rural industry in Bantul

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Abstract

In generally rural industries self financed their activities. by their holder's own capital. In the situation where other financial sources were limited, the own capital is very important for rural industries. The question is what are the sources of this capital? We are talking about household saving, now. In the relation with the development of rural industries there is a need to explore the behavior of this kind of saving in order to increase the role of rural financial institutions.

Based on a case study at a sub-district in Yogyakarta, I found that rural industry households have sufficiently ability to save. They were also save in financial assets, beside real assets. However it also important to underlined that these saving more in the non-bank financial institution than in the banking institution, included the Village Units of Bank Rakyat Indonesia (BRI). This situation could be indicated that banking institution just gives little attention on the rural households saving ability. Since saving ability could be argue as a repayment ability indicator, this finding also explained why there were very limited rural industries that got credit from banking institution.

Using an econometric model of life-cycle theory, this study also found that household saving was determined by household's income, both of education level and sex of the industry holders, and the varieties of industries. This mean that in order to solve the lack capital problem in rural industries we also have to consider those variables, especially the education and the varieties of industries.

Introduction

Lack of capital is already known as one of primary constraint of rural industries development in Indonesia. Tambunan (1995) shows the main constraint of small industries in rural Indonesia is capital problem. PUPUK Bandung found the problem of small businesses that priority should address is capital (Yayasan Abhiseka 1998). These pictures indicate that the important financing of rural industries is their own capital.

In this situation, household savings are very important for sustaining and developing rural industries. The source of own capital clearly is household savings. Savings provide several benefits for households, if it better institutionalized. This benefits such as to earn interest incomes, for investment

purposes, and to build credit rating and as collaterals (Robinson 1994). Directly, saving could be use for investment. Indirectly, saving indicates *repayment ability*, also increase *credit rating and* as a collateral in a credit market. However, this financial source is limited. Not surprisingly that in many cases, rural industrialists meet their financial need through informal credit market although its interest rate sufficiently high (Ghate 1988, Nugroho and Moeljarto 1994).

This paper shows the saving behavior of rural industry households. The analysis consists of two aspects. The first is the forms of household saving accumulations. The second aspect is exploring determinants of household saving rate. The data based for this paper comes from a survey of small industries in Bantul sub-district conducted in 1996. This survey does not design for saving studies. However, part of database that consists of 93 respondents could be use for this paper.

Forms of Saving and Its Determinants

Saving could be accumulating in real assets or financial assets. Large part of saving accumulation in developing countries is real assets (Asian Development Bank 1985). Real assets consist of animal husbandry, precious metals, or food stocks. However, these real assets less useful for industrial activities since it does not liquid, except precious metals (Rahardjo and Ali 1992).

The weakness saving in real assets is important reason for households to save in financial assets. They could save in banks or non-bank financial institution, including in cash form. In this respect, access to financial institution that meet liquidity needs is crucial. In other-word, better access tends to increase probability of financial saving. However, non-bank financial institutions that their characteristic is more informal, still play important role in rural areas, especially where formal financial institutions do not sufficiently reach rural areas. This is the reason to introduce financial institution such as banks that strategic in order to increase financial savings. This institution to be expects also as provider of loan facilities.

Interestingly, Table 1 shows that respondents prefer to use financial assets than real assets in their saving accumulations. However, large part of these respondents saves in non-bank institutions those also informal institutions such as cooperatives, credit unions, rotating savings and credit associations (ROSCAs), or in cash money. This picture indicates that informal financial institution still important for rural households. Therefore the role of informal institution on rural industries households' should be considered, especially in case of limited access to formal institution.

Table 1
Distribution of Savers By Saving Accumulation Forms

Forms of saving accumulation	No of respondents	%
Real assets	16	23,9
Financial assets	60	89,6
a.Non-bank	39	58,2
Cooperatives	6	9,0
Credit unions	7	10,4
ROSCAs	25	37,3
Cash money	6	9,0
b. Bank	25	37,3
BPR	1	1,5
State-owned bank (BRI)	21	31,3
Private-owned banks	4	6,0

Note: Percentage based on the number of savers. Total respondents in this survey are 93 households.

Table 2 shows average amount of saving for each form of accumulation. In ROSCAs, the average is small and probably does not meet the financial needs of rural industries. The function of ROSCAs is more as saving mechanism than credit mechanism (see, van Diermen 1998). Cooperatives also indicate similar function since large part of cooperatives members does not take credit. The reason, probably, is the funds of cooperatives are limited so only sufficient for very small loans. Other important reason is bad records of this institution. We already known that are, in Indonesia context, cooperatives usually subject of rent-seeking behavior of their board (Effendy and Weber 1993, Kuncoro 1997).

Percentage of household that save in bank in this case is more than previous studies in other locations such as Rahardjo and Ali (1992) and van Diermen (1998). Bank Rakyat Indonesia (BRI) is the most popular formal institution. BRI is a state-owned bank that more reaches rural areas through Unit Desa system (Boomgard and Angell 1994). However, the average mount of saving in BRI is less than in private-owned ones. Similar to non-bank, the role of bank in this case is more on saving activities than on making loan for rural industries. Only seven respondents report that they got credit from bank, although bank accounts of most of respondents are sufficient for credit rating. Also interesting that only small part of respondents that prefer to meet their financial needs from banks. An important explanation for this situation is the characteristics of formal credit such as complexity of procedures and collateral conditions. Rural industrialists often do not meet that conditions, although their repayment ability quite enough (see, van Diermen 1998). Therefore one may argue that saving in banks more in order to keep the rate of household's liquidity. The function of saving as a bridge to credit still does not work. Moreover, introduction of banking system in rural areas does not give enough

direct benefit for rural industry, yet. Thus, we need a new point of view in this issue since rural industries empirically has repayment ability as seen in their bank accounts.

Table 2
Amount of Savings

Forms of saving accumulations	Average (1.000 rupiahs)
Real assets	845,9
Financial assets	1.348,9
a.Nonbank	205,1
Cooperatives	45,8
Credit unions	214,6
ROSCAs	121,8
Cash money	529,6
b. Bank	1.505,8
BPR	150,0
State-owned banks	1.410,0
Private-owned banks	12.737,5
All	1.410,0

Note: Amount of real asset probably less accurate.

Discussion above, so far suggest that large part of rural industry households have ability to save. What factors determine their savings? In this part, we apply life-cycle approach (see, Mason 1988, Elfindri 1990, Chandavarkar 1993). The econometric model is follow:

$$\mathbf{HS = \alpha_0+\alpha_1 HY+ \alpha_2 AGE+\alpha_3 AGE^2+\alpha_4 EDUC+ \alpha_5 SEX+\alpha_6 IT+\alpha_7 YS+e}$$

$$\mathbf{(\alpha_1>0;\ \alpha_2>0;\ \alpha_3<0;\ \alpha_4>0;\ \alpha_5>0;\ \alpha_6>0;\ \alpha_7>0)}$$

where HS is household saving (income minus consumption expenditure), HY is household income, AGE is years of age of respondent, EDUC is education level of respondent, SEX is sex of respondent (female=0, male=1), IT is industry type (agriculture-based industries=0; non agriculture-based industries=1), YS is the role of industry in household income (main income source= 1, non=0), e is error term.

Regression result in Table 3 is produced by two stages least square (TSLS) procedure, since income is endogenous variable. The result shows the precision of the model. There are four significance coefficients (HY, EDUC, SEX, and IT). Coefficient of HY indicates that household's marginal propensity to save (MPS) is 15.25 per cent. We could agree with this rate since household's MPS in Indonesia around 10 to 20 per cent (Robinson 1994). Human capital variable (EDUC) also gives positive influence on households saving. Interestingly, male rural industrialists tend have more high saving than female

ones. The result also indicates that saving of households that own non-agriculture-based industries higher than other households. Secondary data analysis suggests non-agriculture-based industries have better performance than other type of industries.

Life cycle hypothesis does not evidence in this case. However, the coefficients give true sign. It not surprisingly since debate on this hypothesis still continues (see, Mason 1988, Shumaker and Clark 1992, Doshi 1994). We have give more attention on coefficient of YS that not significance. It may indicate that rural industry does not give enough income for rural households, yet. More than 40 per cent of respondent also have other income sources or occupations.

Table 3
Regression Result

	coefficients	t-statistic	level of significance
Constant	-150,040443	-1,238	0,2206
HY	0,152489	4,785	0,0000
AGE	4,332072	0,901	0,3710
AGE^2	-0,017643	-0,354	0,7249
EDUC	23,263343	1,940	0,0571
SEX	66,345084	2,797	0,0070
ITI	51,589503	2,491	0,0156
YS	-17,302295	-0,659	0,5126
Adj. R-squared	0,36783		
F-statistic	6,48615		
N	67		

Conclusion

Rural households have ability to save. They save also in financial assets, especially in non-bank institutions. However, formal financial institution does not see saving as credit rating or repayment ability of rural households. Therefore, we need a new point of view in this issue in order to develop rural industries through financial facilities. Developing rural industries is important to stand this sector as important income source for rural households. In this respect, financial institution may play a strategic role. This role is not only in collecting saving but also in delivering credit for rural industries. Thus, saving should be also placed as an indicator of credit rating and repayment ability of rural households.

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