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Household Demand for Private Long Term Care Insurance: An Exploratory Note

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Abstract

This study uses the most recent wave of the Health and Retirement Study (HRS) to examine participation of aging households in the long-term care insurance market. Results suggest that households who perceived a need to move to a nursing home within the next five years and households with higher preference for risk management through insurance were more likely to have long-term care coverage. Interestingly, the households with higher levels of risk tolerance were less likely to have long-term care coverage. Conversely, households with a bequest motive were more likely to have long-term care coverage. Additionally, the empirical results of this study indicate that the probability of having long-term care coverage was higher for women. Households with greater educational attainment and greater net worth were also more likely to have long-term care coverage.

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1. Introduction

A majority of the population does not have long-term care (LTC) Insurance. 70% of people who are 65 or older are expected to use at least some form of long-term care (longtermcare.gov). When determining if an individual should insure against long-term care, he or she must consider several factors. Financing LTC can be costly. The cost currently accounts for almost 9% of total health expenditures in the U.S. (Brown & Finkelstein, 2011). Thus the financial status of the individual is a large factor in the decision to purchase LTC insurance. As suggested by Bajtelsmit and Rappaport (2014), middle-income families may benefit most from LTC insurance, provided the premiums did not constrain their ability to save and invest adequately on a regular basis. High-income families generally have the capital to pay for LTC out of pocket if necessary (Salter, Harness, & Chatterjee, 2011) while low-income families cannot pay the premium without impacting their savings. Another factor is the presence of a support system to care for an individual when LTC is needed. Many families provide LTC in their home due to the high costs of LTC. Without this support system, an individual may have no other option but to pay for expensive LTC, and insurance may be necessary to ensure the individual receives treatment. Bajtelsmit and Rappaport (2014) also note that individuals are more likely to purchase insurance after a loss or catastrophe, meaning that the illness or death of a family member or friend may prompt an individual to purchase LTC insurance when he or she otherwise would not have.

According to Brown and Finkelstein (2011), approximately 60% of the long-term care needs are currently provided through the public insurance programs, with Medicaid being the primary source. The private LTC insurance products account for a much smaller segment of the market. Private LTC insurance is provided mainly through contracts held by only 14% of individuals aged 60 and over. Annual premiums for most LTC products are fixed; these premiums rise sharply with age and the price does not vary significantly by gender or geographic region.

One way to compare how much individuals pay in premiums relative to how much they can expect to receive in benefits differs between genders. Finkelstein and McGarry (2006) determine that the market for private long-term care coverage is small since a majority of the population does not prefer to purchase LTC insurance because of the cost of the premium and the presence of Medicaid as an alternative. Other factors that reduce the demand for private LTC coverage are the existence of care by family members, accumulated assets in an individual's home that may provide a buffer in the event one needs to pay for care (Chatterjee, 2016), and behavioral economic factors that include a lack of information about LTC. In fact, according to another study, majority of individuals believe that their health insurance plans will pay for long-term care, and many underestimate the probability of the need for LTC coverage (Cramer & Jensen, 2006). Kunreuther and Slovic (1978) posited in an earlier study that many people fail to purchase LTC insurance because LTC needs fall in the category of low-probability, but high-loss events, which many people tend to ignore.

2. Conceptual Framework and Hypotheses

Based on the findings from previous literature, as discussed earlier, long-term care insurance premiums are expensive, but are expected to benefit the middle and moderate income families the most (Bajtelsmit & Rappaport, 2014; Brown & Finkelstein, 2011). Households who have either experienced chronic conditions and long-term illnesses before, or have seen their relatives and loved ones suffer through long-term or chronic illnesses, perceive a greater need to buy LTC insurance (Bajtelsmit & Rappaport, 2014). LTC expenses fall in the category of low probability but high cost events (Brown & Finkelstein, 2011). According to Kunreuther and Slovic (1978) many people choose to ignore low-probability but high-consequence events. Cokely and Kelley (2009) find that better educated people with higher cognitive abilities are more likely to judge probabilities and consequences correctly. Therefore, it is expected that better educated individuals are more likely to buy coverage to protect against the risk of needing to spend for LTC. Bernheim (1991) posits that the need to leave a bequest increases the demand for insurance. We expect this to be the case for LTC insurance coverage as well. Based on the findings from the literature, we therefore hypothesize the following:

> ***Hypothesis 1***: The likelihood of having long-term care coverage will be higher for households who perceive a higher risk of needing long-term care in the future, after controlling for a number of socio-economic, demographic, and behavioral factors.
> ***Hypothesis 2***: The likelihood of having long-term care coverage will increase with human capital, after controlling for a number of socio-economic, demographic, and behavioral factors.

3. Methodology

3.1 Dataset

We use the 2012 wave of the Health and Retirement Study (HRS) for our empirical analysis. The HRS is a nationally representative dataset of elderly households with individuals aged 50 or older. The HRS dataset is maintained by the University of Michigan and is funded by the Social Security Administration and the National Institute of Aging, a division of NIH. The HRS dataset contains extensive information on long-term care coverage, assets, demographic, and socio-economic characteristics of respondents. This study included 21,696 respondents who were primary financial respondents. Approximately 12% of respondents reported having private LTC coverage. We have used the RAND-version of the HRS dataset for our analysis. The RAND- HRS dataset is a cleaned and more user-friendly version of the HRS dataset and includes data from previous 11 waves of the HRS. The RAND version includes imputations of wealth, income, and medical expenditures related variables (RAND Center for the Study of Aging, 2016).

3.2 Variables

3.2.1 Dependent Variable

The primary dependent variable of interest is the likelihood of having long-term care coverage. The variable was binary and coded as 1=have LTC and 0=if otherwise.

3.2.2 Independent Variables

The independent variables of interest were self-reported health status, inability to perform two or more activities of daily living (ADL), age, risk tolerance, educational attainment, and having other types of insurance coverage. Other control variables drawn from previous literature included race, gender, wealth, income, marital status, and bequest motive. Following the methodology suggested by Chatterjee & Zahirovic-Herbert (2010) and Barsky et al. (1997), the risk tolerance variable was constructed based on the participants' response to the income gamble questions included in the HRS dataset. A binary variable was constructed for respondents who had the highest level of risk tolerance. The variable was coded as '1' if the respondent had the highest level of risk tolerance based on the Barsky et al. (1997) scale, and as '0' if otherwise.

3.3 Analyses

The dependent variable for this study is binary—having LTC coverage (1=Yes, 0=No). We therefore use a probit model to empirically test our hypothesis.

$$P(Have\_LTC)=f(\underline{A}, \underline{B}, \underline{C}, \underline{X})$$

$\underline{A}$=Health related factors

$\underline{B}$=Preference for risk management through insurance

$\underline{C}$=Socio-economic status

$\underline{X}$= Vector of other control variables

4. Results

4.1 Descriptive Statistics

The descriptive statistics for this study in Table 1 indicate that approximately 12% of respondents had private long-term care coverage. Of the respondents, 57% were women, and 65% were non-Hispanic white; 20% had educational attainment of college or higher. About 6% of the respondents reported having the highest level of risk tolerance, while 63% of the respondents indicated a desire to leave a bequest for their heirs.

Table 1
Descriptive Statistics

Variables	Mean (%)	St. dev	Min	Max
Have LTCI	12		0	1
Age	66	12	51	109
Female	57		0	1
NH white	65		0	1
Education				
<HS	28		0	1
HS	31.5		0	1
Some college	20.5		0	1

Variables	Mean (%)	St. dev	Min	Max
College	10		0	1
Graduate	10		0	1
Married	35		0	1
Family income	$58,234	$96,232	0	$5,000,000
Total Wealth				
Q1	25		0	1
Q2	25		0	1
Q3	25		0	1
Q4	25		0	1
Health				
Excellent health	9		0	1
Average health	82		0	1
Poor health	9		0	1
R-ADL>=2	6		0	1
Prob. nursing home in 5 years	16	22	0	100
Health Insurance				
Private or employer	18		0	1
Government coverage	53		0	1
R-Life insurance	41		0	1
Prob. Bequest motive	63	40	0	100
Risk taker	6		0	1

4.2 Probability of having Long-term Care Coverage

The results shown in Table 2 indicate that the probability of having long-term care coverage increases with being female *(ME=4.3%; p<0.001)* and among non-Hispanic whites *(ME=2.8%; p<0.001)*. When compared to those with an educational attainment less than high school, respondents with an educational attainment of college *(ME=6.9%; p<0.001)* or higher *(ME=12.3%; p<0.001)* were more likely to have private LTC coverage. Probability of having LTC coverage also increased with income. Respondents in the two highest quartiles of net-worth were also more likely to have LTC insurance coverage. When compared to the reference group of uninsured, the respondents, who currently had private health insurance coverage *(ME=4.0%; p<0.001)*, and life insurance policies *(ME=3.3%; p<0.001)*, were also more likely to have LTC coverage.

Respondents who perceived a higher probability of moving to a nursing home within the next 5 years were more likely to have LTC coverage. Interestingly, the respondents with the highest levels of risk tolerance were less likely to have LTC coverage, while respondents with bequest motives were more likely to have LTC coverage.

Table 2
Probability of Having Long-Term Care Coverage

	Coef.	St.dev	Marginal Effects	Sig
Age	0.001	0.003	0.000	
Female	0.200	0.037	0.043	***
NH-White	0.138	0.050	0.028	***
High school	0.077	0.054	0.016	
Some college	0.046	0.060	0.011	
College	0.285	0.069	0.071	***
Graduate	0.474	0.067	0.123	***
Married	-0.060	0.040	-0.013	
Log Family income	0.126	0.024	0.027	***
Wealth Q2	0.014	0.071	0.003	
Wealth Q3	0.228	0.070	0.052	***
Wealth Q4	0.472	0.072	0.112	***
ADL>=2	0.041	0.069	0.009	
Excellent health	-0.178	0.224	-0.039	
Prob. Nursing home in 5 yrs.	0.004	0.001	0.001	***
Private Health Coverage	0.199	0.023	0.040	***
Public Health Coverage	0.148	0.109	0.030	
Have life insurance	0.153	0.036	0.033	***
Bequest motive	0.003	0.001	0.001	***
Risk taker	-0.161	0.071	-0.037	**
Intercept	-3.510	0.349		***
Pseudo R-squared: 0.182				
Chi-squared: 127.9; p<0.001				

Notes. *p <.10. **p < .05. ***p < .001

5. Conclusion

This paper examined the determining factors associated with the likelihood of having private long-term care coverage among households. Our results are consistent with the hypotheses of this study. We find that the demand for LTC insurance is positively associated with two different groups of households. Households who perceived a higher probability of needing to move to a nursing home within the next 5 years were more likely to have LTC coverage. Additionally, households who had a preference for risk management through participation in other types of insurance products, such as private health and life insurance coverage, were also more likely to have LTC insurance coverage. Households with greater human capital—higher educational attainment, income, and net worth—were more likely to have LTC coverage. Interestingly, we do not find an increase in participation in the LTC insurance market, with age. This is perhaps because the health and perceived risk (Prob. nursing home) nets out the effect of age. Another reason could be that the premiums for LTC insurance coverage increases with age, which perhaps discourages additional participation of households in the LTC insurance market as they get older.

Instead of low- to moderate-socioeconomic status households benefitting from having long-term care coverage the most (Bajtelsmit & Rappaport, 2014), our findings reveal that households in the higher quartiles of net worth were more likely to have private LTC insurance coverage. It is likely that the cost of premium for LTC insurance and the availability of public options are a deterrent for households making LTC coverage decisions. A lack of knowledge or awareness of LTC insurance and its utility may also be a factor in the low LTC insurance participation among the elderly. The low participation rates in private LTC plans are concerning because the need for LTC is expected to increase exponentially over the next decade. In addition, the expectation that the public insurance programs, which are already financially strained, will bear this additional growing burden of LTC costs may further deplete the resources within these public insurance programs. The low participation rate in LTC insurance products therefore creates the need for a potential policy challenge.

The findings of our study underscore the importance for financial planners to ensure their clients aware of the potential risk of longevity and educate them on the benefits of having long-term care coverage when providing comprehensive financial advice. The findings of this study also reveal that risk-taking individuals were less likely to have LTC coverage. It is possible that risk aversion also competes with life insurance coverage in the model, which explains the lower Wald statistic for the risk tolerance variable. This finding informs that financial planners should emphasize the need for LTC coverage for those clients who take large amounts of financial risks. As a broader policy-based solution, LTC providers can launch a public-awareness campaign informing people of the benefits of LTC insurance products. In addition, perhaps a market based approach such an additional tax incentive that can encourage middle income Americans to buy private LTC coverage might help in alleviating this dependence on the public insurance programs for meeting an individual's long-term care need in the future.

6. References

Bajtelsmit, V. and A. Rappaport (2014) "The impact of long-term care costs on retirement wealth needs" *Society of Actuaries Research Report, 1-22.* Retrieved from: https://www.soa.org/Library/Monographs/Retirement-Systems/managing-impact-ltc/2014/mono-2014-ltc-manage-bajtelsmit.pdf.

Barsky, R. B., T. F. Juster, M. S. Kimball, and M. D. Shapiro (1997) "Preference parameters and behavioral heterogeneity: An experimental approach in the health and retirement study" *Quarterly Journal of Economics* **112**(2), 537-79.

Bemheim, B. D. (1991) "How strong are bequest motives? Evidence based on estimates of the demand for life insurance and annuities" *Journal of Political Economy* **99**, 899-892.

Brown, J. R. and A. Finkelstein (2011) "Insuring long-term care in the United States" *Journal of Economic Perspectives* **25**(4), 119-42.

Chatterjee, S. (2016). Reverse Mortgage Participation in the United States: Evidence from a National Study. *International Journal of Financial Studies*, *4*(1), 5.

Chatterjee, S. and V. Zahirovic-Herbert (2010) "Retirement planning of younger baby-boomers: Who wants financial advice" *Financial Decisions* **22**(2), 1-12.

Cokely, E. T. and C. M. Kelley (2009) "Cognitive abilities and superior decision making under risk: A protocol analysis and process model evaluation" *Judgment and Decision Making* **4**(1), 20-33.

Cramer, A. T. and G. A. Jensen (2006) "Why don't people buy long-term-care insurance?" *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* **61**(4), S185-S193.

Finkelstein, A. and K. McGarry (2006) "Multiple dimensions of private information: Evidence from the long-term care insurance market" *American Economic Review* **96**(4), 938-958.

Kunreuther, H. and P. Slovic (1978) "Economics, psychology, and protective behavior" *The American Economic Review* **68**(2), 64-69.

RAND Center for the Study of Aging (2016) "RAND HRS Data Files, supported by NIA and SSA" Retrieved from: https://www.rand.org/labor/aging/dataprod/hrs-data.html#section-navigation.

Salter, J. R., Harness, N., & Chatterjee, S. (2011). How Retirees Pay for Current Health Care and Future Long-Term Care Expenses. *Journal of Financial Service Professionals*, *65*(1). 88-92.