CAN DEMOGRAPHIC VARIABLES INFLUENCE FINANCIAL RISK TOLERANCE? A CASE IN KOTA KINABALU.

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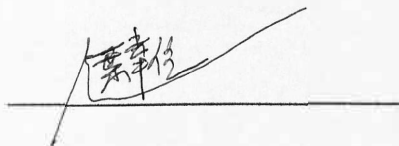
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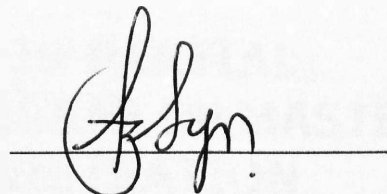
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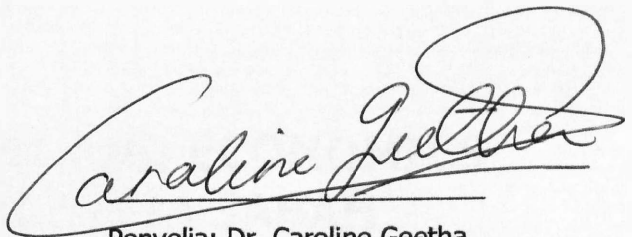UNIVERSITI MALAYSIA SABAH

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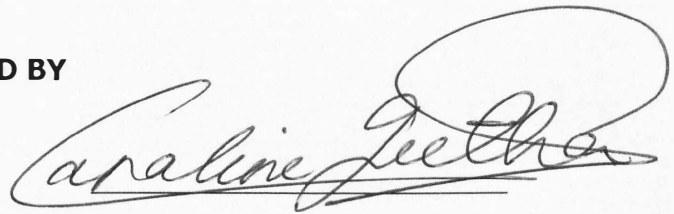
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ABSTRACT

CAN DEMOGRAPHIC VARIABLES INFUENCE FINANCIAL RISK TOLERANCE? A CASE IN KOTA KINABALU.

This study attempts to measure the effect of demographic characteristics of respondents from Kota Kinabalu towards risk tolerance when making financial decision. A quantitative study that consists of about hundred and seventy two respondents was performed. Data was collected using personally administer questionnaire. The effects of demographic variables (gender, age, marital status, income, education, number of financial dependents as well as occupation) on financial risk tolerance were analyzed by using multiple regressions. The findings revealed that demographic variables had significant effect on financial risk tolerance (FRT). The validity of gender, age, marital status as well as income in determining FRT was supported. However, education, number of financial dependents and occupation were found to be insignificant in this study compared to some previous studies. This was due to some societal differences between Kota Kinabalu and Western countries. Therefore, some demographic variables that were appeared to have significant effect on FRT were found to be insignificant in this study.

ABSTRAK

Kajian ini adalah bertujuan untuk mengkaji kesan pembolehubah demografi bagi responden Kota Kinabalu terhadap toleransi risiko semasa membuat keputusan berkaitan kewangan. Sebanyak seratus tujuh puluh dua responden terlibat dalam kajian kuantitatif ini. Data telah dikumpulkan dengan menggunakan pendekatan soal selidik yang dikendalikan sendiri. Kesan demografi (jantina, umur, status perkhawinan, pendapatan, tahap pendidikan, bilangan orang yang bergantung kepada responden dari segi kewangan dan pekerjaan) pada toleransi risiko kewangan telah dikaji dengan menggunakan regresi berganda. Keputusan kajian menunjukkan bahawa pembolehubah demografi mempunyai kesan yang signifikan terhadap toleransi risiko kewangan. Jantina, umur, status perkhawinan dan pendapatan dibuktikan sebagai pembolehubah yang mempunyai kesan signifikan terhadap toleransi risiko kewangan. Namun, tahap pendidikan, bilangan orang yang bergantung kepada responden dari segi kewangan serta pekerjaan tidak mempunyai kesan yang signifikan terhadap toleransi risiko kewangan. Ini disebabkan perbezaan dari segi sosial yang wujud di antara Kota Kinabalu dengan Negara Barat yang lain. Oleh sebab itu, sesetengah pembolehubah demografi yang didapati mempunyai kesan signifikan terhadap toleransi risiko kewangan didapati tidak signifikan dalam kajian ini.

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LIST OF ABBREVIATIONS.

ACV   Portfolio-weighted average volatility

CAPM Capital Asset Pricing Model

FRT   Financial risk tolerance

HHI   Herfindahl-Hirschmann

LWS   Luxembourg Wealth Study

RTS   Risk tolerance score

SCF   Survey of Consumer Finances

SOEP German Socioeconomic Panel

SPSS Statistical package for Social Science

VOL   Volatility of portfolio

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UMS

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LIST OF GLOSSARY

Age

How old is the respondents in years during the time they respond to the survey (during the year of 2011).

Demographic Variables

Demographic characteristics of respondents which include gender, age, marital status, income, education, number of financial dependents and occupation.

Education

The level of formal education of a person.

Financial risk tolerance

Highest amount of uncertainty or volatility of investment returns that a person is willing to bear when dealing with financial decision making.

Gender

Referred to either male or female.

Income

Total earnings per month for the respondents in Ringgit Malaysia.

Marital Status

Referred to either single or married.

Number of financial dependents

The number of people who are fully or partially supported financially by the respondents. This number exclude the respondent himself or herself.

Occupation

The main activity of an individual that result in pay. It is referred to either self-employed or employed by others.

Risk

The variance or standard deviation of a possible outcome related to a choice.

CHAPTER 1

INTRODUCTION

1.1 Overview

According to Grable (1997), financial risk tolerance is one of the inputs for investment management decision making process. Financial risk tolerance can influence a person's decision on investment. This is because investors' financial goals or objectives could be highly correlated with his or her financial risk tolerance (Chang, DeVaney and Chiremba, 2004). Therefore, it is the responsibility of financial planners or investment managers to understand the financial risk tolerance of their clients (Callan et al., 2002; Grable, 1997).

Based on the prediction of Capital Asset Pricing Model (CAPM), the percentage of risky portfolio against risk-free assets will differ according to the investor's financial risk tolerance (Hariharan, Chapman, & Domain, 2000). This is also supported by Dorn and Huberman (2010), who found that investors with lower risk tolerance or greater risk-aversion tend to hold less volatile or less risky stocks. Hence, different levels of financial risk tolerance will result in needs of portfolio with different proposition of risky and risk-free assets.

According to the empirical model of Grable (1997), financial planners or investment managers must first conduct background analysis. This background analysis includes observation on the demographic characteristics that describes investor's risk tolerance before they can come out with the objective of investment. The objective of investment is then further contributed to the development of suitable financial plan for their clients. He also stated that people with different

financial risk tolerance can react differently toward financial instruments that consist of different risk.

Understanding the financial risk tolerance of investors is critical to avoid the mismatch or disparity between financial and psychological needs (Callan et al., 2002). Based on Moreschi (2005), investors with portfolios that are not parallel to their risk tolerance can lead to dissatisfaction among investors. However, the subjectivity of financial risk tolerance makes it difficult to be measured by financial planners or investment managers. Hence, they will usually use heuristic judgments or demographic characteristics such as age, gender, marital status, income, educational level as well as number of financial dependents to predict the financial risk tolerance of their clients (Grable, 1997). This makes the validity of demographic variables as the determinants of financial risk tolerance become more critical.

However, there are some inconsistent findings discovered in previous studies in which some demographic characteristics do not show significant effect on financial risk tolerance. Grable and Joo (2004) found inverse but significant relationship between education and financial risk tolerance. Hallahan, Faff and Mc Kenzie (2003) found that the said relationship can be negligible. Thus, we need to identify the effects of demographic characteristics on financial risk tolerance in order to confirm the use of this kind of heuristic judgments for a case in Kota Kinabalu.

1.2   Problem Statement

According to Grable (1997), the use of demographics to categorize investors into different levels of risk tolerance has received consensus from researchers and investment managers. Nonetheless, most of the studies were conducted in Western countries. According to Badunenko, Barasinska and Schafer (2009), the findings

obtained for one location should not be generalized for other locations since different country has different institutional settings, macroeconomic conditions and social policies. Furthermore, based on Demirel (2011), different effect of demographic factors on financial risk tolerance may occur at different geographical area. Demirel (2011) found that the older students were not able to take more risk compared to the younger students in Macedonia but this was not the case when respondents were from Turkey. In addition there were still very few research conducted regarding the use of demographic as determinant of financial risk tolerance in of Kota Kinabalu. Hence, a study needed to be carried out to contribute to the body of literature.

Furthermore, many studies on demographics as determinants of financial risk tolerance had used questionnaire that consisted of only a single question as the risk tolerance assessment instrument. According to Grable (1997), single question instrument used in their study was considered as a limitation in their study. This is because instrument with strong multidimensionality could provide a better suggestion of actual financial risk tolerance attitudes (Grable et al., 1999b). Hence, a multidimensional financial risk tolerance assessment instrument should be used in the study that link demographics with financial risk tolerance.

As mentioned by Grable (1997), the use of demographic characteristics to judge on a person financial risk tolerance was widely accepted by financial planners or investment managers. Bryman (2011) further supported that in Malaysia, many companies struggled with performing an appropriate risk tolerance assessment and reverted to simple selection. Using simple selection resulted in inconsistent findings were found by previous researchers. Thus, to ensure the accuracy of this kind of heuristic judgment was highly critical. According to Keown, Martin, Petty, & Scott (2005), there were three types of investors. Investors were willing to get higher return by getting involved in the purchase of stocks that has high risk. There were individuals who would like to reduce risk by getting involved in transaction that has low volatility but provide consistent returns. Finally, there were investors who were

known as risk adverse individuals who do not like risk at all. If financial planners or investment managers mismatch the proposition of portfolio with their clients' financial risk tolerance, dissatisfaction may occur (Moreshi, 2005).

Moreover, the identification of individuals' financial risk tolerance is vital in financial planning and investment decision making process (Grable, 1997). According to the empirical model of Grable (1997), this financial planning and investment decision making process started with background analysis. During the background analysis, demographic characteristics are used to predict investors' risk tolerance. Then, the information acquired will be used to establish objectives and finally develop financial plans. Figure 1.1 represents the empirical model of Grable (1997).

Figure 1.1:   Empirical Model of Grable (1997)
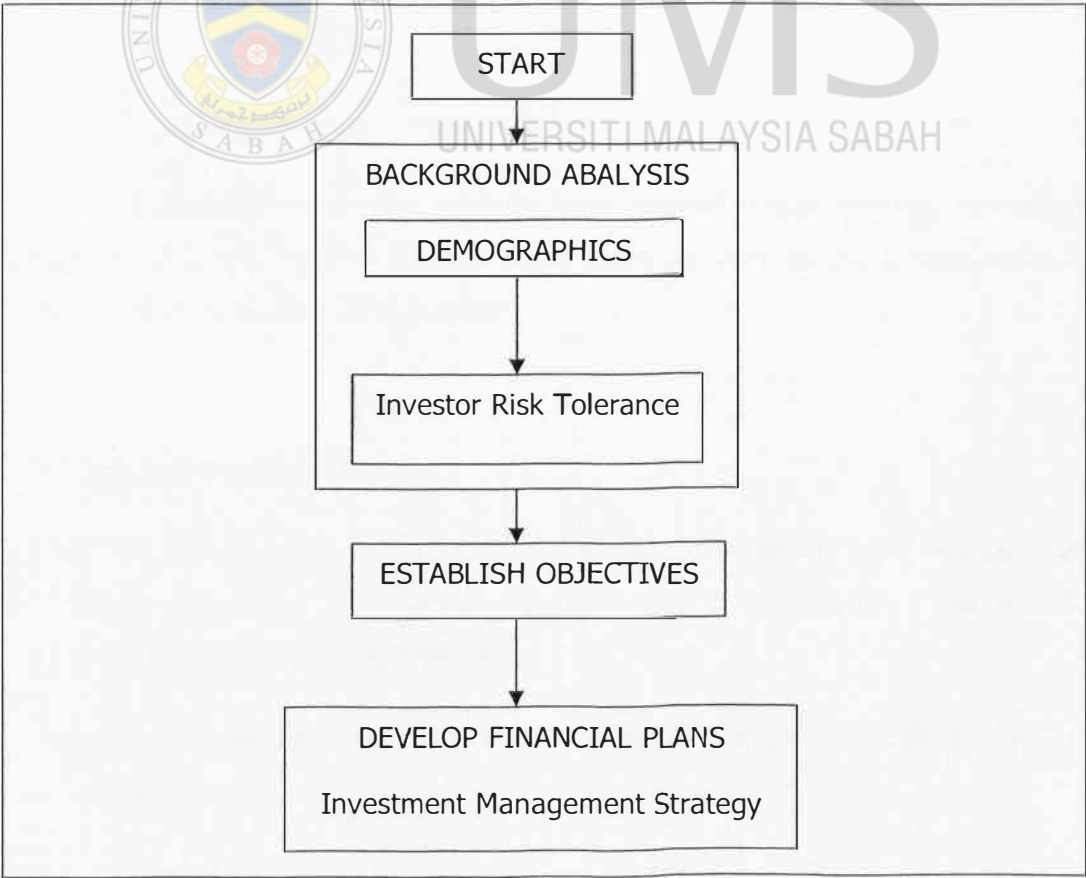
The initial stage in the financial planning process is very important as shown in Figure 1.1. Without the identification of individuals' financial risk tolerance, it is difficult for financial planners and investment managers to establish suitable financial tools for their clients. This can then hinder the development of financial plans. Hence, it is crucial to ensure the effectiveness of demographic variables in differentiating the financial risk tolerance of individuals so that the whole process of financial planning and investment decision making can flow smoothly and successfully. Thus the main aim of this paper is to determine whether demographic variables can be used to determine or predict the individuals' financial risk tolerance in Kota Kinabalu. With this the research question derived for this study is as follows:-

Can demographic variables (gender, age, marital status, income, education, number of financial dependents and occupation) be used as the determinants of financial risk tolerance of an individual?

1.3   Research Questions

The research question for this study is as follows:-

Can the demographic variables (gender, age, marital status, income, education, number of financial dependents and occupation) be used as the determinants of financial risk tolerance of an individual?

1.4   Research Objectives

The overall objective of this study is to identify whether demographic variables can be used to determine the financial risk tolerance of individuals? The specific objectives of this study are as follows:-

  a. Are men greater risk takers compared to women in financial decision making?

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b. Are younger individuals greater risk takers compared to older individuals in financial decision making?

c. Are single individuals greater risk takers than married individuals in financial decision making?

d. Are individuals with higher income greater risk takers than individuals with lower income in financial decision making?

e. Are individuals with higher educational level greater risk takers compared to individuals with lower educational level in financial decision making?

f. Are individuals with less number of financial dependents greater risk takers compared to individuals with more number of financial dependents in financial decision making?

g. Are self-employed individuals greater risk takers than individuals employed by others in financial decision making?

1.5   Scope of Study

This study aimed to measure whether demographic characteristics play an important role with risk perception among respondents in Kota Kinabalu while making financial decision. This was a **cross sectional study** in which data was collected just once. The **quantitative study** required the respondents to answer a well structured questionnaire which was used as a tool. The respondents were chosen based on **non-probability sampling method** where **convenient sampling method** was used. Minimum **140 respondents** were required to answer the questionnaire. This was supported by Coakes, Steed and Ong (2010) who claimed that the numbers of respondent should be at least twenty times the number of independent variables. Roscoe (1975) further supported this and stated that the sample size that was greater than 30 and below 500 were appropriate in most research.

Respondents were given questionnaire to measure the risk tolerance that was employed in the study of Grable and Lytton (1999b) in section B. In section A

of the questionnaire, respondents were required to fill in their personal information regarding age, gender, marital status, monthly income, level of education, number of financial dependents as well as occupation.

1.6   Significance of the Study

The significance of this study was to contribute to the body of literature that addressed the issue of demographic variables as the determinant of financial risk tolerance at different geographical area. Up to date, in Kota Kinabalu, limited studies on the effect of demographic variables towards financial risk tolerance were conducted. Hence, a study based on respondents from Kota Kinabalu will contribute to the body of literature.

As mentioned by Badunenko et al. (2009), private households were important suppliers of financial assets for firms or enterprises. They supply firms or companies with financial capital that support the production of firms. If they were very risk averse (low financial risk tolerance) and refuse to invest in risky assets such as bonds and stocks, the overall economy as well as individual firms can be negatively affected due to the lack of capital supplies from the market (Badunenko et al., 2009). Since, Sabah is Malaysia's poorest state as reported in Sabah Development Corridor (2007), this creates a need to investigate the financial risk tolerance in Kota Kinabalu.

Based on Grable et al. (1999b), instrument with strong multidimensionality could provide a better measurement of actual financial risk tolerance attitudes. Therefore, in this study, a multidimensional 13-item instrument from Grable and Lytton (1999b) was used. This study would contribute to the personal financial planning industry in which the results can inform the financial planners which demographic variables can be used in differentiating financial risk tolerance.

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According to Sung and Hanna (1996), the study of demographic variables as the determinants of financial risk tolerance was useful and vital to financial planners as well as investment managers. They also agreed that more research on this issue was required. This was because even though there were many previous studies about the effects of demographics on financial risk tolerance, but there were some inconsistent findings for some demographic variables such as age. Improper link between demographics and financial risk tolerance can hinder the whole process and the effectiveness of financial planning due to improper inputs (Grable, 1997). Thus, this study further addressed the effect of demographic variables in financial risk tolerance on respondents who lived in Kota Kinabalu.

1.7 Definitions of Key Terms in Study

a. Financial Risk Tolerance (Dependent Variable)

Financial risk tolerance is defined by Grable and Lytton (1999a) as the highest amount of uncertainty or volatility of investment return that a person is willing to bear when dealing with financial decision making. In this study, the multidimensional financial risk tolerance assessment instrument by Grable et al. (1999b) was used to measure the financial risk tolerance of respondents. Score was given to the answer chosen for each question. For question number 1, 2, 3, 6, 7, 8, 11, and 13, a score of one to four was assigned to the four choices. A score one to three was used for the question number 4, 5, 9, 10 and 12. The higher the total score for this 13-item, the greater the financial risk tolerance of an individual.

b. Demographic Variables (Independent Variable)

Demographic variables refer to the demographic characteristics of respondents which include gender, age, marital status, income, education, number of financial dependents as well as occupation.

c.   Gender

Gender of respondents is referred to either male or female.

d.   Age

Age is referred to as how old is the respondents in years during the time they respond to the survey (which mean in this case is during the year of 2011). Based on Grable (1997), investment managers or financial planners use age as a proxy to examine the ability of investors to recover from financial losses.

e.   Marital Status

Marital status of respondents is referred to either single or married.

f.   Income

Income in this study refers to the total earnings per month for the respondents in Ringgit Malaysia.

g.   Education

Education refers to the level of formal education of a person (Grable et al., 1999a). In this study, the respondents' formal education in terms of number of years is used.

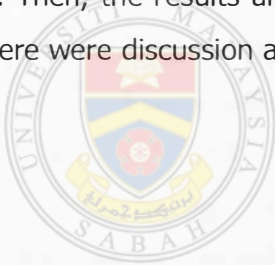## h.   Number of Financial Dependents

Number of financial dependents refers to the number of people who are fully or partially supported financially by the respondents. This number do not include the respondent himself or herself (Hallahan, Faff, and Mc Kenzie, 2003).

i.   Occupation

Occupation as defined by Grable (1997) is the main activity of an individual that result in pay. Occupation is divided into self-employed and employed by others in this study. Grable (1997) further explained that individuals are considered as self-employed if their incomes or earnings come from their own profession, business or trade instead of being paid by an employer in terms of wages or salaries.

1.8   Structure of the Study

This study consisted of five chapters. Chapter 1 provided an overview of this study. In this chapter, some of the research problem, research objectives and scope of study were mentioned. The next chapter was the review of literature that was relevant to this study. In chapter 3, the research methodology employed was explained. Then, the results and the analysis of data were presented in chapter 4. Finally, there were discussion and conclusion of this study in chapter 5.