

Why Don't Retirees Insure Against Long-Term Care Expenses? Evidence from Survey Responses

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Abstract: We conduct a detailed survey of those nearing and in retirement to help assess the relative support for numerous alternative hypotheses regarding the small size of the long-term care insurance market. We categorize these hypotheses into four broad categories: (i) *Preferences and Beliefs*, which includes factors such as time preference, risk aversion, bequests, state-dependent utility, and beliefs about the need for care, (ii) *Substitutes for Insurance*, such as the ability to pay for care out of wealth, home equity, or family resources, a plan to rely on Medicaid, or mistaken beliefs that such care is covered by Medicare, (iii) *Substitutes for Formal Care*, most notably including the ability to receive care from family members rather than relying on formal market-based care, and (iv) *Features of the Private Market*, including concerns about cost, affordability, counter-party risk, and distrust of insurers. We find numerous significant differences in the likelihood of buying insurance based on differences in each of these dimensions. For example, we find that individuals are much *more* likely to purchase private long-term care insurance if they place a higher value on money when sick versus money when healthy (i.e., state-dependent preferences), if they report a stronger bequest motive, if they believe they are more likely to need care, if they place a stronger emphasis on the avoidance of burdening their families with care provision, prefer care to be given by professionals, and believe premiums are appropriately priced given the care they provide. Individuals are much *less* likely to purchase private insurance if they believe their family is likely to take care of them, if they are concerned about affordability of insurance, if they are more concerned about counter-party risk, or that their insurance company might deny legitimate claims or raise premiums in the future.

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1. Introduction

It is well-known that uncertain and uninsured health care expenditures during retirement have an important impact on retiree well-being. In addition to being large, on average, the uncertainty also contributes negatively to the utility of consumption for risk averse individuals. The existence of such uncertainty also has important implications for the optimal design of retirement systems: for example, the optimal level of annuitized income depends on the extent to which uninsured health shocks lead to a need for more liquid financial assets.

Long-term care is the largest source of out-of-pocket expenditure risk for the elderly. While most episodes of long-term care last for one year or less, there is a long “right tail” to the distribution, with 12 percent of men and 22 percent of women having stays of more than 3 years in a nursing home (Brown and Finkelstein 2008). Furthermore, the cost of this care is likely to be substantial with nursing home costing upwards of \$75,000 or more per year (Iglehart 2010). Yet in spite of the significant uncertainty regarding long-term care expenditures, only 10-12 percent of the elderly population is covered by private long-term care insurance. Why this is so is a subject of considerable interest to economists, and still not well-understood. As discussed by Brown and Finkelstein (2009), theories as to why the market for private long-term care insurance may be limited include both supply-side factors (e.g., transaction costs, imperfect competition, asymmetric information, and dynamic problems with long-term contracting) and demand side factors (such as limited consumer rationality, the possibility that consumption is valued less when in need of care, or the availability of substitutes for formal insurance such as Medicaid or familial assistance). They provide evidence, based on an analysis of the pricing and comprehensiveness of policies available in the private market and how these correlated with purchase behavior, that demand side considerations must be important in understanding the limited size of the market.

There have been a small number of studies (to be discussed in more detail below) that have examined specific demand-side hypotheses, including the role of Medicaid (e.g., Brown & Finkelstein 2008; Brown, Coe & Finkelstein 2007), the role of prices as influenced by tax subsidies (e.g., Goda 2011,

Courtemanche and He 2009), and an analysis of bequest motives (e.g., Lockwood 2010). However, there are numerous other hypotheses that have not been directly tested, including, but not limited to, state-dependent utility that limits the desire to transfer wealth to unhealthy states, heterogeneity in beliefs about the likelihood of needing long-term care, poor financial literacy, mistaken beliefs about the extent of Medicare coverage of long-term care expenditures, the possibility that families may serve as a (preferred) substitute for long-term care insurance either by providing direct care or by helping to finance it, or a lack of trust in the institutions that provide long-term care insurance products. The literature is still quite limited and most of the papers have focused on determining the effect of one or two factors in isolation, making it difficult to assess the relative importance of various factors or to address potential interaction effects. For example, while Brown and Finkelstein (2008) show that the presence of a means-tested program such as Medicaid is sufficient to explain why most of the wealth distribution does not purchase long-term care insurance, they note that this does not mean that eliminating Medicaid would substantially increase purchase rates because there may be other factors that are also limiting demand.

In this study, we analyze the results of a survey of individuals age 50+ in the RAND American Life Panel (ALP) that we designed specifically to learn about factors limiting demand for long-term care insurance. In addition to collecting information about whether or not individuals own a policy, we ask a rich set of questions designed to test a fairly comprehensive range of hypotheses about long-term care insurance purchase behavior. We categorize the set of hypotheses into four broad categories: (i) *Preferences and Beliefs*, which includes factors such as time preference, risk aversion, bequests, state-dependent utility, and beliefs about the need for care, (ii) *Substitutes for Insurance*, such as the ability to pay for care out of wealth, home equity, or family resources, a plan to rely on Medicaid, or mistaken beliefs that such care is covered by Medicare, (iii) *Substitutes for Formal Care*, most notably including the ability to receive care from family members rather than relying

on formal market-based care, and (iv) *Features of the Private Market*, including concerns about cost, affordability, counter-party risk, and distrust of insurers.

Our results are supportive of many of these hypotheses, and suggest a number of paths where future research could be quite fruitful. With regard to beliefs and preferences, we find evidence of heterogeneity in the extent of state-dependent preferences. Using two different survey measures, we find that those who place a higher relative value on money when sick are more likely to insure than those who place a higher relative value on money when healthy. We also find evidence that those with stronger bequest motives are substantially more likely to insure against long-term care expenses. Similarly, those who more strongly believe that they will, at some point in the future, no longer be able to live independently are also more likely to purchase insurance.

We found somewhat weaker support for those hypotheses related to having financial substitutes for insurance, i.e., the ability to pay for care even without insurance. While cost and affordability were commonly cited in our open-ended questions, those who agree or strongly agree that they have the means to pay for long-term care do not have significantly different purchase propensities than those who disagree or strongly disagree. We also do not find large differences based on beliefs about Medicare or Medicaid coverage. However, we do find substantial differences in coverage rates with regard to the extent of agreement with a statement that it is important to avoid creating a financial burden on family members, as is consistent with the prior finding about the importance of bequests.

Substitutes for formal care appear to be quite important determinants of insurance behavior. Those who agree that their family would be able to take care of them if needed were 10 percentage points less likely to purchase private insurance than those who disagree.

Similarly, those who believe a child has an obligation to care for a parent are less likely to privately insure. Conversely, those who agree that they would prefer to receive care from a professional care giver than a family member are about 10 percentage points more likely to purchase private insurance.

Numerous hypotheses related to the market for long-term care insurance are find support in the data. A majority of respondents express concern about the affordability, and those individuals are 30 percentage points less likely to insure than those who are not concerned about affordability. Those who believe contracts are appropriately priced are also substantially more likely to purchase long-term care insurance. Additionally, individuals are less likely to purchase if they express more concern about the possibility of insurers raising premiums or honoring claims in the future. Finally, we find evidence that concerns about counter-party risk are relevant. Just under half the sample agrees or strongly agrees that there is a risk that the insurance company might not stay in business long enough to provide payments when needed, and these individuals are nearly 20 percentage points less likely to buy insurance than those who are not concerned.

The paper proceeds as follows. In the next section we discuss various hypotheses regarding the demand for long-term care insurance and related literature. Section 3 discusses our innovative approach to examining these issues and focuses on the survey we develop for the American Life Panel. Section 4 outlines our results and a final section concludes and highlights our plans for continued work with these data.

2. Prior Literature and Hypotheses on the Limited Demand for Long-Term Care Insurance

This paper focuses primarily on demand-side limitations to the market for long-term care insurance, i.e., why individuals choose not to purchase such products. In this section, we briefly overview

these hypotheses, separating them into four broad classes of explanations for ease of exposition. We also discuss the relevant literature where appropriate.

2.1 Preferences and Beliefs

2.1.1 Time Preference / Myopia

When a healthy 65 year old is making a decision about whether or not to purchase a long-term care insurance policy, the premiums begin immediately whereas the possible benefit payments are typically far off into the future: the average age of first use of a nursing home, for example, is approximately 83 (Brown and Finkelstein 2009). As such, the decision to purchase long-term care insurance has an important intertemporal element. If individuals have a sufficiently high discount rate, then they may decide to forego insurance for purely time preference reasons. Individuals may also exhibit myopia or other behavioral biases (e.g., hyperbolic discounting), in which case they may simply fail to think much about planning for distant contingencies.

While we are not aware of any evidence correlating time preference with long-term care insurance, there is a large literature attempting to measure discount rates, with a wide range of results. Studies that estimate discount rates from surveys and experiments often find low and in some cases even negative discount rates,¹ whereas numerous empirical studies of choice have found very large discount rates.²

2.1.2 State-Dependent Utility

Like all insurance products, long-term care insurance is designed to transfer wealth from one state of the world (i.e., out-of-care and paying premiums) to another (i.e., receiving care). Standard first-order

¹ See, for example, Barsky et al. (1997), Loewenstein (1987), Loewenstein and Prelec (1991, 1992), and Loewenstein and Thaler (1989).

² Warner & Pleeter (2001) find discount rates from 0 to more than 30 percent. See also Hausman (1979) and Lawrence (1991).

conditions from a utility maximization problem equate the marginal utility of consumption across these states. Standard models, however, typically assume that the utility function itself is invariant to one's state-of-health, which normally implies that one wishes to equate consumption levels across states. If, instead, the marginal utility of consumption is different when healthy than when disabled, the desirability of long-term care insurance will change. For instance, if marginal utility of consumption is lower when in need of nursing home care, one may not be willing to forgo consumption while healthy in order to afford higher quality care when disabled. Such a person might also not put as high a value on staying in their home if care is needed.

Whether the healthy or the disabled state has a higher marginal utility is also not obvious. On one hand, it may be that the marginal utility of another dollar is much lower while in a nursing home because the individual may be unable to enjoy many of the leisure activities on which they would typically spend their money. On the other hand, when an individual faces a need for professional medical care, the marginal utility from being able to afford the care, or better care, may be extremely high. Finkelstein, Luttmer and Notowidigdo (2009) find that “the marginal utility of consumption declines as health deteriorates” with a central estimate that “a one-standard deviation increase in the number of chronic diseases is associated with an 11 percent decline in the marginal utility of consumption relative to this marginal utility when the individual has no chronic diseases.”

2.1.3 Bequest Motives

As discussed at length in Lockwood (2010), the effect of bequest motives on the demand for long-term care insurance is also theoretically ambiguous. On the one hand, long-term care insurance protects bequests by reducing the likelihood that individuals will exhaust their bequeathable resources paying for care, thus making long-term care insurance *more* valuable to those who value bequests. On the other hand, long-term care insurance is *less* valuable to those with bequests because those with bequest motives have less to gain from converting precautionary savings into consumption. For example, if a

person does not value bequests at all, then all of the money used for precautionary savings against long-term care is freed up for consumption if they insure, and this reduces the likelihood of leaving unintended (and un-valued) bequests. Individuals who value bequests highly will benefit less from the ability to convert precautionary savings into consumption because they place a non-zero value on un-consumed precautionary savings.

Relatedly, if we consider the importance of altruism and the desire to transfer resources so as to increase the utility of children or other potential heirs, one ought also to consider the value of children's time. Long-term care coverage, ensuring the affordability of paid care should the need arise, protects not just eventual bequests, but the time of a child who might otherwise provide care.

2.1.4 Beliefs about the Need for Care

Studies of the demand for long-term care insurance in life-cycle models typically assume that individuals are fully informed about the probabilities of needing care and the distribution of length-of-stays conditional on being in care. However, if individuals systematically under-estimate the likelihood of care, then they would place a lower value on insurance. Alternatively, individuals might have private information about their risk of needing long term care and based on this information may not view long term care insurance as an actuarially sound investment. For example, individuals may have a much younger spouse whom they anticipate will provide care, or children who have a stated willingness to assist. Similarly, an individual's family medical history may point to sudden death rather than a deterioration in health status over time which reduces their expectation of nursing home use.

2.2 Substitutes for Insurance

2.2.1 "Self-Insurance" via Financial Wealth or Home Equity

It is commonly asserted that the demand for long-term care insurance should follow an inverted-U-shape with respect to financial resources. The intuition is that those at the low end of the resource

distribution can rely on Medicaid, while those at the high end have enough wealth that even long stays in a nursing home will not exhaust their resources (although Brown & Finkelstein (2008) note that the level of wealth required for full self-insurance to be optimal is much higher than commonly thought). Davidoff (2008) also notes that the ability to tap into home equity to pay for long-term care reduces the gains from purchasing long-term care insurance.

2.2.2 Medicaid and Medicare

Pauly (1990) and Brown and Finkelstein (2008) show that Medicaid imposes a large implicit tax on the purchase of long-term care insurance, and that this explanation alone can explain why the bottom two-thirds of the wealth distribution does not purchase. In contrast, Medicare does not cover much in the way of long-term care, although there is some suggestive evidence that many citizens may mistakenly believe that Medicare will cover their expenses. To the extent that individuals believe that either of these programs provide adequate insurance against long-term care expenditures, this would limit the demand for private coverage.

2.2.3 Family Resources

Another source of financial resources may be the family, in the form of “negative bequests.” One could imagine an implicit contract between parents and children, for example, that provides bequests in the event that no care is required, and financial support of the parents if care is needed. Such intergenerational risk-sharing has been shown to reduce the demand for other insurance products, such as annuities (e.g., Kotlikoff and Spivak, 1981), and could similarly limit the demand for long-term care insurance.

2.3 Substitutes for Formal Care

In addition to serving as a form of financial support, family members may also serve as a direct substitute for formal care-giving. Indeed, the value of informal (unpaid) care in terms of the market wage for these services is roughly the same order of magnitude as the value of formal (paid) care (Arno et al., 1999). A number of studies have investigated the impact of care from family members on the use of care from professional caregivers (e.g., Greene 1983, Lo Sasso and Johnson 2002, Van Houtven and Norton 2004, 2008, Bolin et al. 2007, Charles and Sevak 2005, and Bonsang 2009). Because the level of formal and informal care is often jointly determined and unobservable aspects of health status could be correlated with the receipt of both formal and informal care, these studies generally use instrumental variable approaches to examine the impact of informal care on the utilization of formal care. In general, they find that informal care by children reduces the use of formal care, especially home care and nursing home stays.

However, individuals differ in the availability of kin to provide care, in their preferences for such care, and in what they view as the appropriate role for children or others in providing long-term care. For example, it is unclear whether individuals prefer care from a family member or from a paid professional. On one hand, family members would know an individual's tastes and preferences and could provide more personal and affectionate assistance. In addition, care from family members may allow individuals the ability to remain in their own home longer by avoiding institutionalization. On the other hand, a parent may be uncomfortable having a child bathe her or help with other personal needs, particularly if a parent does not have a same-sexed child available and, if they had the resources, might choose to purchase such care (McGarry, 1998).

2.4 Features of the Private Market

2.4.1 Prices (including tax subsidies)

Though the group market for long-term care insurance is maturing, the vast majority of long-term care insurance policies are still sold through the individual market. The typical policy purchased by a 65-

year old pays out 82 cents of each dollar received in premiums if the policy is held until death and not lapsed (Brown and Finkelstein 2007). If a policy lapses at some point after purchase, however, the policyholder forfeits their right to future benefits.³ Taking this factor into account increases the average load on a policy from 18 cents to 51 cents of every dollar paid in premiums. While these high loads do indicate the presence of supply-side market failures, Brown and Finkelstein (2007) show that these market failures cannot alone explain low rates of long-term care insurance coverage. For instance, despite the fact that loads vary substantially by gender, coverage rates do not vary for men and women.

However, there is evidence that individuals do respond to changes in the price of long-term care insurance policies. Courtemanche and He (2008) and Goda (2011) find evidence that tax incentives at the federal and state level induced purchase of long-term care insurance policies by 25-30 percent. While this effect is large, the low base rates of long-term care insurance imply that even if every state enacted the most generous tax subsidy for long-term care insurance, the proportion of the population without adequate protection against long-term care risks would remain high.

2.4.2 Counter-party risk

As stated previously, long-term care insurance policies are typically purchased long before they are expected to pay benefits. Therefore, those who purchase long-term care insurance are entering into contracts with insurers that have a long time horizon. As events during the recent recession illustrate, long-term contracts are not always honored. The risk of insurance companies going bankrupt and leaving policy owners without recourse (or with dramatic increases in premiums) may be another reason why demand for long-term care insurance is limited.

2.4.3 Trust in Insurers

³ Non-forfeiture provisions, available as an option under tax-qualified plans, provide individuals with a return of a fraction of premiums paid or limited future benefits should the policy be allowed to lapse.

Even if the insurer still exists, there are many ways that the benefits of a long-term care insurance policy could be curtailed. While regulations prohibit insurance companies from raising premiums on an individual due to changes in health or age, premiums for a class of policies may increase if the value of assumptions used to price the policy change. There is also the risk that an insurer might deny individual claims for benefits even for those that are insured.

3. Data and Sample Characteristics

3.1 The RAND American Life Panel and Survey Construction

To assess the relative importance of these alternative explanations and to elicit from individuals their own reasons for purchasing or not purchasing long-term care coverage, we turned to the RAND American Life Panel (ALP). The ALP is a sample of approximately 3,000 households who are regularly interviewed over the Internet. An advantage relative to most other Internet panels is that the ALP is mostly based on a probability sample of the US population.⁴ Respondents use their own internet connections or a WebTV connection to access the survey.⁵ We used this framework to ask a series of questions about long-term care including attitudes towards various aspects of care, characteristics of the types of insurance products available and the role of family.

We begin our survey by asking people to rate how much they know about long-term care insurance. After they answer this question, we define long-term care for them as follows: “For purposes of this survey, when we use the term ‘long-term care,’ we are referring to assistance with personal care needs such as dressing, bathing, getting in and out of bed, using the bathroom or eating.” We then define long-term care insurance as: “.. a type of insurance that helps to pay for extended stays in a nursing home or assisted living facility, or for personal or medical care in your home. It is typically separate from your

⁴ Details regarding the ALP sample construction are provided in Appendix A.

⁵ Respondents from the Michigan monthly survey without Internet were provided with so-called WebTVs (<http://www.webtv.com/pc/>), which allows them to access the Internet using their television and a telephone line. The technology allows respondents who lacked Internet access to participate in the panel and furthermore use the WebTVs for browsing the Internet or email.

regular health insurance and requires paying separate premiums.” Finally, we ask whether the respondents own a long-term care insurance policy.⁶

The rest of the survey includes two general types of questions. First, we ask a long set of questions to ascertain characteristics such as financial circumstances, financial literacy, ownership of other insurance products, and subjective probabilities of needing care. The second series of questions is unique to our survey, and consists of questions designed to assess attitudes toward a large number of factors related to long-term care. These range from questions regarding family issues (e.g., the importance of leaving a bequest, whether they would feel the need to compensate children for providing care, etc.) to beliefs about whether long-term care is adequately covered by Medicaid, Medicare or ordinary health insurance, to views about insurance companies and their practices. In most cases, respondents are asked to report, on a five-point scale, whether they agree or disagree with the relevant statements or how important various aspects were in their decisions to purchase long-term care.

One advantage of running our survey through RAND’s ALP is that we are able to link our survey responses to the full ALP database which includes many of the core questions found in the Health and Retirement Survey (HRS). The HRS is widely recognized as a leading source of information on the demographic and economic characteristics of the 50+ population in the U.S. and this feature provides us with a rich set of control variables measured using well-tested questions.

3.2 Sample Characteristics

⁶ Because many of the questions in the remainder of the survey depend on the response to this question, we sought to minimize the possibility that individuals would answer “I don’t know.” We therefore offered a second opportunity for a response for those who were initially unsure of their coverage and ask if it is more or less likely that they own long-term care insurance. Just over 100 respondents took advantage of this second chance opportunity. We analyzed many of the responses separately for this “don’t know” group in comparison to those who either did or did not have coverage based on the first question, our conclusions were substantially unchanged and we therefore include these individuals in the analysis based on their eventual answer. We note, however, that those who initially did not know whether they had a policy also seemed somewhat unsure about other aspects of insurance coverage such as what Medicare covers, score lower on financial literacy questions and more likely to report 50 percent for the subjective probability questions.

Our survey was made available to all participants ages 50 or older and was fielded in May and June 2011. The results contained here are based on 1,512 completed surveys.⁷ Table 1 shows summary statistics for many of the standard demographic measures in our survey. The average age of our respondents is 61, 42 percent are male, 64 percent are married, 8 percent are nonwhite and 16 percent report themselves to be in fair or poor health on a 5-point scale. Although the ALP does an excellent job in recruiting a broad-based respondent base, our respondents are somewhat younger, on average, than a similarly selected sample of HRS respondents from the 2008 wave (61 versus 67 years old). Our ALP respondents are also much more likely to be white than the more representative HRS sample (8 versus 14 percent), and less likely to report being in poor health (16 versus 28 percent). We also find higher rates of long-term care coverage in our sample than has been found in the HRS (22 versus 13 percent). The higher rate of long-term care ownership is likely due in part to these underlying differences in sample composition. As we will discuss in more detail below, it may also be that some individuals mistakenly believe they have coverage through other means, even though they may not.

Figure 1 summarizes our respondents' basic knowledge about long-term care insurance. The vast majority, 72 percent, report that they know "a little" about such coverage and only 7 percent report knowing a lot. Even among those who stated that they had long-term care insurance, only 18 percent responded that they "knew a lot" and 73 percent said they knew "a little" (not shown). Yet despite this lack of knowledge about the financial product, 40 percent agree or agree strongly with the statement that they have "thought a lot about needing long-term care." This number is higher for those with coverage than without, but even among those with no long-term care insurance, one-third have thought a lot about care needs. At first blush, these results suggest that knowledge of long-term care insurance could be an important barrier to coverage.

⁷ Although the survey is continuing, our response rate is already quite high at 76 percent. Furthermore, there are few missing answers for the questions in the survey.

4. Results

4.1 Open-ended Responses

After respondents report whether they own long-term care insurance, they are asked to provide either the most important reason they own insurance or the most important reason they do not own insurance in an open-ended text box. The advantage of using a free response box is that respondents are not prompted by the survey designers and we are able to discern whether there may be important factors that the literature had not considered. Although economists do not often rely on direct responses such as these, they have been used successfully in the past (Light and McGarry, 2004) and we believe that our knowledge in this field is sufficiently limited that a broad-based approach is needed. Certainly open ended responses like these are not possible in large scale survey efforts where reading through thousands of responses would be infeasible. However, the insight gained from this exercise can help refine more standard questions to more appropriately target the issues foremost in the minds of the population.

In general, we find that the explanations respondents offered fit in with our priors as to what possible reasons for not purchasing long-term care insurance might be. We were able to group them into nine broad categories, leaving approximately 5 percent of responses in a category of responses that did not fit neatly into the other groups.

The cost of long-term care insurance is the most frequently cited explanation for not purchasing a long-term care insurance policy, provided by 57 percent of respondents. Costs could refer to a variety of factors: the belief that the product is not actuarially fair given their subjective risk assessment, that the loads are too high, or that while they would like to use the product to transfer resources from today until a time when they are sick, they are liquidity constrained and thus unable to afford the premiums. Many respondents simply gave the one word answer: “Cost.” However, within this category, almost one-fifth specifically mention affordability (e.g., “I cannot afford it!”) while less than 3 percent mention costs versus benefits (e.g., “Too expensive for little coverage.”).

The next largest category represents those who have a low perceived need for long-term care insurance, and contains approximately 12 percent of respondents. This category includes those who appear to believe their prospects for needing long-term care services are low and those who believe they are yet too young to purchase a policy. Other categories that are seen in the responses are unawareness of the need for or the availability of insurance (8 percent), myopia/procrastination (5 percent), the (likely mistaken) belief that they are covered by other programs or policies (4 percent), and the belief that they are not qualified to purchase a policy (4 percent). The remaining three categories, which include the unattractiveness of private insurance policies and the availability of formal and informal care substitutes, together amount to 5 percent of those who do not purchase insurance.

In the context of our hypothesis described in Section 2, a sizable amount of responses (29 percent) can be categorized as preferences and beliefs. This group includes those who have a low perceived need for insurance, those who are unaware of the need for or availability of insurance, those who believe they are covered by other programs or policies, and those who see a need but are myopic or procrastinating. Respondents who cite either the availability of alternative means to fund care or alternative means to receive care from family or other informal substitutes make up only 4 percent of responses in total. Five percent are uncategorized according to our hypotheses, and the remaining respondents are categorized as not purchasing insurance because of features of private insurance policies, amounting to 62 percent of the total. However, the majority of this last group is represented by people who answer “cost,” where a sizable fraction specifically mention affordability.

We also queried those who had purchased long-term care insurance to find out their most important reasons for purchasing a policy. Approximately 13 percent of respondents were in an uncategorized group. These included people who reported having a policy, but when probed as to their most important reason, stated that they did not in fact own a policy (2 percent) or left the answer blank (5 percent). The three most common response types were related to protecting financial resources (27 percent), protecting family members from burden (14 percent), and risk aversion (13 percent).

The next largest group of respondents report that their health status or medical diagnoses make them likely to need long-term care in the future (9 percent). These respondents may have acquired conditions after initial purchase, or purchased group policies which typically have much less stringent underwriting standards. A non-trivial percentage (9 percent) reported that the reason they owned a policy was that it was included in another source of health insurance coverage, suggesting that many believe they have coverage against the risk of large long-term care expenditures when in reality they do not. These responses also highlight why our rate of insurance coverage may be higher than other surveys. The remaining respondents are categorized as desiring higher quality care if needed (6 percent), having experience seeing a loved one need long-term care (4 percent), having no family available to take care of them (2 percent), not being covered by other insurance (2 percent), and recommended by a financial advisor (1 percent).

Respondents are certainly likely to have more than one reason for making the decisions they did, and may well have difficulty articulating a list of reasons. We would also like to get a better sense of the motivation behind some of these responses. Therefore, we next turn to the hypotheses discussed in Section 2 and describe the findings of our survey responses in relation to the existing theories that seek to explain why long-term care insurance coverage is low.

4.2 Scaled Responses

To examine further the importance of the various motives for long-term care insurance coverage and what factors might be of concern to respondents, and to provide more direct tests of the existing theories, we present respondents with a series of statements designed to elicit their attitudes and expectations regarding long-term care. We chose the statements to highlight those theories that have been posited in the literature and then examined how rates of long-term care insurance coverage varied with their responses. Respondents were asked whether they agreed or disagreed with the statements and were given five options: strongly disagree, disagree, neither agree nor disagree, agree, and strongly agree. For

ease of presentation we have aggregated these five choices into three categories, strongly agree/agree, neither agree nor disagree, and disagree/strongly disagree.⁸ In Figures 2-15 we present the fraction of respondents in each of the three groups in the top panel and the rate of long-term care insurance coverage in the bottom panel. The results we report are based on uncorrected differences across the three categories; however, we have also run linear regression models which control for age, gender, marital status, education, income and wealth and our conclusions are generally unchanged. We emphasize that these are simply descriptive results and we do not intend to imply that they are causal, but only that they are interesting patterns that can be used to refine our thinking about long-term care coverage.

4.2.1 Preferences and beliefs

State-dependent utility. In seeking to assess whether there is heterogeneity in state-dependent utility, we developed a pair of questions unique to our survey. We first ask respondents whether, in general, financial resources are more valuable to them in poor health or in good health. The second question asks respondents to choose from a set of five options that indicate how they would prefer to have \$10,000 divided between two states of the world: when they are in a nursing home versus in good health and in their own home. By letting them choose between the five options (e.g. “\$2,500 if I were healthy and living at home, and \$7,500 if I were in a nursing home”) rather than provide them with an open ended question, we believe the choice is much clearer to respondents. The full text of both questions is contained in Appendix B.

The top panel of Figure 2 shows that, regardless of which question is used, respondents are relatively evenly divided between preferring financial resources in the healthy or in the sick states with a sizable number also wishing to divide them equally. The bottom panel provides evidence that state-dependence is important in influencing long-term care insurance coverage: relative to those who prefer resources when healthy, those who prefer resources when sick have rates of long-term care insurance that

⁸ As has been noted with subjective probability measures, the middle option, “Equal” could indicate that a respondent doesn’t know or perhaps doesn’t understand the question.

are approximately 5 percentage points (or 25 percent) greater (p-values = 0.0581 and 0.0437). Those preferring an equal division fall in between the two groups.

Bequest motives. As described earlier, the effect of bequest motives on long-term care insurance is theoretically ambiguous due to the role of precautionary savings. We ask respondents to rate their agreement with the statement, “It is important to leave an inheritance to my loved ones.” Figure 3 shows that rates of long-term care insurance coverage are approximately 9.4 percentage points (or 55 percent) higher among those who value leaving an inheritance (approximately 48 percent of respondents) relative to those who disagree or strongly disagree with the statement (22 percent). This difference is statistically significant at the 1 percent level. This strong relationship suggests, again, that bequest motives are a substantial factor in long-term care insurance purchase decisions. In addition, the direction of the relationship implies that individuals generally tend to think that bequests are more likely if they hold long-term care insurance coverage.

Beliefs about the need for care. One logical explanation for not purchasing long-term care insurance is the belief that one will not use need long-term care or that one’s probability of needing care is sufficiently low so as to make the product unattractive. First, we asked respondents to rate their agreement with the statement, “At some point in the future it is likely that I will no longer be able to live independently because of their health.” Approximately 45 percent of the sample agreed or strongly agreed with this statement, 20 percent disagreed or strongly disagreed, and the remainder neither agreed nor disagreed. As shown in Figure 4, among those who agreed with the statement, 27 percent had long-term care insurance compared to only 14 percent of those who disagreed (p-value of difference < 0.001). Therefore, beliefs about the need for long-term care are strongly correlated with insurance coverage. However, the eventual use of a nursing home may be strongly determined by long-term care coverage itself due to moral hazard, indicating that reverse causality could be a factor in the relationship we find.

4.2.2 Substitutes for Insurance

“Self-Insurance” via Financial Wealth or Home Equity. We ask respondents to rate their agreement with the statement, “Even without long-term care insurance, I would have the means to pay for long-term care if I were to need it.” Figure 5 shows the vast majority of respondents (58 percent) disagree or strongly disagree with the statement. However, as shown in the bottom panel of Figure 5, those who answer differently do not have significantly different rates of long-term care insurance ownership. These facts suggest both that most individuals do not have alternative means to pay for long-term care from their savings and that having the means to pay for care without insurance is not a significant factor in one’s decision to purchase insurance.

Medicaid and Medicare. After defining long-term care but *before* defining long-term care insurance, we ask respondents to agree or disagree on a five-point scale with the following statements: “Medicare covers the extended use of long-term care for those over 65,” and “Medicaid covers the extended use of long-term care for those who qualify.” The results from analyzing responses to these two statements are provided in Figure 6. The majority of respondents correctly believe that Medicare does not cover extended long-term care use and that Medicaid does for those who qualify, though there is a sizable percentage (29 percent) who believe that Medicare covers long-term care. However, beliefs about Medicare and Medicaid do not appear to be systematically related to rates of long-term care insurance ownership. Puzzlingly, those who believe that Medicaid covers extended use of long-term care have *higher* rates of coverage than those who do not, though this difference is not statistically strong (p-value = 0.0909). These results suggest that beliefs about Medicare and Medicaid are not a large factor in ownership decisions, and if anything, believing that Medicaid covers long-term care leads people to be *more* likely to purchase private coverage, perhaps because quality of care under Medicaid is assumed to be inferior.

Family Resources. While most respondents do not report having the means to pay for long-term care themselves, it is possible that they expect to receive financial support from their children should they need care. We ask respondents to rate their agreement with the statement, “It is important to me that I not

create a financial burden for my family if I need long-term care.” As shown in Figure 7, almost all respondents (87 percent) agree or strongly agree with this statement, indicating that they are unlikely to expect a large amount of financial support from their family members in the event that they need long-term care. Moreover, rates of insurance ownership are not significantly different across respondents who agree/strongly agree versus those who disagree/strongly disagree (p-value = 0.2142). Therefore, it does not appear that intergenerational risk-sharing is a large factor in limiting demand for long-term care insurance.

4.2.3 Substitutes for Formal Care

As mentioned earlier, individuals differ in the availability of kin to provide care, in their preferences for such care, and in what they view as the appropriate role for children or others in providing long-term care. To examine how these differences might impact the purchase of long-term care insurance, we presented respondents a series of statements regarding family care and asked them to rate their agreement on a 5-point scale. Figures 8-10 show the results. Perhaps surprisingly, many respondents were relatively negative on the probability that a family member would be available to provide care. Over one-third of respondents disagreed or strongly disagreed with the idea that a family member would be able to provide care. Recall that nearly two-thirds of the sample is married and 43 percent is male, so one might have anticipated a greater reliance of familial assistance. Yet with regard to the purchase of policies, individuals do seem to respond to the lack of family by purchasing coverage. Long-term care insurance rates are 28 percent for those who do not anticipate having an available family member and 18.5 percent for those who do, a difference of 9.5 percentage points or 53 percent (p-value < 0.001). Therefore, the availability of informal care from family members does appear to limit demand for long-term care insurance.

In Figure 9 we see that a substantial percentage (40 percent) of our respondents state a preference for professional care, while 31 percent prefer care from family members and the remainder do not state a

preference. Among those who prefer care from professionals, 26.5 percent have long-term care insurance relative to 15.7 percent among those who prefer care from family members. This increase of 10.8 percentage points (or 69 percent) is large and statistically significant with a p-value < 0.001 , suggesting that whether people prefer receiving care from professional caregivers or family members is a large factor in one's decision to purchase long-term care insurance.

Finally, we assess how attitudes differ with regard to familial obligations (Figure 10) and find that nearly 50 percent of respondents disagree or strongly disagree with the statement that it is a child's obligation to provide care for a parent with long-term care needs, while only 20 percent agree or strongly agree with the statement. Despite the strong opinions regarding obligations, there is relatively little difference in long-term care coverage across the groups: while the difference in long-term care insurance ownership between these two groups is 4.4 percentage points, this difference is not statistically significant at conventional levels (p-value = 0.1207). Even among the 20 percent who believe a child is obligated to provide care, 19 percent have an insurance policy.

4.2.4 Features of the Private Market

Prices and affordability. Our final set of analyses examines the relationship between long-term care coverage and beliefs about long-term care insurance policies themselves. The most commonly cited reason for not having insurance coverage in our open-ended questions was "Cost." Cost could relate to the loads associated with a policy, what the individual perceives as the benefit he might obtain relative to his perceived risk, or simply liquidity constraints faced by the individual. In Figure 11 we show that a large majority of respondents are concerned about the affordability of premiums with 70 percent agreeing or strongly agreeing with the statement, "I am concerned about my ability to afford the premiums for a long-term care insurance policy." Unsurprisingly, coverage was the greatest among those who were not concerned, reaching 46 percent. 14 percent of those who are concerned about paying the premiums

already have coverage (and may perhaps be in danger of having to let a policy lapse). The figures suggest that liquidity constraints are likely a large barrier to long-term care insurance purchase.

To assess the importance of loads, we asked to rate their agreement with the statement, “Long-term care insurance policies are appropriately priced given the cost of care they cover.” As shown in Figure 12, the majority of respondents (55 percent) neither agreed nor disagreed with the statement. Those who agreed were much more likely to have coverage relative to those who disagreed (39.9 percent versus 13.9 percent, p-value of difference < 0.001). Certainly these results could be a result of justification bias where individuals who have a policy validate their decision by stating that it is appropriately priced. However, the results are consistent with the idea that loads on insurance policies that make insurance less than actuarially fair are a significant barrier to long-term care insurance ownership.

Tax subsidies. In an effort to increase long-term care coverage, many states now offer tax incentives to individuals who purchase qualified plans. We therefore investigate the role of tax subsidies by asking respondents to rate their agreement with the following statement: “When considering whether to purchase long-term care insurance, a tax deduction or tax credit for doing so would be an important consideration for me.” We also ask respondents to report whether their state offers a tax subsidy for long-term care insurance and use their answers along with their state of residence to ascertain the level of knowledge of tax subsidy availability.

The results are somewhat puzzling. While the majority of respondents (59 percent) agree that a tax deduction or credit is an important consideration, 78 percent respond “I don’t know” when asked whether their state offers a tax subsidy. Further, approximately one third of those who answer “Yes” or “No” are incorrect in their knowledge of their state’s tax incentives for long-term care insurance. Together, these findings suggest that more widespread outreach by state officials or insurers regarding tax incentives could influence long-term care insurance purchase decisions.

Those who believe that tax incentives are an important consideration have *lower* rates of insurance ownership relative to the small percentage of respondents (14 percent) who disagree or strongly disagree that tax incentives are an important consideration, which could be because those in states that do not offer special subsidies for long-term care insurance view this lack of a tax break as an obstacle to purchasing coverage. However, it is hard to understand how a tax subsidy can be important given the clear lack of knowledge regarding subsidy programs among respondents.

Counter-party risk. We analyze the importance of the risk that an insurer could go out of business on coverage decisions by asking respondents to rate their agreement with the statement, “I am concerned that an insurance company may not remain in business long enough to pay for my care.” The results are summarized in Figure 13. A substantial percentage of respondents (46 percent) agree or strongly agree with this statement, and only 19 percent disagree or strongly disagree. In addition, coverage is highly correlated with beliefs regarding counter-party risk, with ownership rates of 34.8 percent among those who are not concerned that insurers may not remain in business versus 16.7 percent among those who are concerned. This difference of 18.1 percentage points is both large and statistically significant (p -value < 0.001). Therefore, it is likely that the long-term nature of long-term care insurance contracts combined with the risk that insurers may fail is a significant barrier to individuals purchasing insurance.

Trust in insurers. Finally, we assess two factors related to trust in insurers: the belief that insurance companies may deny reasonable claims for benefits, and the belief that insurers may raise premiums. The results are summarized in Figures 14 and 15. Both of these risks appear to be prevalent as 46 percent of respondents appear concerned that an insurance company may deny reasonable claims, and 58 percent believe that premiums might be raised. Rates of long-term care insurance are 10.5 percentage points lower among those who agree or strongly agree that claims might be denied relative to those who disagree or strongly disagree, and 17.4 percentage points lower when making a similar comparison for beliefs about premiums. Both differences are statistically significant and economically large, suggesting that trust in insurers is a large factor in long-term care insurance purchase decisions.

5. Conclusions

Long-term care expenditure risk and insurance against it is under-studied relative to its importance to the well-being of retirees. While several excellent studies exist of specific aspects of the market, the number of unexplored hypotheses is even larger. The intent of the survey analyzed here was to provide a high-level overview of the relative importance of a number of different factors, including the role of preferences and beliefs, the importance of substitutes for insurance or substitutes for formal care, as well as features of the private market.

Overall, these results suggest that limited demand in the long-term care insurance market may not be attributable to any one single factor, but may instead represent a complex amalgam of many different factors. In other words, the market may be small due to “death by a thousand small cuts” rather than by one overwhelming factor.

This survey approach clearly opted for breadth (i.e., exploring the full range of hypotheses) over depth (i.e., pinning down causality for any one hypothesis). Based on these results, we would suggest several directions in which deeper dives might prove especially valuable. At the top of this list, we would include additional research on:

- (i) Exploring state-dependent preferences, and in particular the way that individuals – when doing their financial planning for retirement – weigh the relative utility consequences of having consumption in various states of health;
- (ii) Better understanding the within-family, intergenerational aspects of this decision. Our evidence suggests important heterogeneity in how people view family versus formal caregiving, in the degree of concern about “being a burden” versus the belief that children have an obligation to care for their parents, and so forth.
- (iii) Attitudes toward insurance companies. Ours is the first paper (to our knowledge) to document that concerns about counter-party risk, confidence that insurers will pay

claims, and concerns about future price changes may have a significant negative impact on demand. These issues may be far more important for long-term insurance contracts, such as long-term care insurance and annuities, than for many other more widely studied insurance markets.

Appendix A: ALP Respondent Recruitment

ALP respondents have been recruited in one of three ways. Most were recruited from individuals age 18+ who were respondents to the Monthly Survey (MS) of the University of Michigan's Survey Research Center (SRC). The MS is the leading consumer sentiment survey that incorporates the long-standing Survey of Consumer Attitudes and produces, among others, the widely used Index of Consumer Expectations. Each month, the MS interviews approximately 500 households, of which 300 households are a random-digit-dial (RDD) sample and 200 are reinterviewed from the RDD sample surveyed six months previously. Until August 2008, SRC screened MS respondents by asking them if they would be willing to participate in a long-term research project (with approximate response categories “no, certainly not,” “probably not,” “maybe,” “probably,” “yes, definitely”). If the response category is not “no, certainly not,” respondents were told that the University of Michigan is undertaking a joint project with RAND. They were asked if they would object to SRC sharing their information about them with RAND so that they could be contacted later and asked if they would be willing to actually participate in an Internet survey. Respondents who do not have Internet were told that RAND will provide them with free Internet. Many MS-respondents are interviewed twice. At the end of the second interview, an attempt was made to convert respondents who refused in the first round. This attempt includes the mention of the fact that participation in follow-up research carries a reward of \$20 for each half-hour interview. A subset of respondents (approximately 500) was recruited through a snowball sample; here respondents were given the opportunity to suggest friends or acquaintances who might also want to participate. Those friends were then contacted and asked if they wanted to participate. A new group of respondents (approximately 500) has recently been recruited after participating in the National Survey Project, created at Stanford University with SRBI. This sample was recruited in person, and at the end of their one-year participation, they were asked whether they were interested in joining the RAND American Life Panel. Most of these respondents were given a laptop and broadband Internet access. Recently, the American Life Panel has begun recruiting based on a random mail and telephone sample using the Dillman method

(see e.g. Dillman et al, 2008) with the goal to achieve 5000 active panel members, including a 1000 Spanish language subsample. If these new participants do not have Internet access yet, they will also be provided with a laptop and broadband Internet access. These panel members are not part of the sample used in this paper.

Appendix B: State Dependence Questions

1. “Thinking about long-term care, are financial resources more valuable to you:

- When you are in poor health, so that you can use the resources to provide for your care? **OR**
- When you are in good health, so that you can use the resources to pay for other goods and service that you enjoy?”

Respondents are asked to report on a 7 point scale, with 1 being most valuable in poor health, and 7 most valuable in good health.

2. “Now suppose that someone offers you an insurance policy that will pay you \$10,000 if you are healthy at home, OR \$10,000 if you are in poor health and living in a nursing home, OR you can divide the \$10,000 across these two possibilities (such as \$5,000 either way). Which of the following would you prefer?

- I would like to receive \$10,000 if I were healthy and living at home, and \$0 if I were in a nursing home.
- I would like to receive \$7,500 if I were healthy and living at home, and \$2,500 if I were in a nursing home
- I would like to receive \$5,000 if I were healthy and living at home, and \$5,000 if I were in a nursing home.
- I would like to receive \$2,500 if I were healthy and living at home, and \$7,500 if I were in a nursing home.
- I would like to receive \$0 if I were healthy and living at home, and \$10,000 if I were in a nursing home.”

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Table 1: Sample Characteristics

	Mean	SD	Min	Max
Has LTCI	0.221	0.415	0	1
Age	61.36	8.418	50	110
Female	0.572	0.495	0	1
Married	0.642	0.480	0	1
High School or Less	0.163	0.369	0	1
Some College	0.376	0.484	0	1
College Graduate	0.238	0.426	0	1
Graduate Degree	0.199	0.399	0	1
White	0.915	0.279	0	1
African American	0.0589	0.235	0	1
Other Race	0.0265	0.161	0	1
Hispanic	0.0304	0.172	0	1
Fair or poor health	0.159	0.366	0	1
Observations	1,512			

Figure 1: Knowledge about Long-Term Care Insurance

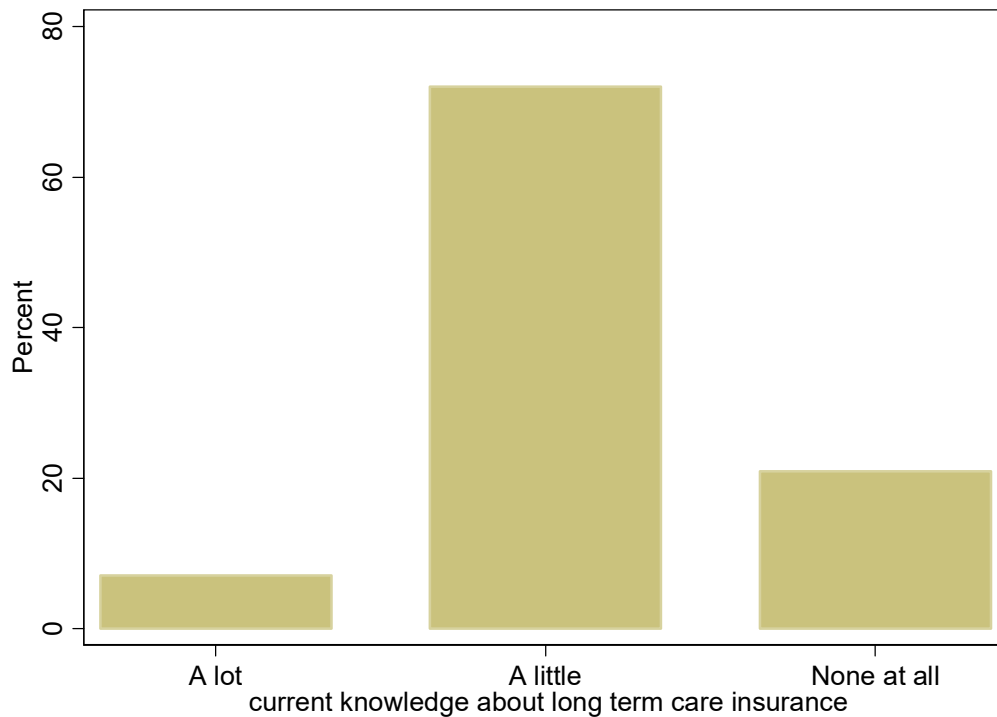


Figure 2: State-dependent Utility

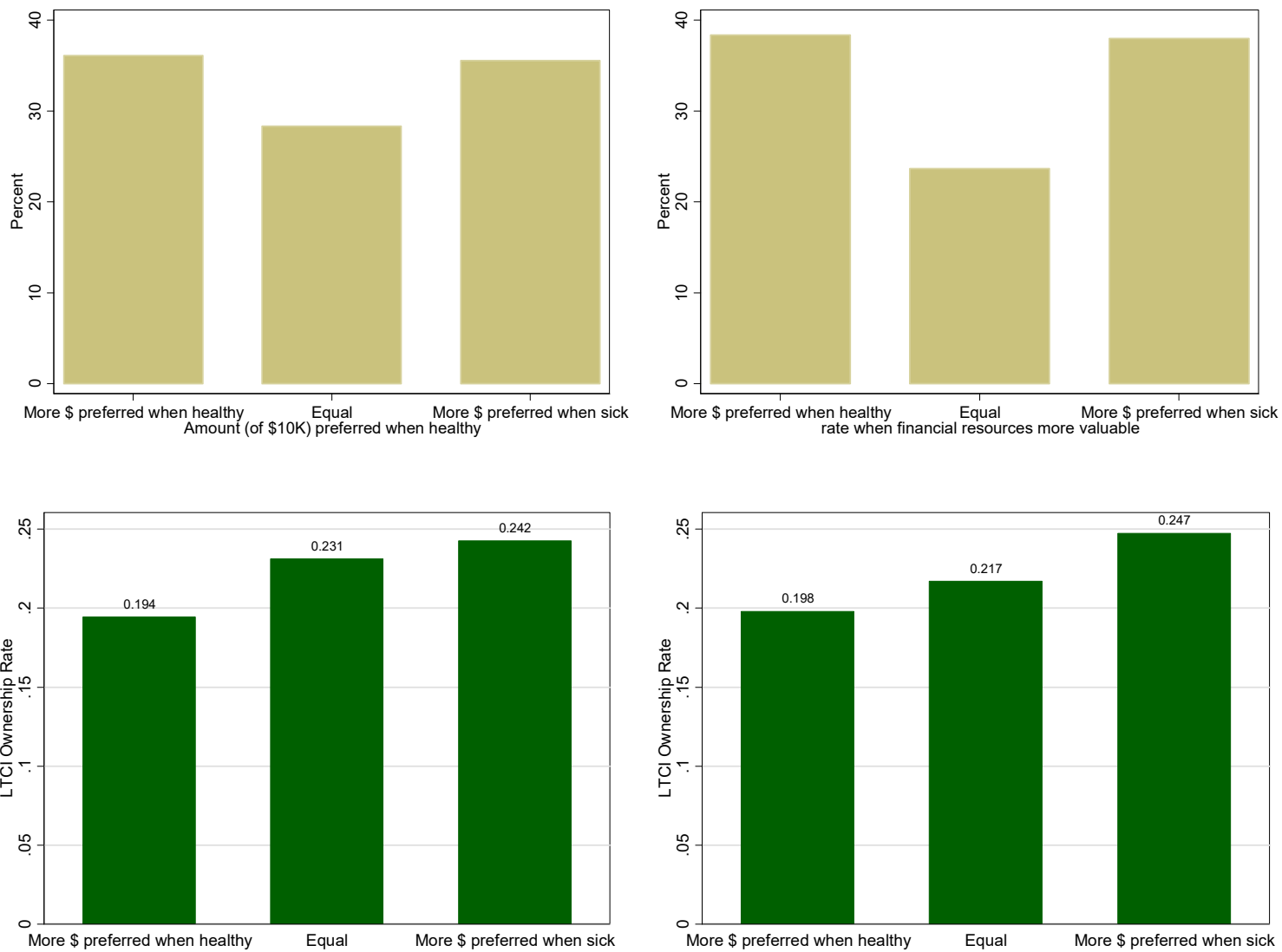


Figure 3: Bequest Motives

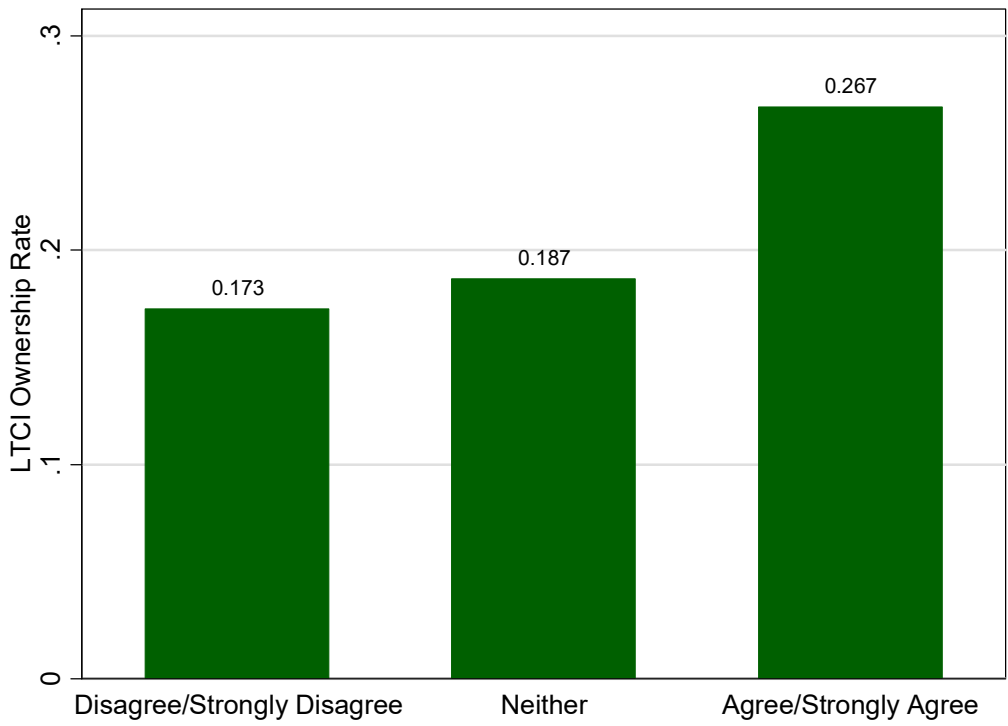
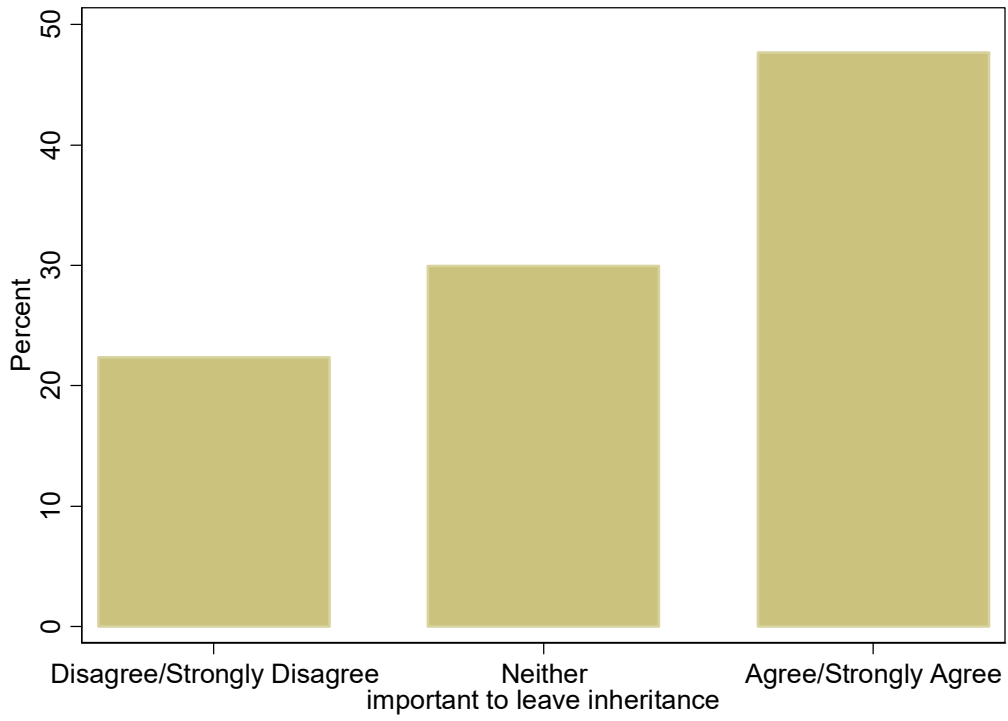


Figure 4: Beliefs about Need for Care

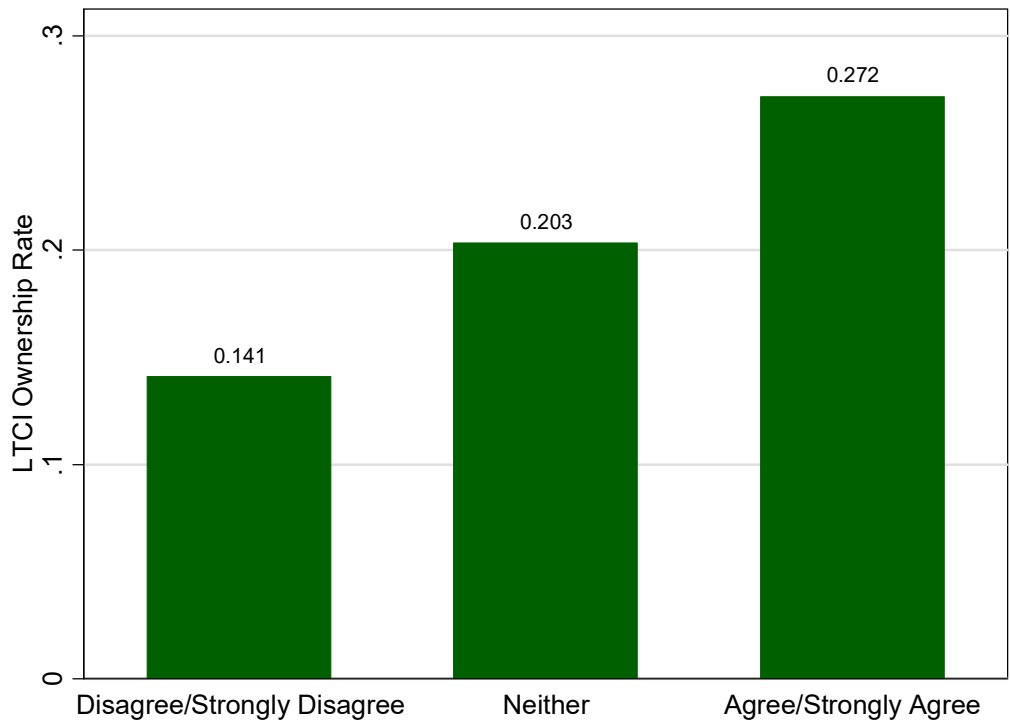
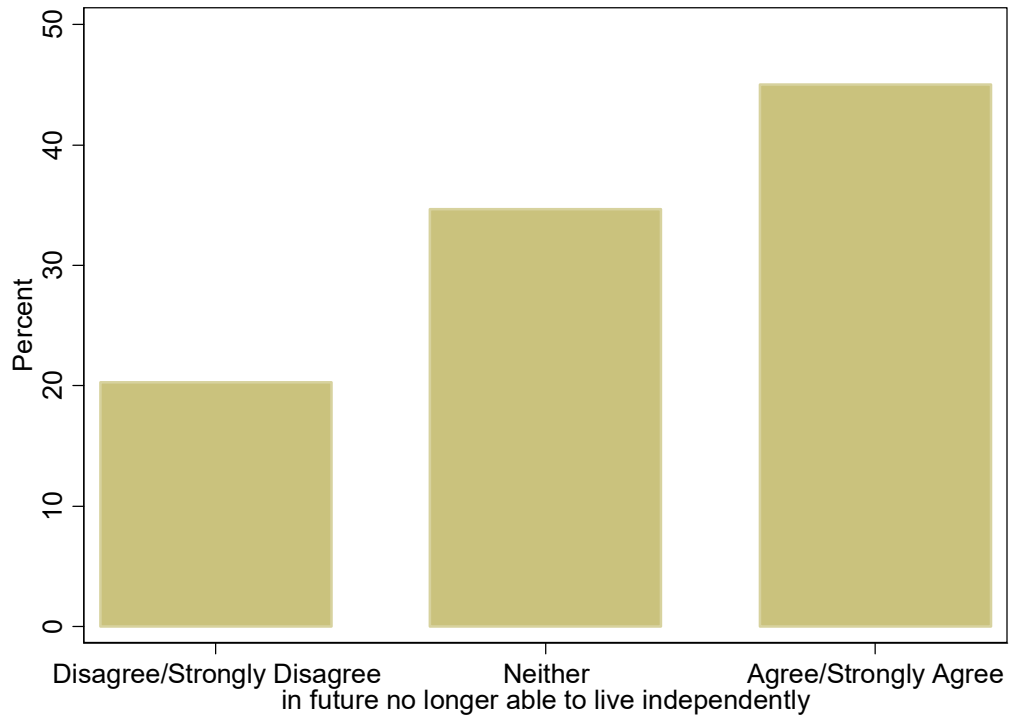


Figure 5: Ability to Self-Insure

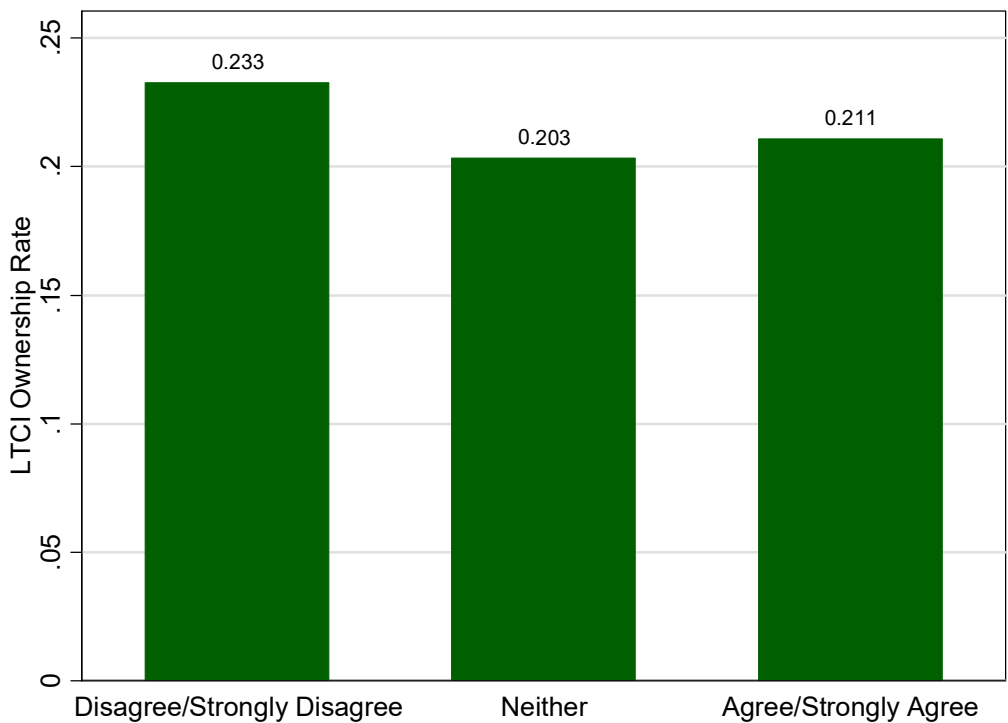
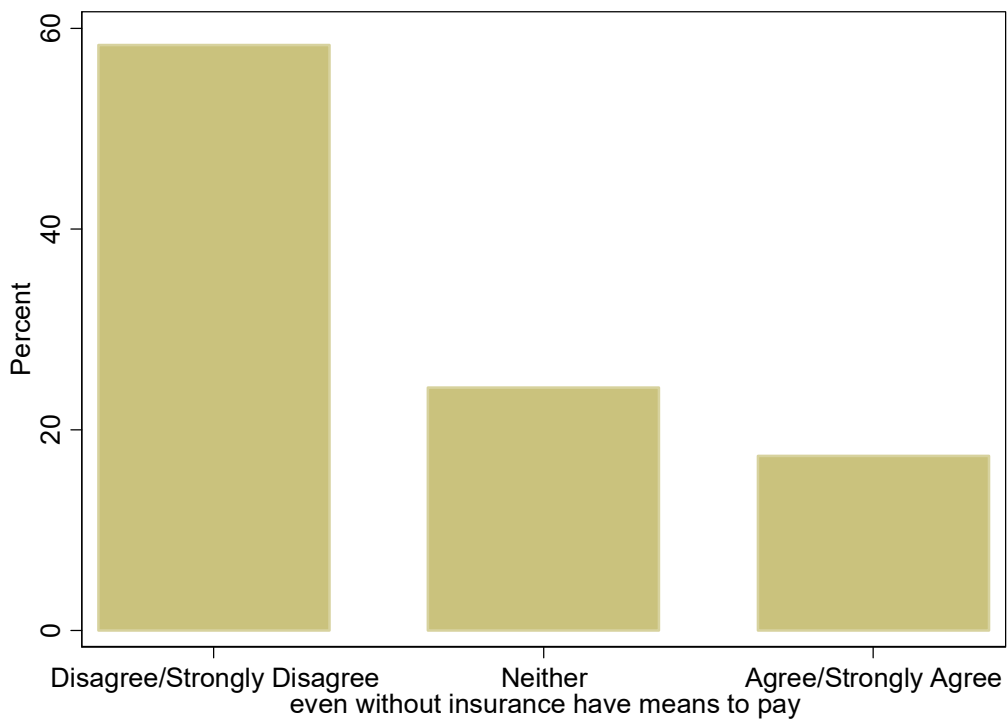


Figure 6: Medicare and Medicaid Coverage of Long-Term Care

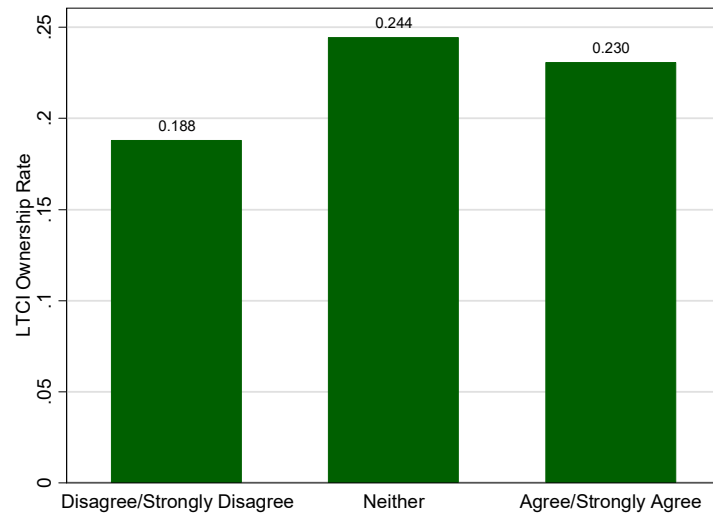
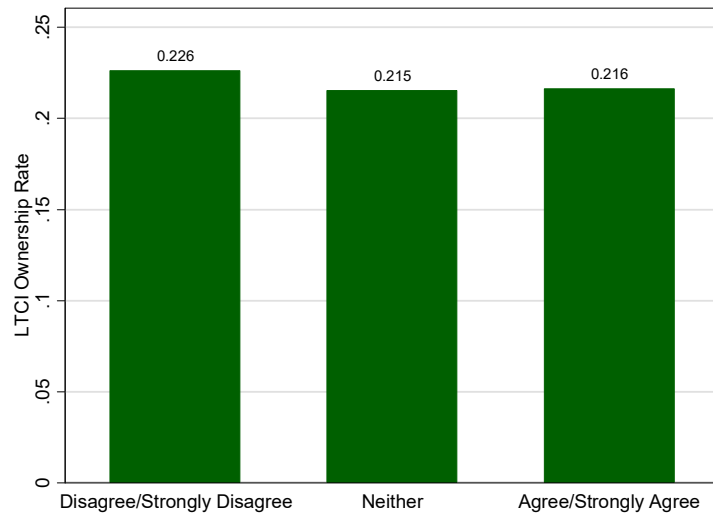
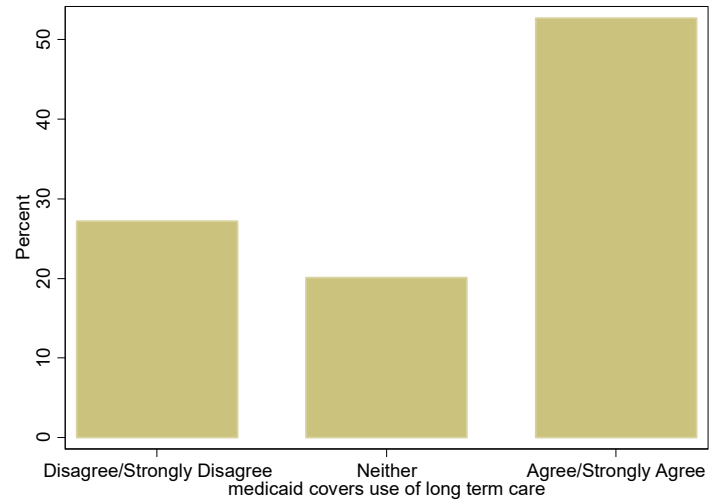
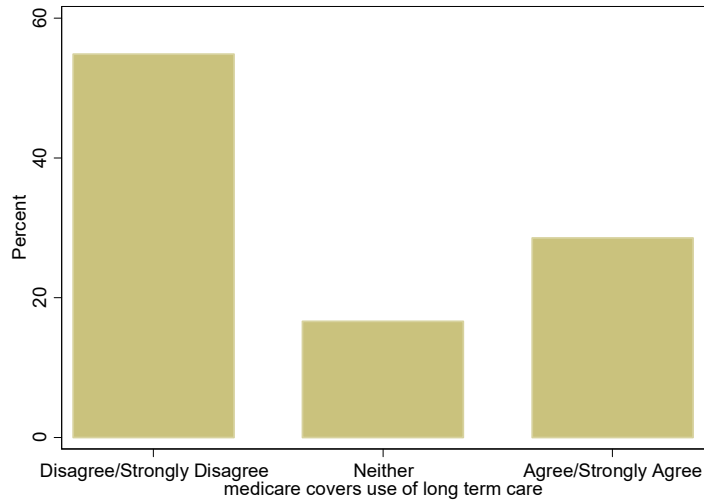


Figure 7: Importance of Avoiding Financial Burden on Family Members

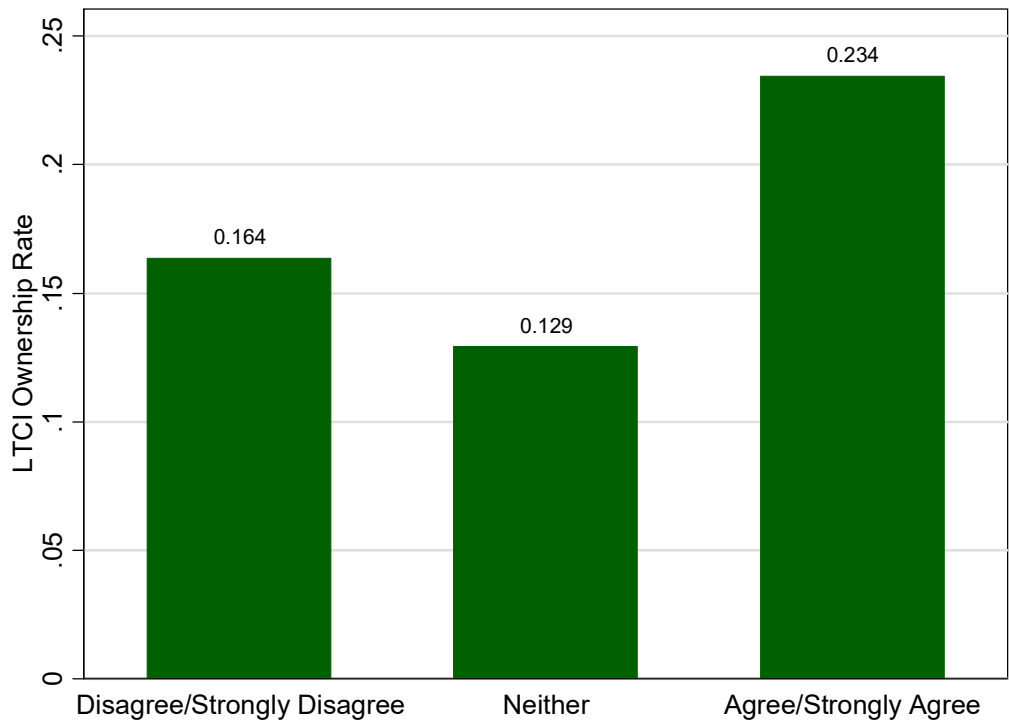
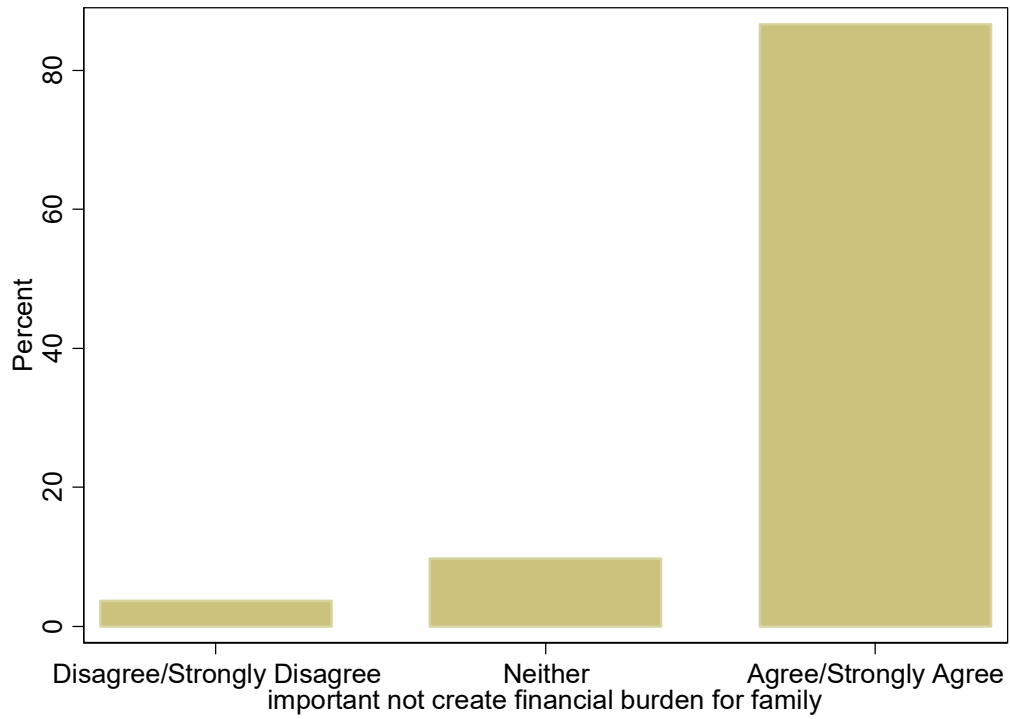


Figure 8: Family Available to Take Care of Respondent

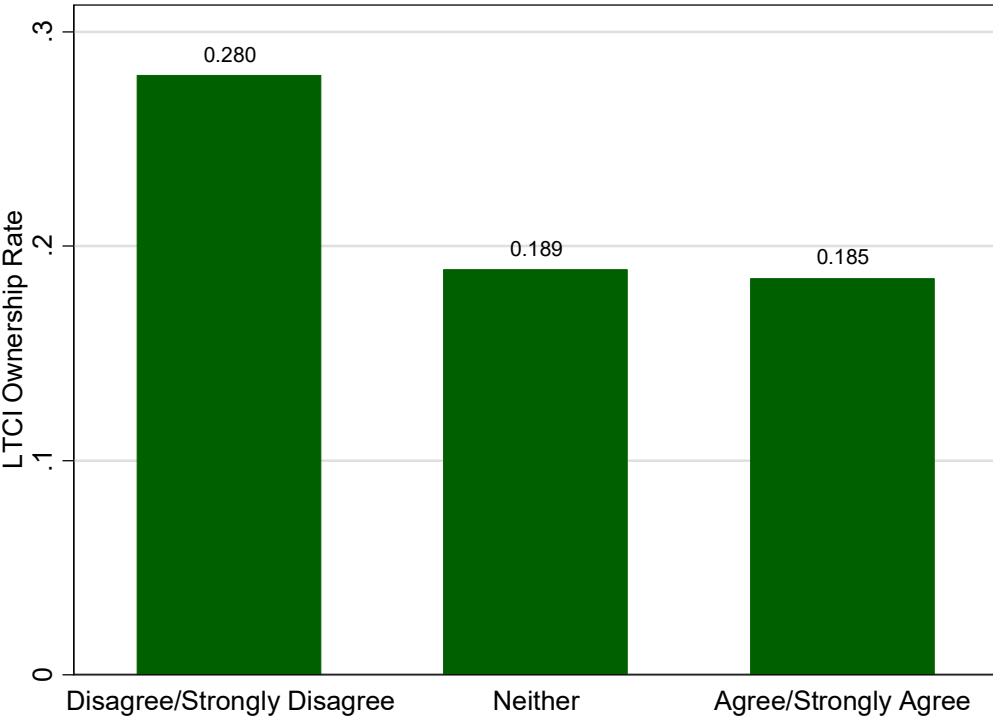
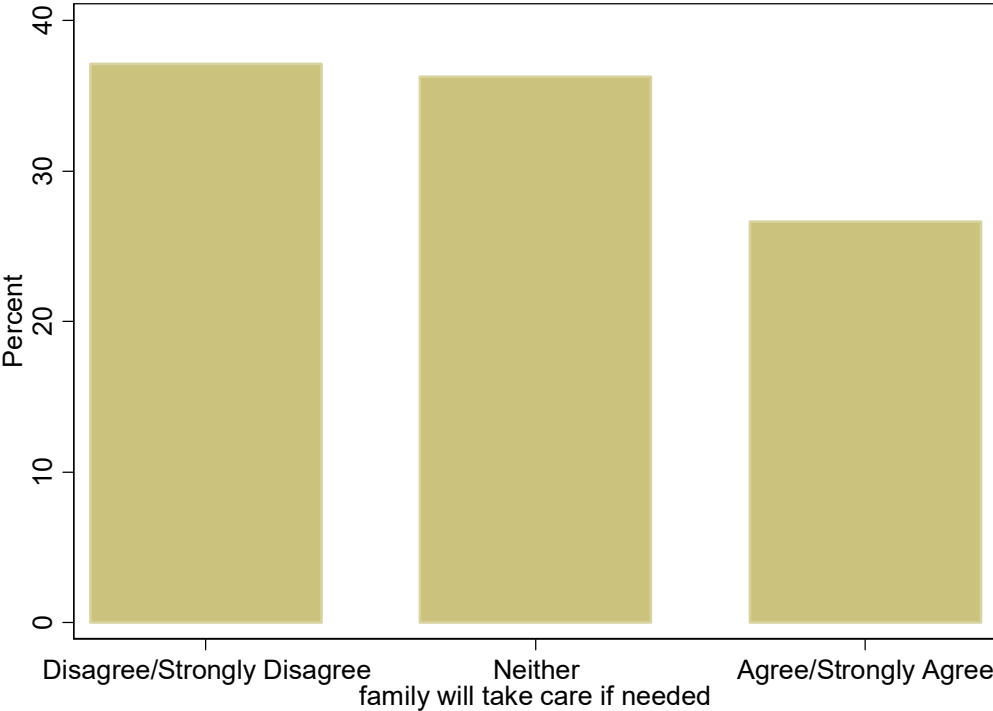


Figure 9: Preference for Professional Caregiver

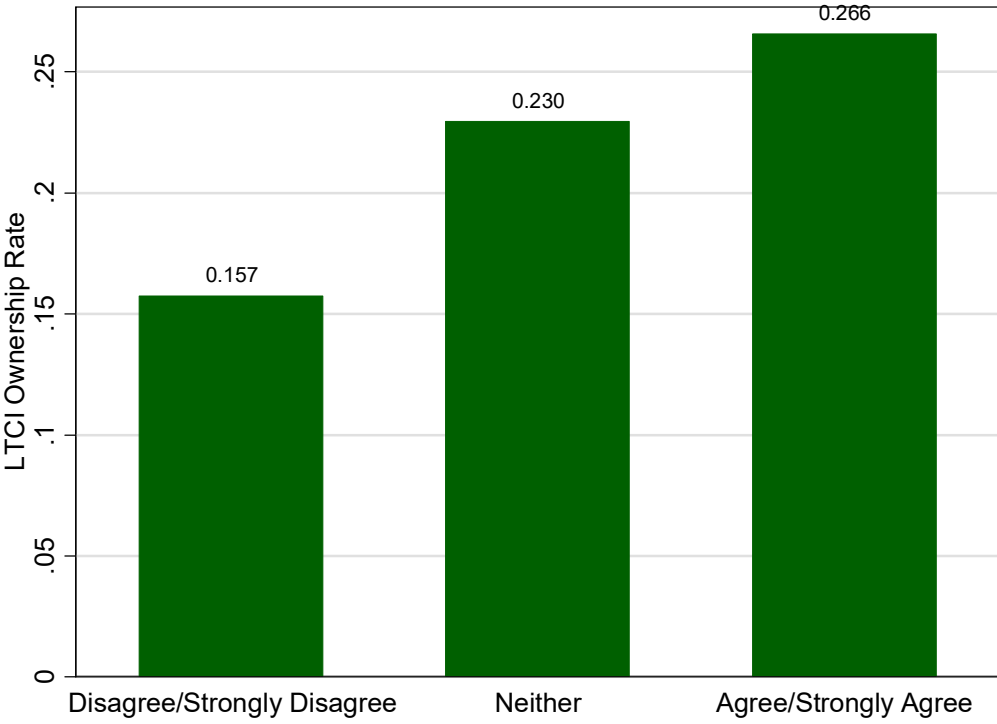
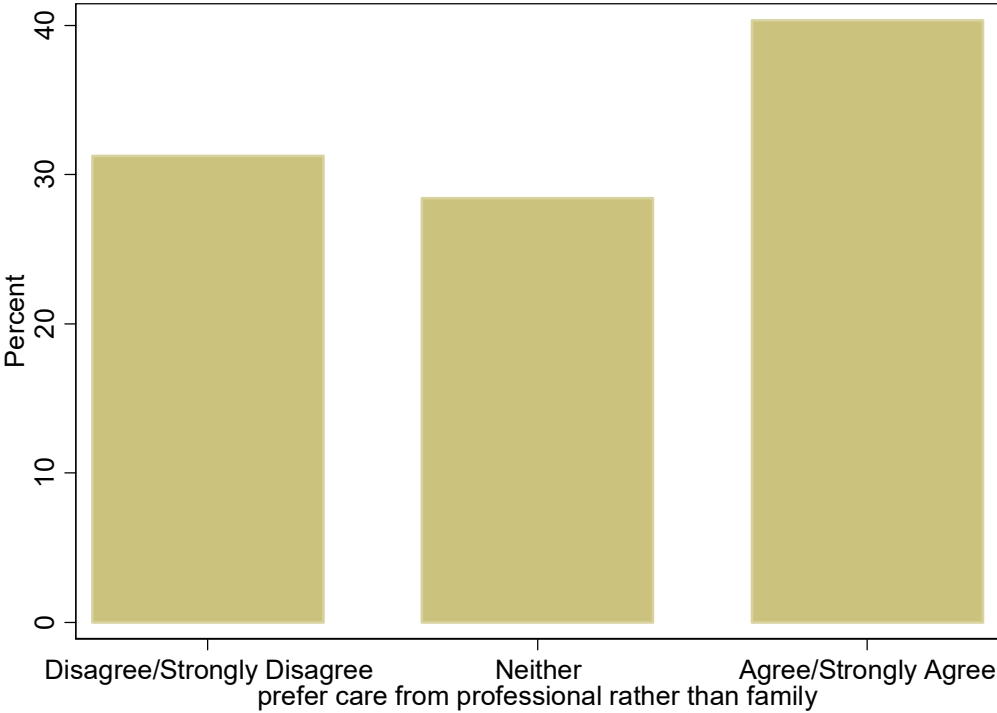


Figure 10: Child's Obligation to Help Parents

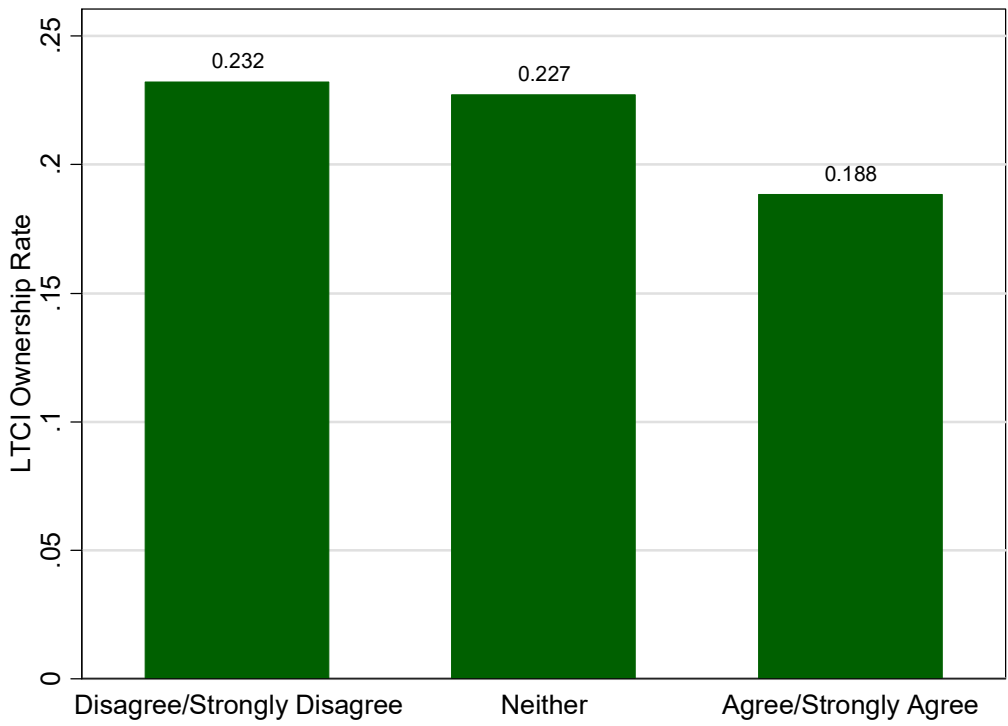
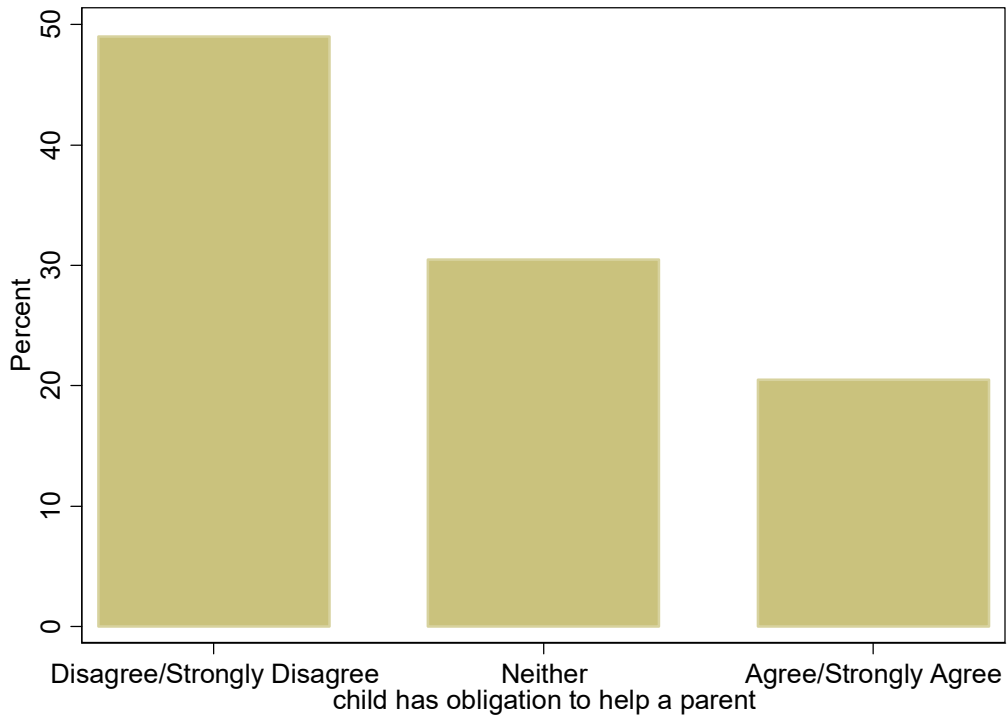


Figure 11: Concern about Ability to Afford Premiums

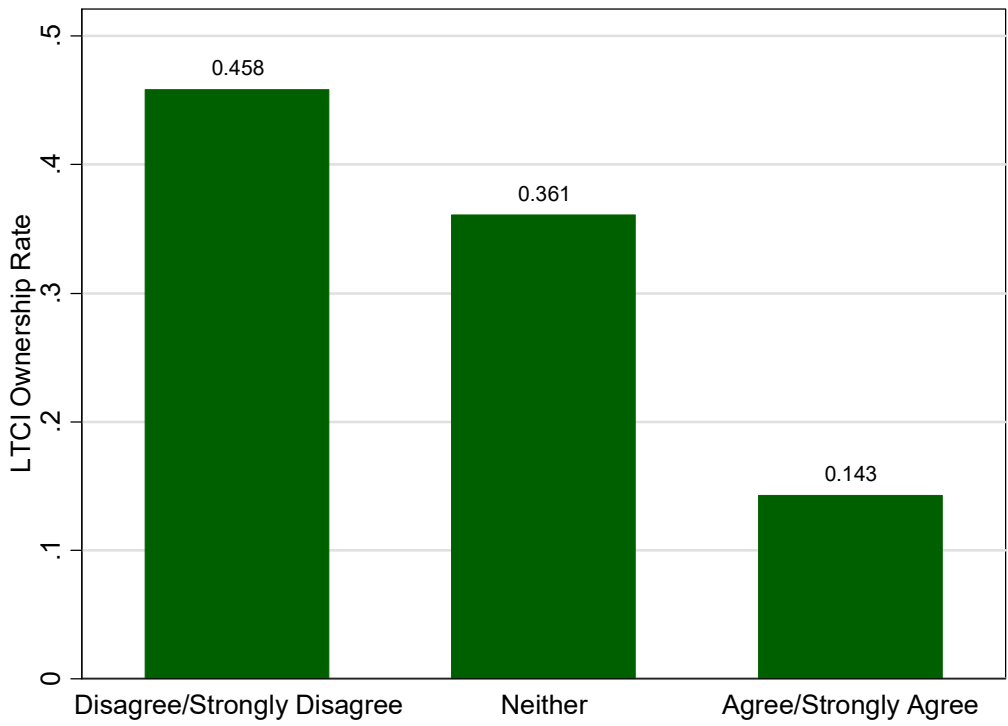
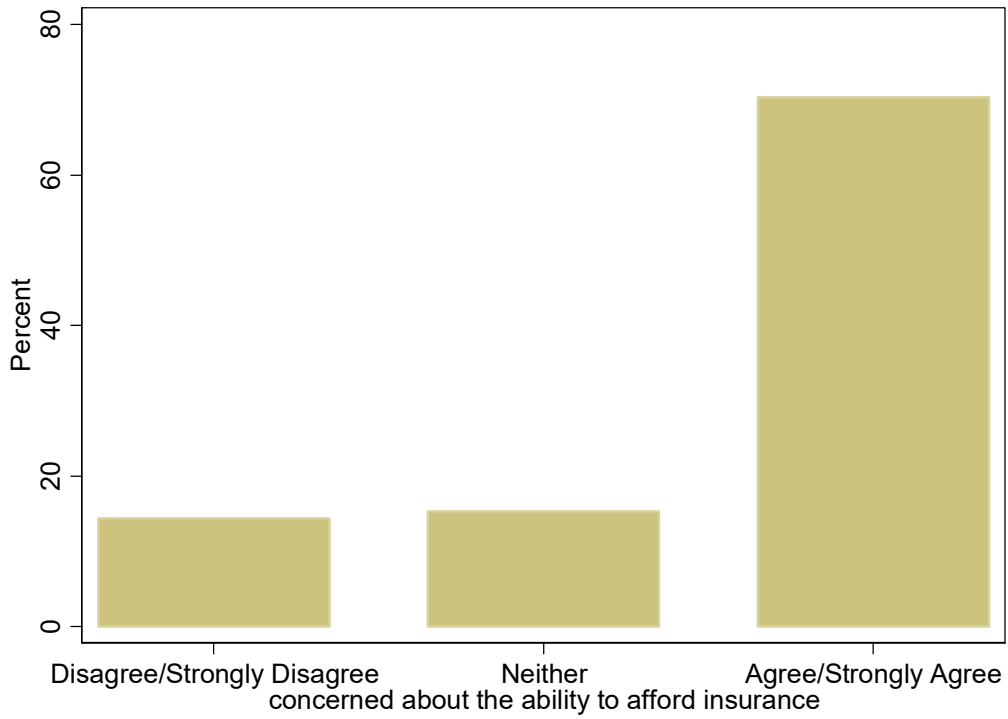


Figure 12: Premiums are Appropriately Priced

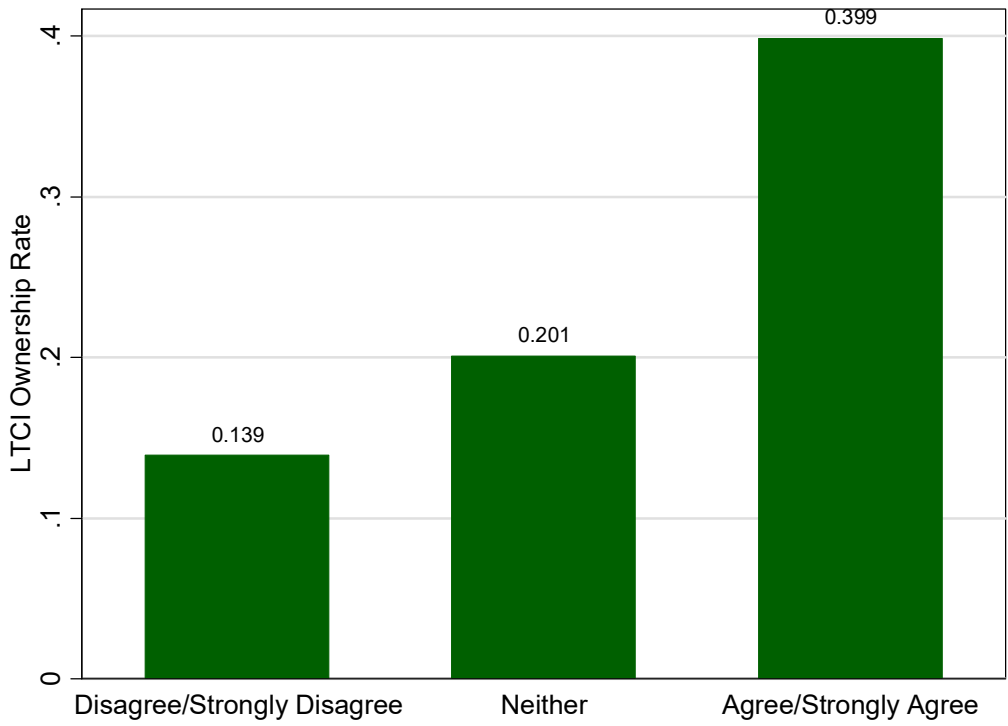
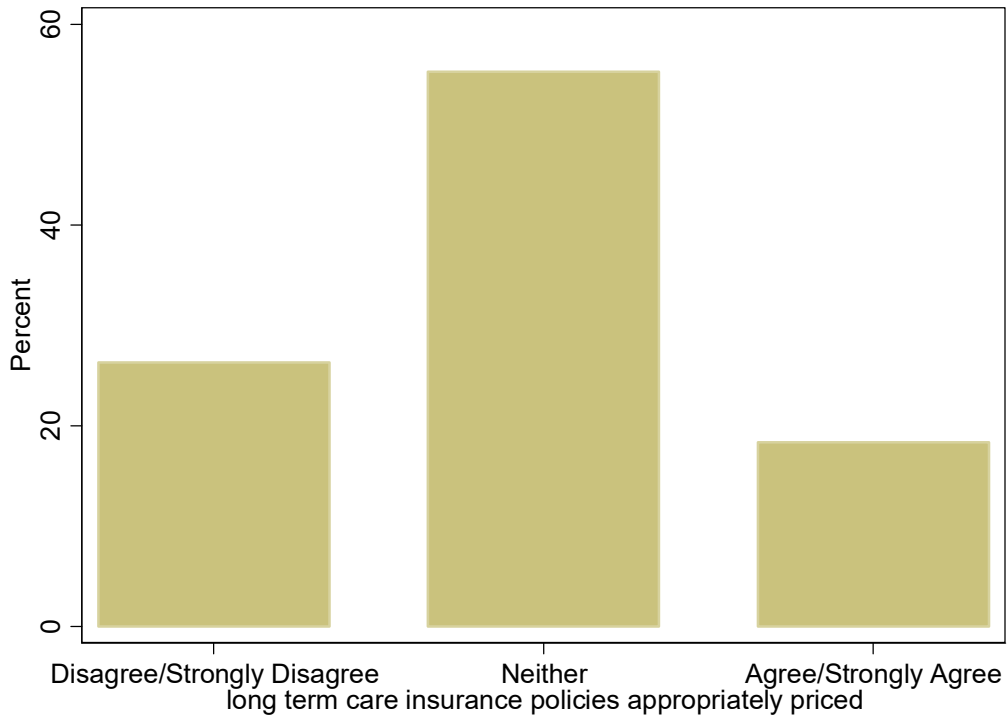


Figure 13: Concerned Insurance Company May Not Remain in Business

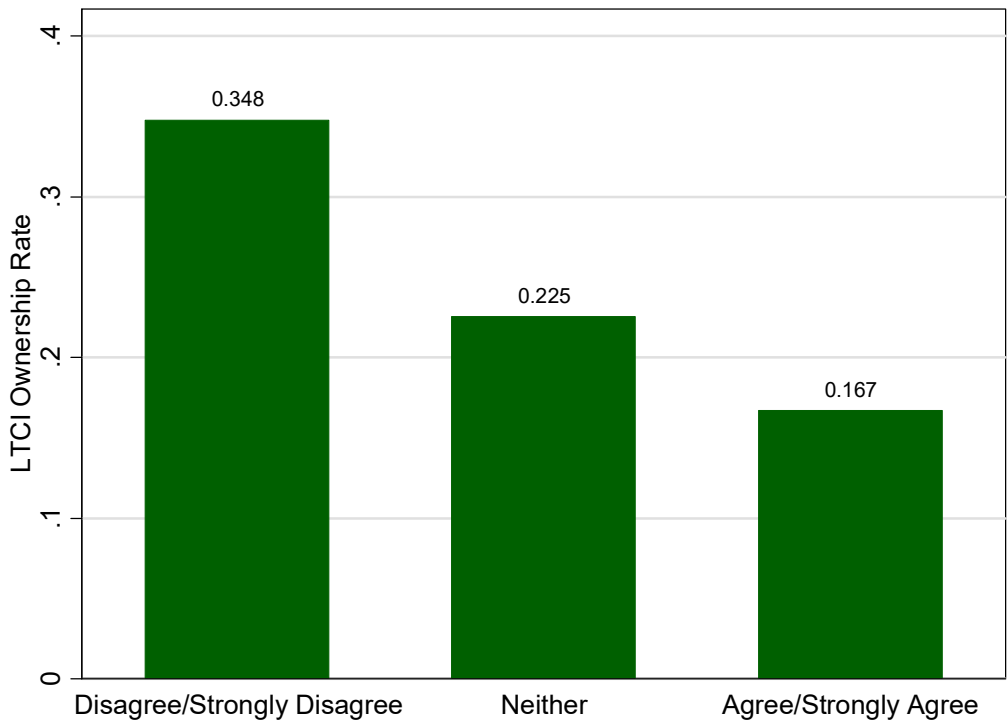
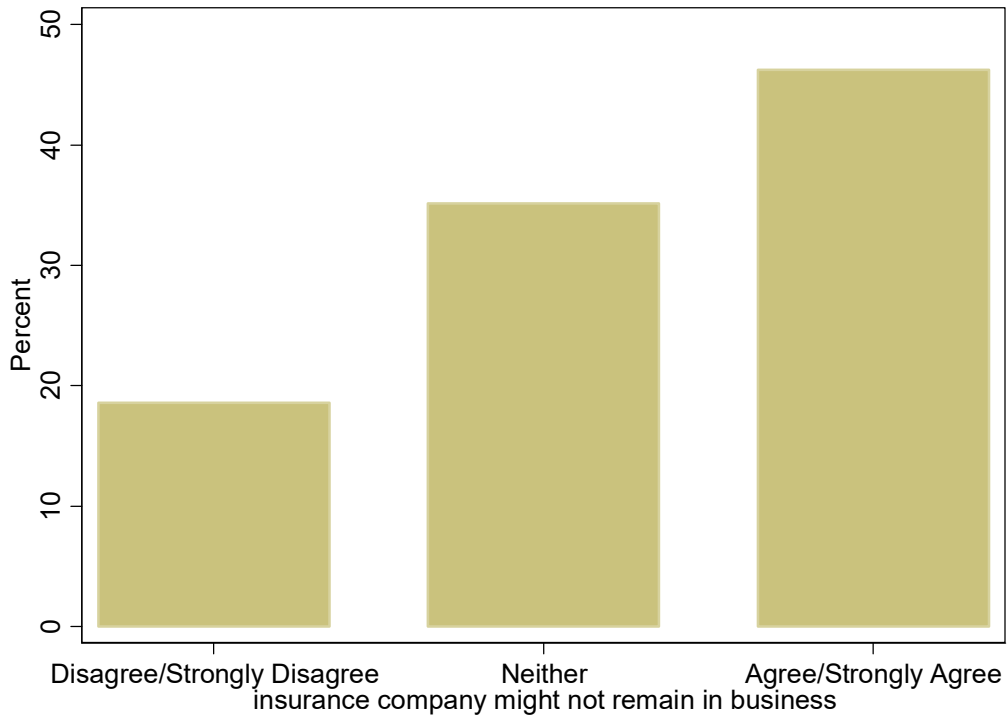


Figure 14: Concern Insurance Company Might Deny Claims

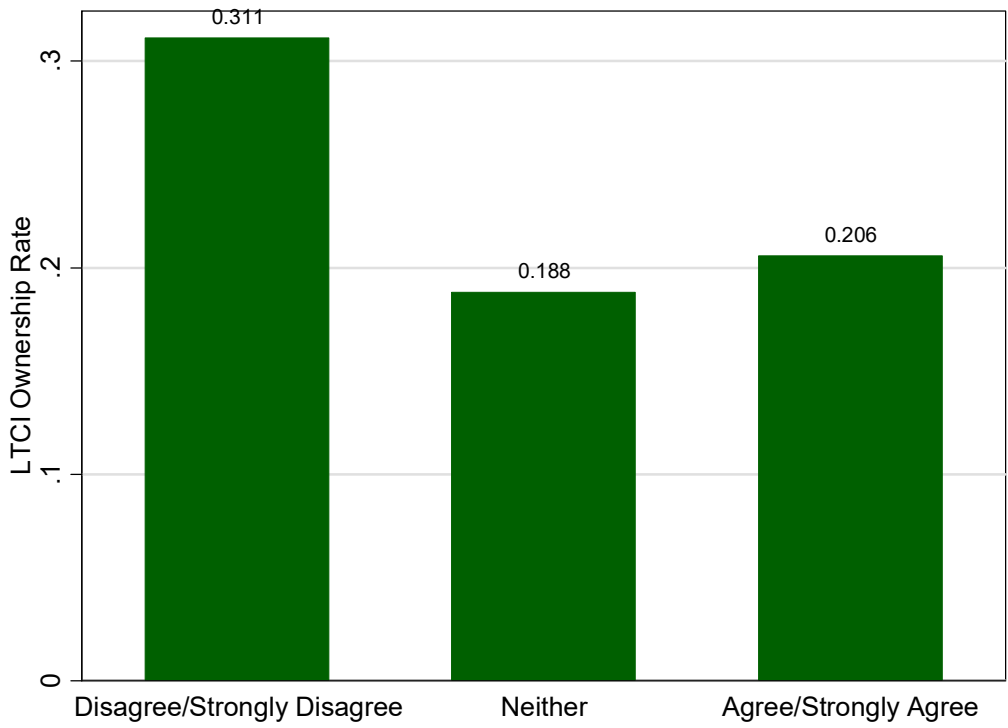
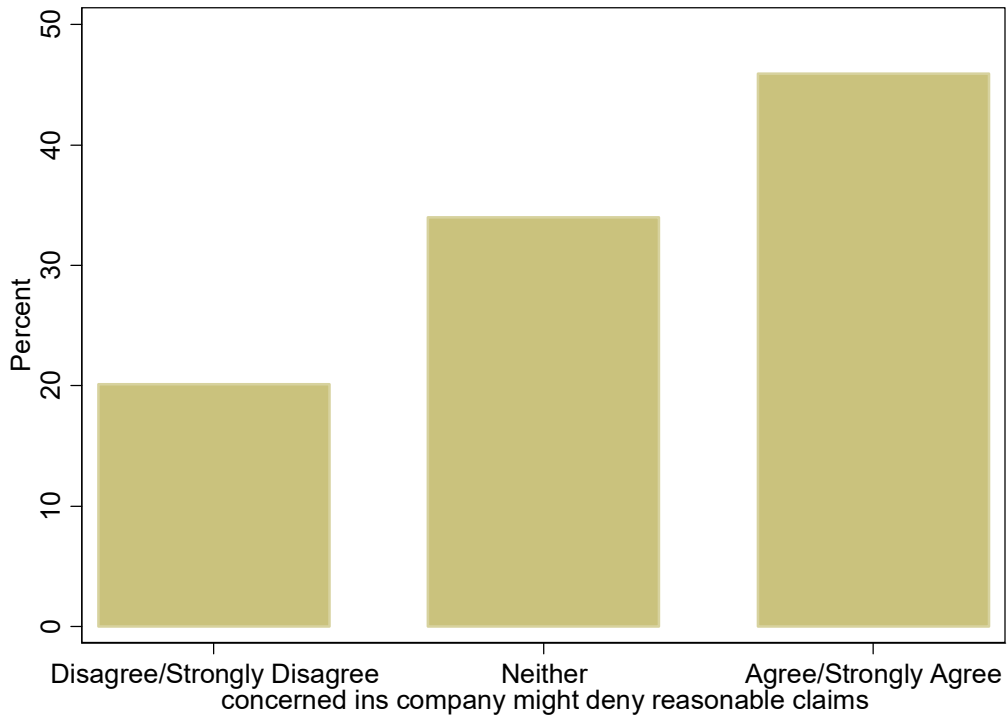


Figure 15: Concern Insurance Company Might Raise Premiums

