UNIVERSITAS TEKNOKRAT INDONESIA

INTERATIONAL CONFERENCE ON ECONOMIC, BUSINESS, ACCOUNTING, AND ENTREPRENEURSHIP (ICEBACE) 2022

"Advancing Economics, Business, and Entrepreneurship Post Pandemic in Digital Era"

HEREDITARY AND EDUCATIONAL FACTORS IN THE DECISION TO OWN AN AGRICULTURAL BUSINESS

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Abstract

Many people in Indonesia make the decision to open a business, especially on small and medium scales. The decision to have a business is certainly motivated by various factors. Using household survey data from the fifth Indonesia Family Life Survey, this study aims to analyze the factors driving Indonesia's household decisions to open an agricultural business. The data in this study is cross-section with the logistic regression method. The findings of this study indicate that a person's decision to open an agricultural business is strongly driven by hereditary factors from their parents. In addition, the length of a person's education level tends to reduce a person's probability of opening an agricultural business. Other factors influencing the decision to open an agricultural business are ethnicity, gender, marital status, age, and area of residence. Meanwhile, the large number of family members was not found to have an effect on a person's decision to open an agricultural business.

Keywords: Agricultural business, Education, Hereditary, Parents, Rural

INTRODUCTION

Entrepreneurship has a key role in the development of emerging economies, especially in developing countries (Bruton et al., 2008). Entrepreneurship has great potential to reduce poverty (Vial & Hanoteau, 2015). The sustainability of the entrepreneurial climate also depends on the growth of new entrepreneurs who will continue the entrepreneurship that has been built. Various characteristics in developing countries make a process in the formation of entrepreneurial values (Welter & Smallbone, 2011).

The results of the World Economic Forum survey stated that youth aged 15-35 years who are pioneering as entrepreneurs in the future reached 35.5%. Entrepreneurship has a role in improving the survival of the community so as to encourage the government to formulate policy programs (Nuță & Ariton, 2011; Rusu & Roman, 2017). Entrepreneurship also provides an increase in growth and can become a driver of innovation and change, including in knowledge (Carree & Thurik, 2010). Someone carrying out entrepreneurial activities is based on several factors such as economics, culture, institutions, and technology (Aparicio et al., 2016; Chowdhury et al., 2015; Rusu & Roman, 2017; van Stel et al., 2007). Individuals with high skills prefer to become entrepreneurs, while those with lower skills choose to become wage workers (Lucas, 1978).

In addition, intergenerational entrepreneurship is influenced by internal and external factors (GiSeung, 2008). Internal factors are innate factors that come from within the individual itself, while external factors are factors that influence from outside a person or non-innate influences. The internal factors that will influence the existence of intergenerational entrepreneurship are personality and family circumstances (GiSeung, 2008). Often a business that is managed from generation to generation increases the probability that a child in the future will have the drive to become an entrepreneur.

Genetic factors can influence a person's tendency to engage in entrepreneurship (Zhang & Arvey, 2009). Meanwhile, external factors including technological developments, economy, demographics, culture, and institutions are the determinants of entrepreneurship (Giannetti & Simonov, 2011; Wennekers

et al., 2005). Social environmental factors such as religion, the entrepreneur's social status, place of residence, and ethnicity influence the determinants of one's entrepreneurship. The level of education, migration experience in the family, and environmental conditions such as existing social capital also affect a person's decision to become an entrepreneur (GiSeung, 2008).

LITERATURE REVIEW

Several empirical studies on the identification of entrepreneurship in a country have been carried out. In an empirical study conducted on the determinants of entrepreneurial activity in European countries, it was found that certain economic, institutional, and demographic factors had a significant impact on a person's attitude and activity in entrepreneurship (Bosma & Schutjens, 2011). Technological developments, the existence of financial institutions, population, and economic growth are important factors that influence entrepreneurial activity (Albulescu & Tămăşilă, 2014; Sayed & Slimane, 2014).

There is a relationship between culture and entrepreneurship (Sutanto & Nurrachman, 2018). However, (Nagler & Naudé, 2017) found that entrepreneurship or businesses in rural farm households did not last long enough to operate due to a lack of profitability, finances, and economic shocks. In entrepreneurship, family background factors influence a person to choose to become an entrepreneur (Sasu & Sasu, 2015). The probability of the choice for entrepreneurship tends to be higher for men because of the monetary rewards received than for women who are more concerned with aspects of life.

In entrepreneurship research, the point of view of transmitting entrepreneurship between generations from parents to children is not just a parent's business which is then managed by their children, but (Criaco et al., 2017) shows the transmission of entrepreneurship from another point of view. The existence of self-concept is transmitted from parents to children (Crocetti et al., 2016) also exposure and social comparison mechanisms contribute to entrepreneurial decisions (Criaco et al., 2017).

Parents are role models for children in their decisions and openness to being self-employed (Chlosta et al., 2012). Even (Chlosta et al., 2012; Greene et al., 2013) found that personal stereotypes held by girls, such as marriage, parents and education, influenced women's propensity towards entrepreneurial activity, and that entrepreneurial mothers significantly influenced their daughters to become self-employed.

In Brazil, intergenerational influences a person to continue his parents' business (Pessotto et al., 2019). Parents who own an agricultural business will encourage their future successors to take active steps to continue their agricultural business. In addition, it is reinforced by the study of (Hopp et al., 2019) that entrepreneurial parents inspire their children to continue entrepreneurship which requires control of social interactions between parents and children. The entrepreneurial intention between generations depends on the intensity of parental socialization with their children, such as sharing experiences and forming entrepreneurial attitudes toward children.

Through business growth in Indonesia, the economy will improve and reduce the unemployment rate. For this reason, it is necessary to know what factors drive the decision to open a business by capturing the behavior patterns of people in Indonesia and analyzing whether there is a role from the background of their parents who may be an entrepreneur. Thus, this study aims to analyze various factors that influence entrepreneurial behavior in households, especially in educational background and the possibility of hereditary factors from their parents.

RESEARCH METHOD

This study uses secondary data sourced from the fifth Indonesian Family Life Survey (IFLS). IFLS is a large-scale household and community survey covering the living conditions of people in a number of provinces in Indonesia. In this study, it will be observed that household entrepreneurship may be influenced by various factors, where the researcher limits the unit of analysis to the head of the household. In this study, because the unit of analysis is the head of the household in Indonesia, some of the independent variables that will be observed focus more on the head of the household, such as education, ethnicity, gender, marital status, and age. As a representation of the research to be carried out, below is an equation model of agricultural business ownership status:

$$AB_i = \beta_0 + \beta_1 Par\_AB_i + \beta_2 Educ_i + \beta_3 Ethnic_i + \beta_4 Marstat + \beta_5 Gender_i + \beta_6 Age_i + \beta_7 Rural_i + \beta_8 Numhh_i + \varepsilon_i,$$

with, AB as the dependent variable which is a dummy agricultural business ownership. Several other dummy variables, such as Par_AB which is the ownership status of the parent's agricultural business, $Ethnic$ which is a dummy for Javanese or non-Javanese, $Marstat$ which is a dummy 1 for married/similar status and 0 for single status, $Gender$ which is the gender of the head of the household with v with a value of 1 if male and 0 if female and $Rural$ is the area of residence whether 1 for rural and 0 for urban areas.

For subsequent variables such as Age which is a continuous variable of the age of the head of household, the $Educ$ variable is the length of time education taken by the head of household, and the variable $Numhh$ is the number of household members. This study uses cross-sectional data and because the model is to be observed as a dependent in the form of a dummy variable, then this study will use a logistic regression model with a marginal effect to see how much influence the factors have on the determining factor in encouraging the head of the household to do entrepreneurship in agriculture.

RESULTS AND DISCUSSION

In the previous methodology section, the variables that will be used in this study were defined. After collecting the required data, the number of observations obtained is 4861 households in Indonesia. Based on Table 1, the average length of education for the head of household is 10 years or similar to the level of the first year of high school. However, there is one head of household who has the highest education level of 23 years or similar to a doctoral program.

Table 1. Descriptive Statistics

Variable	Mean	SD	Min.	Max.
Age	27.46	7.34	15	57
Length of education	10.27	3.45	0	23
Number of hh. members	4.37	2.03	1	15
Marital status	0.59	0.49	0	1
Agricultural business ownership	0.08	0.27	0	1
Parents own a farming business	0.63	0.48	0	1
Ethnic group	0.46	0.50	0	1
Gender	0.59	0.49	0	1
Area	0.43	0.49	0	1

Source: Data Processed Using STATA (2022)

In this study, the average age of the head of the household was 27 years old and the oldest age was 57 years. For household characteristics, namely the number of household members, there are five households that have 15 members, while the average number of household members in this study is 4 people. Of the 4861 households, 92.3 percent of households work or have businesses in the non-agricultural sector, while the remaining 7.7 percent of households work or have businesses in the agricultural sector.

In Figure 1, more than 50 percent of households live in urban areas, while 43 percent live in rural areas. Furthermore, Table 2 describes the characteristics of households based on the area where they live. Households that have more agricultural businesses live in rural areas than in urban areas. There are 306 households with agricultural businesses and live in rural areas, while 66 households with agricultural businesses live in urban areas.

Most of the rural and urban communities do not own an agricultural business (more than 80 percent). More than 50 percent of households in both rural and urban areas have parents who own an agricultural business. It can be seen in Table 2 that almost 55 percent of elderly people living in urban areas own an agricultural business. This indicates that although in general, the parents who own an agricultural business live in rural areas, it turns out that more than half of those who live in urban areas also have an agricultural business.

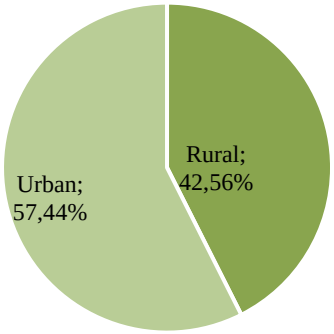

Figure 1. Percentage of Households by Area

Households in this study were grouped into two ethnic groups: Javanese and non-Javanese. Based on Table 2 above, 45 percent of urban households are Javanese, while more than half are non-Javanese. This condition is not much different from that in rural areas where more than half of the households living in rural areas are non-Javanese. Furthermore, in this study, 60 percent of the participating households were male, and most of them were married or had been married.

Based on the results shown in Table 3, the agricultural business owned by households in Indonesia is influenced by various factors, one of which is the background of the parent's business. Parents who own an agricultural business as observed in this study can influence their children to also have their own business. This result is in line with (GiSeung, 2008) (Zhang & Arvey, 2009), (Sasu & Sasu, 2015) that family background or genetic factors can affect a person's tendency to become an entrepreneur. The contribution of parents' business background to children's decision to become entrepreneurs is 0.079 points (model 1) with a significance level of 1% ($p < 0.01$).

Table 2. Household Characteristics Based on Residential Area

	Urban	**Rural**
Agricultural business		
No	97.6 %	85.2 %
Yes	2.4 %	14.8 %
Parents own a farming business		
No	45.1 %	26 %
Yes	54.9 %	74 %
Ethnic Group		
Non-Javanese	54.7 %	52.3 %
Javanese	45.3 %	47.7 %
Marital status		
Single	44.7 %	35. %
Married	55.3 %	65 %
Gender		
Female	40.6 %	40.7 %
Male	59.4 %	59.3 %

Source: Data Processed Using STATA (2022)

However, if the factor of the length of education is involved, then the contribution of parents' business background to the probability of a child having an agricultural business is 0.076 points with a significance level of 1% (model 2). This means that there is a strong influence between the background of the parents on the child's agricultural business ownership decision. Based on the results of Table 3, it can be seen that a person's decision to own an agricultural business is influenced by his parents who also own/have owned an agricultural business, so this proves the possibility of a hereditary business ability factor. Entrepreneurial parents are able to inspire their children to continue their businesses.

Furthermore, in model 2 not only the parents' business background, but the individual's educational background also contributes to the decision to own an agricultural business. It can be seen in model 2 that there is a unidirectional relationship between the length of education and ownership of agricultural businesses, and this result is in line with (GiSeung, 2008). The results with a significance level of 1% ($p<0.01$) indicate that the longer the education taken by each individual will reduce the probability of owning an agricultural business. In this case, most individuals who have higher education generally prefer to work in companies or have businesses in non-agricultural fields.

In this study, model 3 shows that there are several other control variables such as marital status, ethnicity, gender, age, area of residence, and the number of family members analyzed for their influence on agricultural business ownership. Model 3 shows that ethnicity, marital status, gender, age, and area of residence are factors that determine ownership of agricultural businesses.

Table 3. Result of Logistic Regression Analysis with Marginal Effect

Variable (Dependent: Agricultural business ownership)	**Model 1**	**Model 2**	**Model 3**
Parents own a farming business	0.0799***	0.0759***	0.0386***
	(0.0103)	(0.0101)	(0.00916)
Length of education		-0.00966***	-0.00499***
		(0.00102)	(0.000972)
Ethnic group			-0.0157**
			(0.00725)
Marital status			0.0621***
			(0.0112)
Gender			0.0813***
			(0.00849)
Age			0.00273***
			(0.000577)
Area			0.108***
			(0.00888)
Number of household members			-0.00158
			(0.00183)
N	4861	4861	4861
**p<0.1, **p<0.05, ***p<0.01*			

Source: Data Processed Using STATA (2022)

This result is in line with **(Giannetti & Simonov, 2011; Wennekers et al., 2005)** who stated that external factors including demographics and culture are the determinants of entrepreneurship. The result of the analysis of the ethnic variable shows that the Javanese have a lower probability of owning an agricultural business than the non-Javanese. With a significance level of 5% ($p<0.05$), people with Javanese ethnicity who own an agricultural business have a lower probability of 0.015 than people with non-Javanese ethnic groups. Based on the characteristics described in Table 2, it also shows that the proportion of non-Javanese households is greater than the Javanese.

In Indonesia, people who are involved in farming tend to be those who are already married. This is as shown in the results of research model 3 which proves that people who are married or have been married have a higher probability of owning a business in the agricultural sector than people who are not married. The results of the analysis also show that farming is usually carried out by people who are older than young people. In addition, the probability of agricultural business being carried out by men is greater than that of women. Residence in rural areas can also influence the decision to own or operate an agricultural business.

Households inhabited by many people will have an impact on increasing needs. This study shows that when there is one additional household member, it will increase the probability of the head of the household running an agricultural business but this result is not proven to be significant at all levels of confidence. Thus, from Table 3 the results of the analysis of this agricultural business model are broadly determined by the business background of parents, ethnicity, marital status, education, area of residence, age, and gender

CONCLUSION

Motivation in opening or owning a business is basically influenced by many factors. Environmental, social, economic and even family can trigger someone to have their own business. People who live in rural areas have a fairly good environment and adequate land for agriculture, so that rural communities can take advantage of this to have an agricultural business. But not only that, rural communities usually have limited access to the city due to long distances and limited transportation.

In this study, the authors observe that the majority of observations are in urban areas. The findings of this study conclude that a person's motivation to open an agricultural business is motivated by determining factors such as the background of his parents' agricultural business, length of education, ethnicity, marital status, gender, age, and area of residence. The findings of this study are quite interesting where there are hereditary factors that come from their parents in opening an agricultural business. The owner of the agricultural business is not always a farmer who works on his own agricultural land, but the owner of the business makes his agricultural business an investment. Thus, this research as a whole concludes that there are quite a number of factors that can encourage a person to have a business either because of internal factors or because they are influenced by external factors.

REFERENCES/REFERENCES

Albulescu, C. T., & Tămăşilă, M. (2014). The Impact of FDI on Entrepreneurship in the European Countries. *Procedia - Social and Behavioral Sciences*, *124*. https://doi.org/10.1016/j.sbspro.2014.02.480

Aparicio, S., Urbano, D., & Audretsch, D. (2016). Institutional factors, opportunity entrepreneurship and economic growth: Panel data evidence. *Technological Forecasting and Social Change*, *102*, 45–61. https://doi.org/10.1016/j.techfore.2015.04.006

Bosma, N., & Schutjens, V. (2011). Understanding regional variation in entrepreneurial activity and entrepreneurial attitude in Europe. *Annals of Regional Science*, *47*(3), 711–742. https://doi.org/10.1007/s00168-010-0375-7

Bruton, G. D., Ahlstrom, D., & Obloj, K. (2008). Entrepreneurship in Emerging Economies: Where Are We Today and Where Should the Research Go in the Future. *Entrepreneurship Theory and Practice*. https://doi.org/10.1111/j.1540-6520.2007.00213.x

Carree, M. A., & Thurik, A. R. (2010). The Impact of Entrepreneurship on Economic Growth. In *Handbook of Entrepreneurship Research* (pp. 557–594). Springer New York. https://doi.org/10.1007/978-1-4419-1191-9_20

Chlosta, S., Patzelt, H., Klein, S. B., & Dormann, C. (2012). Parental role models and the decision to become self-employed: The moderating effect of personality. *Small Business Economics*, *38*(1). https://doi.org/10.1007/s11187-010-9270-y

Chowdhury, F., Terjesen, S., & Audretsch, D. (2015). Varieties of entrepreneurship: institutional drivers across entrepreneurial activity and country. *European Journal of Law and Economics*, *40*(1), 121–148. https://doi.org/10.1007/s10657-014-9464-x

Criaco, G., Sieger, P., Wennberg, K., Chirico, F., & Minola, T. (2017). Parents' performance in entrepreneurship as a "double-edged sword" for the intergenerational transmission of entrepreneurship. *Small Business Economics*, *49*(4). https://doi.org/10.1007/s11187-017-9854-x

Crocetti, E., Rubini, M., Branje, S., Koot, H. M., & Meeus, W. (2016). Self-Concept Clarity in Adolescents and Parents: A Six-Wave Longitudinal and Multi-Informant Study on Development and Intergenerational Transmission. *Journal of Personality*, *84*(5). https://doi.org/10.1111/jopy.12181

Giannetti, M., & Simonov, A. (2011). On the Determinants of Entrepreneurial Activity: Individual Characteristics, Economic Environment, and Social Norms. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.554511

GiSeung, K. (2008). Entrepreneurship and Self-Employment: The State-of-the-Artand Directions for Future Research. *New England Journal of Entrepreneurship*, *11*(1), 39–52. https://doi.org/10.1108/neje-11-01-2008-b003

Greene, F. J., Han, L., & Marlow, S. (2013). Like Mother, Like Daughter? Analyzing Maternal Influences Upon Women's Entrepreneurial Propensity. *Entrepreneurship: Theory and Practice*, *37*(4). https://doi.org/10.1111/j.1540-6520.2011.00484.x

Hopp, C., Minarikova, D., & Speil, A. (2019). A chip off the old block? How parent-child interactions affect the intergenerational transmission of entrepreneurial intentions. *Journal of Business Venturing Insights*, *11*. https://doi.org/10.1016/j.jbvi.2019.e00130

Lucas, R. E. (1978). On the Size Distribution of Business Firms. *The Bell Journal of Economics*, *9*(2). https://doi.org/10.2307/3003596

Nagler, P., & Naudé, W. (2017). Non-farm entrepreneurship in rural sub-Saharan Africa: New empirical evidence. *Food Policy*, *67*, 175–191. https://doi.org/10.1016/j.foodpol.2016.09.019

Nuță, A., & Ariton, D. (2011). Social and economic cohesion in Romania: an overview. In *Euroeconomica*.

Pessotto, A. P., Costa, C., Schwinghamer, T., Colle, G., & Corte, V. F. D. (2019). Factors influencing intergenerational succession in family farm businesses in Brazil. *Land Use Policy*, *87*. https://doi.org/10.1016/j.landusepol.2019.104045

Rusu, V. D., & Roman, A. (2017). Entrepreneurial Activity in the EU: An Empirical Evaluation of Its Determinants. *Sustainability (Switzerland)*, *9*(10). https://doi.org/10.3390/su9101679

Sasu, C., & Sasu, L. (2015). Demographic Determinant of the Entrepreneurship Intentions. The Case of Romania. *Procedia Economics and Finance*, *20*, 580–585. https://doi.org/10.1016/s2212-5671(15)00111-2

Sayed, O. A., & Slimane, S. ben. (2014). An Appraisal of the Determinants of Entrepreneurship in Developing Countries: The Case of the Middle East, North Africa and Selected Gulf Cooperation Council Nations. *African Journal of Social Sciences*, *4*, 63–74.

Sutanto, O., & Nurrachman, N. (2018). Makna Kewirausahaan Pada Etnis Jawa, Minang, dan Tionghoa: Sebuah Studi Representasi Sosial. *Jurnal Psikologi Ulayat*, *5*(1), 86–108. https://doi.org/10.24854/jpu12018-75

van Stel, A., Storey, D. J., & Thurik, A. R. (2007). The Effect of Business Regulations on Nascent and Young Business Entrepreneurship. *Small Business Economics*, *28*(2–3), 171–186. https://doi.org/10.1007/s11187-006-9014-1

Vial, V., & Hanoteau, J. (2015). Returns to Micro-Entrepreneurship in an Emerging Economy: A Quantile Study of Entrepreneurial Indonesian Households' Welfare. *World Development*, *74*, 142–157. https://doi.org/10.1016/j.worlddev.2015.04.008

Welter, F., & Smallbone, D. (2011). Institutional Perspectives on Entrepreneurial Behavior in Challenging Environments. *Journal of Small Business Management*, *49*(1), 107–125.

Wennekers, S., van Stel, A., Thurik, R., & Reynolds, P. (2005). Nascent Entrepreneurship and the Level of Economic Development. *Small Business Economics*, *24*(3), 293–309. https://doi.org/10.1007/s11187-005-1994-8

Zhang, Z., & Arvey, R. D. (2009). Rule breaking in adolescence and entrepreneurial status: An empirical investigation. *Journal of Business Venturing*, *24*(5), 436–447. https://doi.org/10.1016/j.jbusvent.2008.04.009