

Risk Tolerance Profile of Cash-Value Life Insurance Owners

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Abstract

Life insurance, a risk management tool, generally provides ways to protect against the financial loss due to an individual's death. This study investigates risk tolerance profile of cash-value life insurance owners and attempts to investigate the association between life insurance ownership and subjective attitude toward different domains of risk by comparing with two logistic models. Inconsistencies exist in risk tolerance in different domains, specifically, life insurance owners are risk-averse in general, but they are risk takers in other domains.

Introduction

Assessment of risk attitudes of individuals is of great interest in the growing area of Financial Planning. An important aspect associated with financial planning processes involves helping clients identify, analyze, and manage risk. After assessment of risk tolerance, financial planners recommend financial products that are best for a client at a given level of risk tolerance.

Life insurance is commonly used as a risk management tool. Life insurance provides ways to protect against the financial loss due to an individual's death. Property and liability insurance, health insurance benefit the insurer in a direct financial way. Life insurance, on the other hand, has a different form of benefit, it does not directly benefit the insured. Upon death, the insured has guaranteed that the insurer will pay his or her beneficiaries. This fact makes life insurance a very different form of insurance for the consumers. For some consumers, life insurance is an optional form of insurance, while for others life insurance may be necessary. Individuals with a family are likely to have a higher demand for life insurance to provide financial support for the rest of the family members. Individuals with no family ties may not see life insurance as necessary. Thus, purchasing a life insurance is inherently a form of risk aversion.

It is reasonable to assume that risk aversion is positively correlated with life insurance purchase. Saying differently life insurance owners are likely to have lower risk tolerance, in general. A typical consumer encounters and engages in multiple risk-taking situations on a daily basis. These risks can generally be classified into a number of risk domains. Weber, Blais, & Betz (2002) identified five domains of risk-taking: (a) financial, (b) health/safety, (c) recreational, (d) ethical, and (e) social. Willman, Fenton-O'Creevy, Nicholson, & Soane (2006) identified six domains: (a) recreation, (b) health, (c) career, (d) finance, (e) safety, and (f) social. Some researchers believe risk tolerance is domain-dependent (Corter & Chen, 2006; Slovic, 1964). This means people respond differently in different domains of risk. Someone may be a very conservative risk taker in several areas of life but show very high-risk tolerance in another area. For example, a person may be unwilling to invest in a life insurance, yet is willing to engage in a risky health activity such as smoking or drinking.

Many recent studies in insurance focus on the riskiness of situations, while other studies focus on the willingness of people to take risks in such situations (Outreville, 2014). The purpose of this paper is to conduct an empirical study on how life insurance ownership varies with consumers' willingness to take the risk at different domains of risk while taking into account demographic factors. Specifically, we tested if risk tolerance at different risk domains is negatively associated with owning a cash value life insurance.

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Methods and Model

The present study used the data from the National Longitudinal Survey of Youth 1997, which was a longitudinal project funded by the Bureau of Labor Statistics (BLS) that sampled from American youth who were born between 1980 and 1984, and it covered approximately 9,000 youths with ages from 12 to 17 when they were first interviewed in December 31, 1996. The final sample size was 4723.

In this study, having cash value life insurance is a dependent variable. It represents whether the family has life insurance or not. The rest are independent variables, and details are shown in Table 1. Especially, the risk tolerance assessment variables were scores rated by respondents themselves to show their willingness to take risks in nine risk domains (general, finance, driving, work, life change, gambling, health, faith in people, and romance), and they are ranging from 0 to 10. Similarly, self-disciplined was a self-evaluated scale from 1 to 7. For the risk tolerance variable, we use risk tolerance (general) in Model 1 and include all nine risk tolerance assessments in Model 2.

Results

Comparing with people who do not have life insurance, life insurance owners have different risk tolerance profiles and assess their risk tolerance differently in different risk domains (Figure 1). Comparing the means with two groups, people having life insurance have lower risk tolerance than people who do not have life insurance in terms of subjective risk tolerance assessments in the risk domains of general, finance, life change, faith in people, driving, gambling, and romance. However, life insurance owners seem to have higher risk tolerance in the domains of work and health.

Correlation analysis of the variables (Table 2) shows that risk tolerance general is negatively correlated with having life insurance. Except for the region and race, all other correlations are positive and significant, even though they are all small.

According to the odds ratio results for Model 1 (Table 3), it shows that self-disciplined, household size, gender have positive but insignificant influences on having life insurance. The remaining variables all have significant effects on life insurance ownership. Model 2 gives us similar results and the corresponding significance. In addition to general risk tolerance, Model 2 suggests that risk tolerance in gambling and faith in people have significant negative associations with life insurance ownership, and risk tolerance in work has a significant positive association with life insurance ownership.

Discussion and Conclusion

The findings of this study show that people have different attitudes of risk tolerance in different areas. General risk tolerance is significant in both models, but adding eight other risk domains has resulted in better model fit. The self-disciplined variable was not significant in the Model 1, but becomes significantly and positively associated with the life insurance ownership when we added other domains. This study provided support for the notion of domain-specific risk tolerance in the area of life insurance purchase.

Table 1				
<i>Categorical Variables Used in Logistic Regression</i>				
<u>Name</u>	<u>Level</u>	<u>Proportion</u>	<u>Number of</u>	<u>Observations</u>
	<u>s</u>	<u>%</u>	<u>Observations</u>	
Life Insurance	0	86.99	5,949	
	1	13.01	890	
Region	1 Northeast	15.50	1,140	
	2 North Central	20.59	1,515	
	3 South	41.05	3,020	
	4 West	22.86	1,682	
Gender	1 Male	51.19	4,599	
	2 Female	48.81	4,385	
Degree	1 The Poverty and Working class	9.09	647	
	2 Associate and Below	63.69	4,532	
	3 Bachelors	19.62	1,396	
	4 Masters, PhD, and Professional	7.60	541	
Marital Status	1 Never-married	49.51	3,525	
	2 Married	41.18	2,932	
	3 Separated, Divorced, and Widowed	9.31	663	
Race	1 White	58.76	5,232	
	2 Black or African American	26.82	2,388	
	3 Others	14.42	1,284	
<i>Continuous Variables Used in Logistic Regression</i>				
<u>Variabl</u>	<u>Min</u>	<u>Max</u>	<u>Mean</u>	<u>Std. Dev.</u>
<u>e</u>				
Risk Tolerance General	0	10	5.61	2.59
Risk Tolerance Finance	0	10	3.96	2.77
Risk Tolerance Driving	0	10	2.81	3.10
Risk Tolerance Work	0	10	4.68	3.14
Risk Tolerance Life Chance	0	10	5.13	2.87
Risk Tolerance Gambling	0	10	5.40	3.52
Risk Tolerance Health	0	10	2.92	3.00
Risk Tolerance Faith in People	0	10	4.29	2.85
Risk Tolerance Romance	0	10	4.42	3.25
Income to Poverty Ratio	0	197 1	357.43	358.48
Self-disciplined	1	7	6.11	1.07
Household Size	1	13	3.33	1.68
Age	28	34	31.00	1.44

Figure 1

Risk Profile for Life Insurance Owners

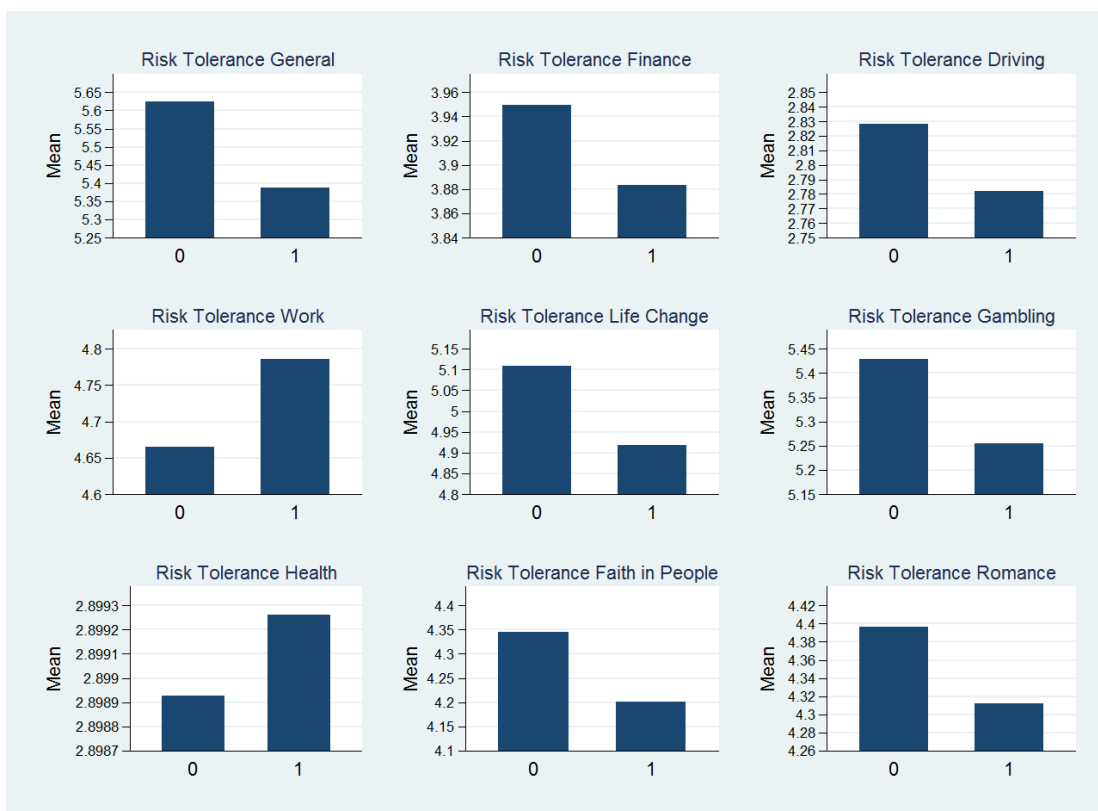


Table 2
Correlation analysis among the variables

	Life Insurance	Risk Tolerance General	Income to Poverty Ratio	Region	Self Disciplined	Household Size	Age	Gender	Degree	Marital Status	Race
Life Insurance	1										
Risk Tolerance General	-0.03*	1									
Income to Poverty Ratio	0.09*	0.02	1								
Region	0.00	0.01	-0.02	1							
Self Disciplined	0.04*	0.03*	0.05*	-0.01	1						
Household Size	0.03*	-0.07*	-0.17*	0.07*	0.03*	1					
Age	0.06*	-0.01	0.03*	-0.02	0.02	0.04*	1				
Gender	0.04*	-0.12*	-0.02	0.00	0.04*	0.15*	0.01	1			
Degree	0.05*	-0.01	0.31*	-0.04*	0.07*	-0.20*	0.01	0.09*	1		
Marital Status	0.07*	-0.07*	0.10*	0.06*	0.05*	0.18*	0.11*	0.09*	0.03*	1	
Race	0.00	0.03*	-0.13*	0.11*	0.02*	0.07*	0.01	0.00	-0.12*	-0.15*	1

Notes: Observation = 4692. *p<0.05

Table 3

Odds Ratios of Each Variable in Logistic Regression Model

	<i>Model 1</i>		<i>Model 2</i>	
	<u>Odds Ratio</u>	<u>P>z</u>	<u>Odds Ratio</u>	<u>P>z</u>
Life Insurance				
Risk Tolerance General	0.97	0.09	0.95	0.03
Risk Tolerance Finance			1.00	0.87
Risk Tolerance Driving			0.99	0.53
Risk Tolerance Work			1.05	0.02
Risk Tolerance Life Change			1.01	0.73
Risk Tolerance Gambling			0.97	0.02
Risk Tolerance Health			1.03	0.14
Risk Tolerance Faith in People			0.97	0.08
Risk Tolerance Romance			1.01	0.46
Income to Poverty Ratio	1.00	0.00	1.00	0.00
Self-disciplined	1.07	0.14	1.09	0.07
Region				
North Central	1.32	0.08	1.33	0.08
South	1.47	0.01	1.44	0.02
West	1.18	0.30	1.18	0.31
Household Size	1.04	0.16	1.04	0.19
Age	1.11	0.00	1.11	0.00
Gender				
Female	1.05	0.56	1.05	0.59
Degree				
Associate and Below	2.43	0.00	2.41	0.00
Bachelors	2.76	0.00	2.67	0.00
Masters, PhD, and Professional	2.31	0.00	2.26	0.01
Marital Status				
Married	1.60	0.00	1.60	0.00
Separated, Divorced, and Widowed	1.21	0.26	1.25	0.21
Race				
White	0.98	0.90	0.98	0.99
Black or African American	1.37	0.05	1.36	0.10
Cons	0.00	0.00	0.00	0.00
<i>Notes: Model 1, LR chi2(14)=130.78, Prob > chi2=0.00</i>				
<i>Model 3, LR chi2(14)=142.13, Prob > chi2=0.04</i>				

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