

AN ANALYSIS OF ETHNIC IMPACT ON FINANCIAL RISK TOLERANCE: EVIDENCE FROM SMALL AND MEDIUM ENTERPRISES (SME) OWNERS IN INDONESIA

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***Abstract:** This paper presents empirical evidence of differences in financial risk tolerance (FRT) among SME owner in Indonesia. The novel aspects of this paper are the evidence provided of the effect of ethnicity on financial risk tolerance in a developing country, as well as a comparison of the factors determining financial risk tolerance in each of three ethnic groups. We used primary data collected from SME owners from the three different ethnic backgrounds, namely Minangkabau, Madurese, and Javanese owners in Java, Indonesia. The results confirmed that ethnic background was one of the determinants of their risk tolerance.*

***Keywords:** Financial risk tolerance, SME, ethnic, Indonesia*

INTRODUCTION

Small and medium-sized enterprises (SMEs) played a vital role in reducing the rate of poverty and unemployment in Indonesia (ASEAN Secretariat, 2011). According to the data from the Ministry of Cooperatives and Small and Medium Enterprises of Indonesia (MOCSME), in 2010, there were 53.82 million micro-, small- and medium-sized enterprises (SMEs) in Indonesia which comprised 99.99% of the total business enterprises in the country. They created employment for 99.40 million people or 97.22 % of the national labor force. However, their contributions to GDP, and to total export income, were only 57.12% and 15.81% respectively (MOCSME Indonesia, 2010). Because they are important in the welfare of so many people, the Indonesian government has always strived to empower the SMEs. One of the strategic programs designed to empower SMEs is KUR / *Kredit Usaha Rakyat* which provides credit for small business enterprises. This program is aimed to provide easy credit to help small businesses, especially micro enterprises (MOCSME Indonesia, 2010).

Although this source of credit is available, at the same time there are only a few programs that concern or enhance the ability of SME managers in relation to financial

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planning and investment. To implement a well-planned program, effort and organization needs to be applied to develop educational programs in financial planning and investment, perhaps using personal coaching. Prior to coaching managers in financial planning, and hopefully have them making better investment choices, it is important to understand their behavior in regard to making their investments, including their tolerance to financial risk (FRT).

One kind of SME that is widespread in Indonesia is the small businesses engaged in the food and beverage industry. These entrepreneurs own and manage their own restaurants and food stalls which have a degree of ethnic distinctiveness including, among others, the famous ethnic restaurants of the Padang, Madura, and Javanese ethnic groups. These three kinds of restaurants are nationally known for their cuisines. Padang food is especially famous with its characteristics of spicy taste and containing a lot of coconut milk. Padang restaurants in general are owned by the Minangkabau ethnic group from West Sumatra. Another famous ethnic group operating restaurants and food stalls in Indonesia is the Madurese. Their specialty is selling skewered meat kebabs called *satay*, and Madura chicken soup called *soto*. The Javanese Restaurant is also known across Indonesia. Their food taste is relatively sweet with tasty flavors. The differences are not only noticeable in the taste of the food but also in the behavior of their proprietors, including their FRT.

Yao, Gutter, & Hanna (2005) found that there are significant differences in financial risk tolerance among groups of business people from different ethnic backgrounds including Blacks, Hispanics, and Whites in the US or, in other words, that race and ethnicity are also a determinant of financial risk tolerance. The widely accepted view in Indonesia is that Madurese and Minangkabau people are more willing to take risks than the Javanese, and the factors that determine their attitude to risk may also be rather different. However, to the best of our knowledge, there is no previous research based on empirical evidence to support these claims.

This study aims to understand the risk tolerance of the SME owners that may contribute to a better understanding of how to deliver appropriate advice to SME owners, especially in regard to their financing decisions. The research has two purposes: 1) to examine the differences in risk tolerance among the Minangkabau, Madurese, and Javanese ethnic groups, and 2) to investigate the different factors which determine the risk attitudes of SME owners from different ethnic backgrounds.

If the result proves that there are differences in risk tolerance and they are determined by different factors among the ethnic groups, the government agencies should understand the uniqueness of each ethnic groups' risk tolerance and their determinants. That would help in providing appropriate education and coaching in financial and investment planning.

In regard to the existing FRT literature, this research will enrich the studies of FRT: *first*, our analysis provides important insights into the comparison of FRT among ethnic groups in a developing country; *second*, we compare these results to those of

Yao et al. (2005) who used data from the US Survey of Consumer Finance (SCF). The SCF is a triennial survey sponsored by the Federal Reserve Board in cooperation of the Department of Treasury that provides responses to a question related to risk tolerance (Yao & Hanna, 2005b). This research is based on primary data from a sample of SME owners; *third*, this research also compares the determinants of FRT in each ethnic group, something that has never been done before.

The concept of financial risk tolerance

In financial terms, risk can be regarded as a synonym for uncertainty, or chance of loss. Risk is a key concept in modern finance, because every transaction can be viewed as the buying or selling of some risk (Joshi, 2003). The success of an investment is determined by how much return will be received for a particular level of risk. The existence of risky choices makes the study of attitudes toward risk important (Bergman, 2004). There are three basic types of risky decision making: risk seeking, risk neutral, and risk averse behavior. Some literature describes risk preferring behavior as consistent with risk tolerance. FRT is the level of risk exposure with which an individual is comfortable: an estimate of the level of risk an investor is willing to accept in his or her investment portfolio (Dalton & Dalton, 2004).

In financial education, risk tolerance is acknowledged as an important factor in savings and investment choices for individuals and institutions. For the professionals working in financial planning, risk tolerance is an extremely important topic due to its function as a key input in the formulation and development of individual portfolios (Hallahan, Faff, & McKenzie, 2004). On the basis of these ideas, a high proportion of risky assets to total wealth is used as an indicator of substantial risk tolerance or a low level of risk aversion, as the two concepts are inversely related (Gron & Winton, 2001). Because of the linkage between FRT and risk aversion, Faff, Mulino, & Chai (2008) tried to investigate how well the two concepts, with their own methods of measurement, complement and reinforce each other. Their key finding strongly supports the view that the two approaches are strongly aligned. Therefore, risk tolerance is usually defined as a behavioral finance term that can be inversely related to the economic concept of risk aversion (Gilliam, Chatterjee, & Zhu, 2010). The implication of this finding is that individuals who are more (less) risk averse will have a lower (higher) tolerance of financial risk (Faff *et al.*, 2008).

Is FRT a product of nature or nurture?

Almost all of the discussion about financial behavior (including risk tolerance) concerns whether risk attitude is controlled by nature (genetic factors) or nurture (life experiences). In the discussion of FRT, both arguments are supported. First, some experts believe that FRT is a genetic predisposition (Cesarini, Dawes, Johannesson, Lichtenstein, & Wallace, 2009). Second, FRT most likely varies over time, influenced by a number of exogenous factors. This strand of the research followed the seminal work of (Kahneman & Tversky, 1979) and (Thaler, 1999). Kahneman & Tversky (1979)

introduced Prospect Theory that proposes people evaluate their own payoffs relative to some reference point. They laid the foundations for new domains in financial behavior, and researchers are beginning to study the behavior of individuals in choosing among various financial alternatives. An interesting school of thought has emerged, investigating the structure of human preferences in regard to various choices such as socio-economic, environmental or health risk. For reasons of brevity, this article only discusses the socio-economic context.

The investigation of the influence of the socio-economic factors on risky decisions by Yi & Yali (2010) was based on three concepts: 1) Friedman & Savage's theory (1948), 2) Fishburn's Target Returns Theory (1977), and 3) Kahneman and Tversky's Prospect Theory (1979). They noted that Friedman and Savage's theory proposed that if a potential gain could improve an individual's economic status (e.g. from low-income to middle-class), they would be willing to take the risk. Contrary to that, if a potential loss could decrease their economic status to a lower level, then they would be risk averse. The point which can be adopted from Fishburn's Target Return Theory is that decision-makers set a target return before making their decision. People are risk seeking before reaching the target return, but once the target has been reached, they become risk averse. If the target return is set to zero, then Target Return Theory is consistent with Prospect Theory. In Prospect Theory, Kahneman and Tversky proposed that in the losses domain, people are risk seeking, and just the opposite in the gains domain, where people are risk averse. This theory recognises what is called the "reflection effect". Therefore, there is one common argument to describe the behavioral approaches that individuals take to make decisions based on the assessment of consequences of previous decisions and the context in which decisions are made also plays an important role. Yi & Yali (2010) provided experimental evidence that individuals do not have constant risk preferences.

In contrast to the findings of Yi & Yali (2010), Brennan, González, Güth, & Levati (2008), also using experimental data, found no significant effect of the way risk was perceived by others on an individual's behavior. Similar to Brennan, et.al (2008), the experiment by Rohde & Rohde (2011) also showed that risk attitudes are not affected by the risk others face, the risks are perfectly independent across subjects. The findings from these two experiments are strongly supported by recent survey research. A longitudinal study of financial risk tolerance investigated the annual change in financial risk tolerance score of a sample of individuals over a 5 year period and the factors that influenced such change (Van de Venter & Michayluk, 2012). Their results indicated a relatively small annual change in individual FRT, therefore they proposed that FRT is a stable personality trait and is unlikely to change substantially over the life of an individual. Another piece of relevant research used panel data from the Health and Retirement Study 1992-2002 (HRS) of 12,000 respondents who were asked to make hypothetical gambles with their lifetime incomes which found that there were persistent differences in risk tolerance among individuals (Sahm, 2012). The HRS is a large biennial panel survey of Americans over the age of 50 and their spouses. This research concluded

that systematic factors account for over 70% of the risk tolerance displayed by individuals and that less than 30% of the systematic variation in risk tolerance was associated with factors that varied over time.

The determinants of FRT

In the FRT literature, there are many factors considered to be determinants of FRT including age, gender, marital status, education, income and wealth. Previous research results do not give a consistent view on whether age has an impact on FRT. It is generally thought that FRT decreases with age, and some empirical research supports this hypothesis (McInish, 1982), (Morin & Suarez, 1983) (Bakshi & Chen, 1995) (Gilliam *et al.*, 2010). Some other research concluded that the relationship between age and FRT was not linear (Kessler & Wolff, 1991). They found that risk tolerance decreased until age 30-39, and then increased. In another case, Riley & Chow (1992) found that risk tolerance increased with age until age 65 and then decreased thereafter. Faff, Hallahan, & McKenzie (2009) support the existence of a quadratic relationship between age and FRT. Although there are few cases of research reporting a causal relationship, the results can be explained intuitively by the fact that younger investors expect to have more years to recover from any losses that may be incurred from a risky investment. Some researchers suggest that biological changes in enzymes due to the aging process may be responsible (Harlow & Brown, 1990). However, some research provides evidence of a positive relationship between age and risk tolerance (Guiso, Jappelli, & Terlizzese, 1996; Hui & Sherman, 1997; Gutter, Fox, & Montalto, 1999).

Some of the research provides evidence that gender is significant in predicting FRT and found that females have a lower preference for risk than males (Bajtelsmit, Bernasek, & Jianakoplos, 1999; Grable, 2000; Hariharan, Chapman, & Domian, 2000; Hartog, Ferrer-i-Carbonell, & Jonker, 2002; Yao & Hanna, 2005a; Watson & McNaughton, 2007; Bosner & Lakehal-Ayat, 2008; Faff *et al.*, 2009; Roszkowski & Grable, 2010; Sahm, 2012). In contrast, Ho, Milevsky, & Robinson (1994) concluded that women might have more risky investment portfolios than men because they have longer life expectancies, assuming identical risk preferences. However, some other research does not support the significance of gender on financial risk tolerance (Sherman, Michael, & Jessie, 2001). Although there is a lot of research that provides evidence about differences in the effect of gender on FRT, only a few research reports focus on the reasons for these differences, which might be related to genetic differences and/or very early socialization. According to the summary provided by Watson & McNaughton (2007), the genetic differences of FRT are due to several reasons, such as 1) women producing higher levels of the enzyme monoamine oxidase than men. Monoamine oxidase inhibits sensation seeking and thus limits the extent to which risk taking occurs; 2) women have greater responsibility in reproduction and child rearing; and 3) women have a longer life expectancies which does allow them to bear the consequences of any negative outcomes over longer periods of time. However, some experts suggest that gender specific risk behavior is due more to contextual

factors such as financial literacy than a general trait, (Chen & Volpe, 2002), and attitudes toward money (Prince, 1993). In regard to marital status, Jaimie & Sherman (1996) found that FRT was lowest for female-headed households, followed by couples, and the households with the highest risk tolerance were headed by males. Further, Yao & Hanna (2005b) investigated the effect of gender and marital status on financial risk tolerance in the United States. They found that risk tolerance was highest for single males, followed by married males, then unmarried females, while married females had the lowest risk tolerance of all. Sahm (2012) found that everything else being equal, an individual who is married was 16% less risk tolerant than an individual who had never married. Contrary to that, Grable (2000) found that married respondents were more risk tolerant than single respondents. A study to examine the determinants of risk tolerance in the baby boomer cohort in the United States was conducted by Gilliam *et al.* (2010). They found a mixed result regarding the influence of marital status on risk tolerance. The leading baby boomers (the part of the generation who were born in the period 1946-1950) who were married had lower risk tolerance than their unmarried colleagues, but in the trailing boomer cohort (those born in 1960-1964), being married was positively associated with higher risk tolerance. In addition, a number of other studies have failed to identify any significant relationship between marital status and financial risk tolerance (Hartog *et al.*, 2002).

Some previous research agreed that individuals with higher education levels were more risk tolerant than those with lower qualifications (Ahmad, Safwan, Ali, & Tabasum, 2011; Grable, 2000; Sahm, 2012). Their explanation of this evidence was that education can increase an investor's knowledge about potential risks, which possibly leads to an increase in their willingness to accept risk and thus the potential to generate higher returns. This is consistent with a willingness to bear more financial risk. Bosner & Lakehal-Ayat (2008) measured the risk tolerance and risk capacity of 167 students enrolled in a variety of finance courses at two private colleges in Western New York. They identified three groups: the first group were undergraduate students taking their first finance course, the second group consisted of undergraduate students enrolled in a more advanced finance class, and the last group was a group that consisted of graduate students in an MBA Finance course. Their results showed that the first group had the greatest risk tolerance and risk capacity, followed by the second and the third groups. They interpreted this to mean that the more people knew, the more intelligent decisions they could make but the authors do not take into account the fact that there were many other differences between the groups that could explain this result. As students learn more about the components of risk and are exposed to various methods for evaluating risk and returns, they might be expected to make better decisions. Gilliam *et al.* (2010) concluded that baby boomers who had a high school diploma, or had attended college or received other higher education, demonstrated higher risk tolerance compared with the boomers who had not completed high school.

Up till now, there are mixed findings about the relationship between income and/or wealth and risk tolerance. Some researchers found that the relationship between

income and risk tolerance was positive (Grable, 2000; Hallahan et al., 2004). Thus individuals who have a higher income and are wealthier would be able to bear the potential losses that might be caused by a high-risk investment. Other researchers stated that there is a negative relationship between income and wealth and risk tolerance (Faff, 2008). An explanation of this negative relationship was that individuals who had a low income or were less wealthy have a greater desire to become wealthier. Thus, they are willing to take more risk. More recently, Faff, et.al (2009) provided evidence of the non linear linkage of income with FRT.

Effect of ethnicity on FRT

Yao *et al.* (2005) were researchers who focused on the impact of race and ethnicity on risk tolerance. They examined differences in risk tolerance from 23,243 sample households in the United States using data from the US SCF. They distinguish race and ethnicity as Blacks, Hispanics, and Whites. They present two rational reasons for the relationship between race and ethnicity with risk tolerance. The first reason is related to the influence of culture, and the second reason is related to barriers to access to financial markets. Culture is difficult to define, however Hofstede & Bond (1988) defined culture comprehensively as the collective programming of the mind that distinguishes the members of one category of people from others. Culture is composed of the beliefs, behavior, objectives, and other characteristics common to the members of a particular group or society. The cultural belief system can influence their investment choices, so it affects people's risk attitude. Thus, culture sharpens a person's behavior, including one's perception of dealing with issues. Culture is composed of various sub-cultures which in turn are defined by an ethnic, regional, economic, or social groups exhibiting characteristic patterns of behavior sufficient to distinguish them from others within an embracing culture or society (Merriam-Webster, 2013). Among the theories of behavior, it is widely recognized that race and ethnicity affect preferences (Ogden, Ogden, & Hope Jensen, 2004). Therefore, race and ethnicity may represent a particular sub-culture, which will affect the preferences of the people from that group and the way they act, including their financial preferences and willingness to take a risk.

Regarding the second reason, the relationship between risk tolerance and race or ethnicity was based on the different barriers of access to financial markets. Yao et al. (2005) explained that it is based on the fact that members of minority groups often experience less exposure to information about investments and are less likely to participate in financial markets.

They found that Blacks and Hispanic were less likely to be willing to take the same financial risk as Whites, after controlling for the effects of other variables. Echoing the result of Yao *et al.* (2005), Sahm (2012) found that the willingness to take risky decisions by race was different, whereas Blacks were 28% less risk tolerant than the White section of the US population.

FRT Measurement

According to Faff *et al.* (2008), there are three methods available to measure FRT and Risk Aversion: 1) observing actual investment behaviour, 2) assessing choices in an experimental setting, and 3) creating a score from a survey questionnaire. There are two widely used measures of risk tolerance in questionnaires (Gilliam, Chatterjee, & Grable, 2010). The first is the single risk-tolerance item such as found in the US Survey of Consumer Finance (further information on the survey are available at <http://scf.norc.org>). These risk tolerance measures are widely use in the US because they are available in the public domain, easy to administer, and relatively easy for respondents to answer. The second method of measuring risk tolerance is the thirteen-item financial risk-tolerance scale developed by Grable & Lytton (1999) which Gilliam *et al.* (2010) argue has greater explanatory power.

METHOD

It will be almost impossible to use the first and the second methods just described for research into SME owners in Indonesia, since they are spread over a large area and it is difficult to gather the respondents in one place at the same time. Therefore, this study used a survey questionnaire. Because there is no such datasets as the US SCF in Indonesia, particularly for the FRT of SME owners, this research needed to collect its own primary data. The survey used a questionnaire and a scale for rating answers that was developed by (Grable & Lytton, 1999) as the measure of risk tolerance. The survey required the use of some trained assistants. They visited the respondents one by one, and asked each respondent to fill out the questionnaire. The only guidance the assistants gave to respondents was to help them understand the questions, and then only in cases where the respondent asked for help.

There were 13 items in the questionnaire designed to test the constructs in regard to investment risk, risk comfort and experiences, and speculative risk (Gilliam *et al.*, 2010). The response to each item was obtained by answering multiple choice questions with two or four options. The binary choice questions had optional values of 1 and 3 as adopted by Gillam *et al.* 2010. This type of questioning is intended to assess the ways managers think about risk, which is likely to generate an emotional reaction before making an investment. Investors are likely to experience a level of anxiety about the possibility of losing money, be concerned about friends' and peers' opinions, and so on. For this survey, the questionnaire created by Grable and Lytton was translated into Indonesian language and several adjustments were made to convert from US Dollars into IDR Rupiah.

A total score for questions in this section was obtained by summing the scores of each item. The minimum score for the FRT is 13, while the maximum score is 47. A low score indicates a low risk tolerance; conversely, the high score indicates a high risk tolerance.

In addition to the questions about risk tolerance, there were six demographic questions about age, gender, marital status, education level, income, and ethnicity in order to find factors that determine tolerance to financial risk. For the individual characteristics variable, we used categorical data, as presented in Table 1.

The sample used in this research were SME owners engaged in the food and beverage industry. In general, the definition of an SME uses a variety of measures which are based on the number of employees, or annual revenue, net worth, etc. In Indonesia, SMEs are regulated by Law Number 20 of 2008 on Micro, Small and Medium Enterprises (ASEAN Secretariat, 2011). SMEs are defined as independent, productive enterprises that are run by individuals or are business entities that are not a subsidiary or branch of the principal company. SMEs can be grouped into three categories, based on criteria regarding asset values and annual sales, namely micro businesses (with assets less than IDR 50 million, and annual sales less than IDR 300 million), small business (with assets IDR 50 million up to IDR 500 million, and annual sales of IDR 300 million up to IDR 2,500 million); and medium-sized business (with assets IDR 500 m up to IDR 10,000 million, annual sales IDR 2,500 up to IDR 50,000 million). Because there are no accurate data about the number of SMEs in the food and beverage industry, or the number of owners in each of three ethnic groups, the sampling used was non-probabilistic sampling. The samples were taken from a restricted population and used a quota sampling approach for each ethnic group. The research set a minimum sample size of 60 for each group.

RESULTS AND DISCUSSIONS

Description of the sample

Of the 250 SME owners who were contacted to respond to this survey, 219 of them completed the questionnaire, resulting in a response rate of 87.6%. Table 1 shows the descriptive statistics that captures the characteristics of the respondents.

The distribution of the sample by age groups followed the normal distribution, whereas most respondents to the survey (33.79%) were in the range of age 35-44 years old. Of the sample of 219 business owners, male respondents constituted 70.78 %, and females comprise 29.22%. In regard to marital status, most of the respondents were married (73.97%) and the rest (26.03%) unmarried. Most of the sample (87.67%) had only completed primary and secondary levels of education, and the rest has higher education. According to income level, more than half of the sample had an income up to 5 billion IDR per month¹ (63.9%), and the rest has more than 6 billion IDR per month. The distribution of the sample based on ethnicity was spread almost equally with 36.08% from Minangkabau; 31.96% were Madurese, and 31.96% Javanese.

Table 1
Summary of Personal Characteristics of the Sample

<i>Characteristics</i>	<i>N</i>	<i>%</i>
Age		
< 25	16	7.30
25 – 34	62	28.31
35 – 44	74	33.79
45 – 54	57	26,03
> 54	10	4.57
Gender		
Females	64	29.22
Males	155	70.78
Marital Status		
Unmarried	57	26.03
Married	162	73.97
Education		
Primary & secondary	192	87.67
Diploma	18	8.21
University	27	12.33
Income (billion IDR)		
< 3	53	24.20
3-5	87	39.73
6-10	40	18.26
>10	39	17.81
Ethnic Group		
Minangkabau	79	36,08

Ethnic background & Risk Tolerance

As mentioned previously, the purpose of this study was to examine the differences in risk tolerance among the ethnic groups. Table 2 shows the description of the risk tolerance of each ethnic group and the ANOVA test results conducted on the three sets of respondents.

Table 2
The Risk Tolerance of Each Ethnic Group

	<i>Minangkabau</i>	<i>Madurese</i>	<i>Javanese</i>	<i>Sig.</i>	<i>Conclusion</i>
Mean FRT	25.24	24.1	22.31	0.000 ^a	Rejecting the null hypothesis
SD	4.8	3.84	4.595		
Detailed comparison					
Mean FRT	25.24	-	22.31	0.000 ^a	Rejecting the null hypothesis
Mean FRT	-	24.1	22.31	0.000 ^a	Rejecting the null hypothesis
Mean FRT	25.24	24.1	-	0.463	Failling to reject the hypothesis

^a The differences between each group were highly significant ($P << 0.01$)

The test results demonstrate a significant difference in risk tolerance among Minangkabau, Madurese, and Javanese ethnic groups. Minangkabau respondents seemed to have a higher risk tolerance (25.24) than the other two groups, followed by the Madurese (24.41) and Javanese (22.31). This is consistent with their character in daily life. If we examine the comparison of risk tolerance in more detail, there was a significant difference in risk tolerance between Minangkabau and the Javanese and the Madurese with Javanese, while there was no significant difference in risk tolerance between Minangkabau and Madurese.

The Minangkabau is the sixth largest ethnic group in Indonesia. In general, the Minangkabau are known to have high entrepreneurial spirit. They have a tradition of migrating to other areas to seek their fortune for the future leading them to spread nationwide as entrepreneurs, particularly in the restaurant and jewelry businesses. This courage shows the Minangkabau have high risk tolerance in general, which is reflected in this result showing that this ethnic group has high financial risk tolerance.

The Madurese is the fourth largest ethnic group in Indonesia. They are from Madura Island located off the north-eastern coast of Java. In their home island, the natural conditions are very hard, with very poor soil and agricultural resources. Driven by the difficult natural conditions, the Madurese also have a tradition of leaving their homeland to seek for a better life. In history, the Madurese have been migrating for hundreds of years to face new challenges in a new land without any or very little capital, but with an expectation of success. The common mindset is never to return to their home villages without having succeeded in the new land. At this time, most of the Madurese are spread all over Indonesia having various occupations and professions. One of the well-known professions of Madurese is as SME owners who run Satay (skewered meat kebabs) and Soto (meat soup) stalls. The Madurese are also known to have a strong character and have the proverbial "*E song pote matah, angok pote tolang*" which can be translated as "it is better to die than to be humiliated". This proverb is the general philosophy of the Madurese, who are very proud with high self esteem. The Madurese are also known as "the never give up fighters" and very hard workers. In addition, they are also known for their strong loyalty to a friend. Madurese are also known to have a harsh character, strong personality, and rude lifestyle. These attributes may be caused by the hardship conditions and natural surrounding of their own island. Their strong character might be positive in upholding loyalty, and in encouraging hard work and their never-give-up attitude. Naturally, these attributes create high financial risk tolerance among the Madurese.

The Javanese are the largest ethnic group (41.7% of the population) in Indonesia, who have characteristics of being courteous and polite and living in harmony, in all spheres of life. Suseno (1996) referred to two principles of the Javanese culture, i.e. the principles of harmony and respect. The principle of harmony is to live in a state of calmness, peace without discord and conflict, and unity with the intention of helping each other. The adherence to these principles meant that every word and deed should

not hurt others in interpersonal interactions. By nature, these characteristics affect the Javanese to the extent of prohibiting competition and affect the development of ambition. Since their childhood, they have been thought to be satisfied with their possessions, and position, and to do their respective duties to the utmost possible. Another famous philosophy of them is “mangan ora mangan asal kumpul” meaning “it is better to live close together regardless of whether you have something to eat or not”. This philosophy is internalized in the way of life for Javanese people due to the principle of “gotong-royong” meaning “mutual assistance”. It is the guiding principle for the Javanese to cooperate and always help one another. Those examples of the principles experienced by the Javanese have led to them being highly prudent in their economic life and, as a consequence, these principles lead them to have low financial risk tolerance.

Furthermore, when we see the distribution of risk tolerance scores for each ethnic group, we will find that each has unique characteristics. The Minangkabau has the highest average risk tolerance, and the distribution appears to follow the normal curve, albeit somewhat inclined to be skewed to the left. The Madurese have average risk tolerance, lower than the Minangkabau, but the distribution is concentrated around the average and skewed to the right while there were only 3% of people in the low score. The observations for the Javanese confirmed their existence as a people with a low risk tolerance. In addition, their average risk tolerance is far below the average of the two other ethnic groups, and the distribution of risk tolerance is also concentrated around the low part of the scale; not even one respondent had high risk tolerance.

Table 3
The Distributions of Risk Tolerance

	<i>Minangkabau</i>	<i>Madurese</i>	<i>Javanese</i>
Low	14%	3%	31%
Below Average	23%	21%	23%
Average	46%	37%	34%
Above Average	11%	38%	11%
High	5%	1%	0%
	100%	100%	100%

It is also interesting to look deeper into some particular questions. For the question, “In general, how would you describe yourself as a decision maker?” Many of the Minangkabau (44%) and most of the Madurese (70%) describe themselves as a person who is willing take risks after doing considerable research, but 61% of the Javanese describe themselves as being cautious. This outcome is confirmed by the response to another question about what they think of when they hear the word “risk”. A majority of all of these ethnic groups answered “losses”. Interestingly, some Minangkabau people (13%) and Madura (12%) answered “opportunities”, while only 4% of the Javanese answered “opportunities”.

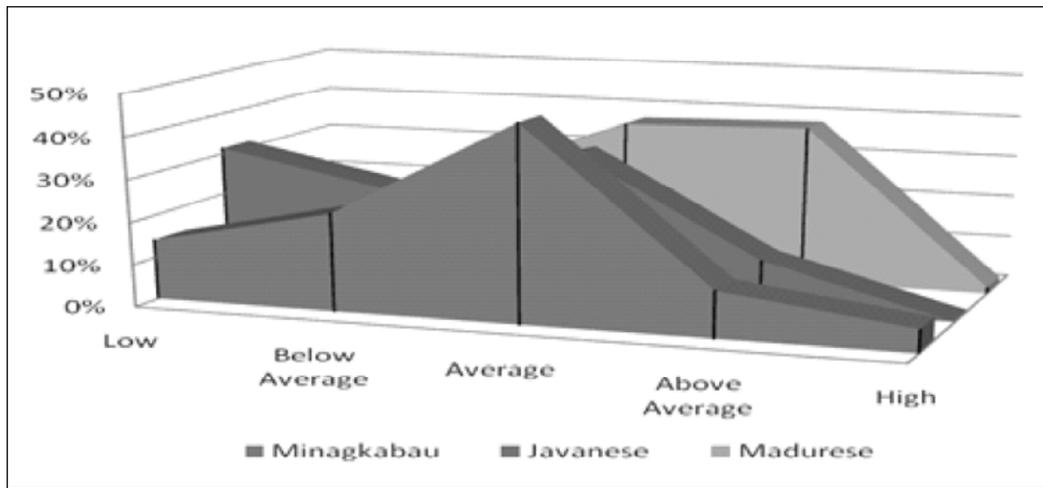


Figure 1: The Distribution of Risk Tolerance

Differences in factors determining risk tolerance among ethnic groups

Having identified differences in risk tolerance among the ethnic groups, this study also explored the different factors that caused differences in risk tolerance among the ethnic groups. Table 4 presents a summary of the effect of ethnicity on risk tolerance among each of the groups. This summary based on ANOVA test result.

Table 4
Determinants of Risk Tolerance for Each Ethnic group

Determinant	Minangkabau	Madurese	Javanese
Age	No differences	No differences	Young > Old
Gender	No differences	Male > Female	No differences
Marital Status	Married > unmarried	Married > unmarried	No differences
Education level	Has higher education > lower leveleducation	No differences	Has higher education > lower level
Income	No differences	No differences	Lower income > higher income

If we look in more detail at the three ethnic groups, the results show that differences in risk tolerance between the young and the old respondents did not occur in all ethnic groups. In the Minangkabau and the Madurese samples, risk tolerance among the young and the old is no different, but there were significant differences between the young and older groups in the Javanese sample. The Javanese SMEs owners under the age of 35 years have a higher risk tolerance than the older owners. This is consistent with the characteristics of Javanese people who are known to be very cautious in their actions. The more mature the Javanese become, it is expected that they will be more cautious than the younger people about every decision, including financial decisions.

That means the older Javanese tend to be more risk averse. Such expectations are not so pronounced in the Minangkabau and Madurese ethnic groups.

From the gender aspect, there were no differences in risk tolerance between males and females among the Minangkabau and Javanese respondents, but the male Madurese had a higher risk tolerance than the females in that group. The finding that there is no difference between the risk tolerance of males and females in the Minangkabau is not surprising and may be due to their matrilineal culture. In the Minangkabau culture, the family name and the wealth are inherited by the daughters. Consequently, women have a very important role in making decisions on various aspects of life and business, including financial matters. As they were involved in a wide range of decision-making, it is not surprising that there is no difference in risk tolerance between males and females. The roots of Javanese culture are paternalistic, but in modern Javanese society where females have better education, the role of females in Java is quite similar to their male partners, including in the making of financial decisions. Therefore, risk tolerance among the Javanese respondents did not differ between males and females. For the Madurese, the risk tolerance of males (average score 25.34) proved significantly higher than the female score (21.53). The cultural structure in Madura is paternalistic, and the education level of women in that section of society is not as high as it is in Java. Thus in many decision-making situations, men still have more dominant influence than women. Since male risk tolerance is higher than females among the Madurese, this outcome is expected.

In regard to marital status, we found that being married is positively associated with a higher risk tolerance in the Minangkabau and Madurese communities. This finding supports the result of Gilliam *et al.* (2010) in the case of trailing baby boomers, the generation who were born in the period 1960-1964. The reason why married people have a higher risk tolerance is possibly counter-intuitive. Because they have a greater responsibility for their dependents, they usually face a bigger challenge to gain higher returns from their investments, so they are encouraged to make higher risk investments. Naturally, for most investments, the higher returns are associated with greater risk. Therefore, married couples take a chance with the higher risk investments to meet their higher returns target. There is also the factor that in a married couple, the combined diversity of skills is greater than for two single people, so that they are better able to manage the risks that might arise from any particular investment. Among the Javanese, there is no difference between married and unmarried people. Even though a married individual may be facing greater responsibilities, they are still very cautious in all aspects of decision making.

For the Javanese and the Minangkabau, the results showed significant differences in risk tolerance between those who have had higher education and those who have not, however this was not the case with the Madurese. This might be caused by the existing sample of Madurese people in this study, where 95% of them did not have a low education level, so it was difficult to identify any difference.

The investigation of the influence of income on financial risk tolerance failed to show that the risk tolerance of higher-income individuals was consistently higher than it was for low-income individuals. In the Minangkabau and Madurese samples, there was no difference in risk tolerance between higher-income and lower-income groups, but that was not so in the Javanese case. Contrary to expectations, the lower income Javanese group had higher risk tolerance than the higher-income people. This might be caused by what we call 'survival of the fittest', and because there were no other options, except to take the higher risk opportunities. Potentially, the low-income Javanese risk-takers could be on the path to a higher income level.

CONCLUSION

This study shows that there are differences in risk tolerance among the Minangkabau, Madurese, and Javanese ethnic groups in Indonesia. Theoretically, these findings support the results presented by Yao *et al.* (2005) about the differences in financial risk tolerance between ethnic groups in the USA. The use of a specific sample in this study, with approximately equal numbers of entrepreneurs from each ethnic group, is one of the advantages of this research. Entrepreneurs as a group are more likely to reveal their risk tolerances rather than non-entrepreneurial individuals, however the risk tolerance among different ethnic groups is clearly different. This result also provides empirical evidence of the widely-held view in Indonesia claiming that Minangkabau and Madurese are people who are more willing to take a risk. Although this research was limited by the methods used to explore the causes of high risk tolerance among the Madurese and Minangkabau ethnic groups, it does provide some explanation of the suspected causes. The Minangkabau have a high risk tolerance because of cultural reasons, but the Madurese have high risk tolerance because of natural conditions. Once again, this reinforces the notion that socio-economic context has a strong influence on financial risk tolerance.

Differences in risk tolerance between ethnic groups should be recognized by government agencies in providing education about investment and financing. They cannot provide the same direction and suggestions to all ethnic groups. For Minangkabau and Madurese entrepreneurs, providing funding with a relatively high level of risk would be more acceptable to them than it would be to the Javanese. A funding scheme with relatively low risk should be provided for Javanese SME owners.

Another finding from this research is that there are differences in the factors determining financial risk tolerance among the three ethnic groups. Theoretically, this explains why there is always a difference of opinion about the importance of variables (such as age, gender, marital status, level of education, and income) on financial risk tolerance. Each of these factors has a different effect on risk tolerance in different ethnic groups. For instance, the risk tolerance of the younger and the older Minangkabau and Madurese groups is no different, while it is a different matter for the Javanese. This implies that approaching the older Javanese and the younger

Javanese entrepreneurs requires a different style. In contrast, marital status does not affect risk tolerance among the Javanese, but it is a significant factor for the Mingkabau and Madurese. Financial advisors and investors could use this fact to offer married Minangkabau and Madurese business owner's higher-risk financial products. For government, it also important to educate the SME operators they serve by investment training, to make them more comfortable with financial decision making. By using this knowledge, they will not prevent the risk, but presumably they could encourage the SME owners to have more confidence to take the risks associated with investing in their businesses.

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Note

1. This amount is equivalent to about USD \$ 550.

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