

October 2026

“Understanding the Demand for Pet Insurance”

Olivier Armantier and Nicolas Treich

Understanding the Demand for Pet Insurance*

Olivier Armantier¹ and Nicolas Treich²

¹Economic Science Institute, Chapman University

²Toulouse School of Economics and INRAE

21 October 2026

Abstract

Despite its rapid global growth, pet insurance remains poorly understood. This paper provides the first theoretical and empirical analysis of pet insurance demand in economics. Our model predicts that, unlike standard property insurance, pet insurance demand increases with a non-financial factor, the pet's companionship value, and is inverse U-shaped with wealth. These predictions are supported empirically by our survey evidence. We also identify determinants and frictions of pet insurance demand, including risk attitudes, education, financial literacy, and liquidity constraints. Finally, we find that pet insurance decisions are more closely associated with health insurance, a non-property insurance, than with car insurance.

Keywords: pet insurance, insurance demand, self-insurance, animal companionship, veterinary expenditures, risk.

JEL codes: D12, D64, G22, I13, Q18.

*We are grateful to Pascale Champalaune, Wanda Mimra, and conference participants at EGRIE and at the SCOR–TSE behavioral insurance workshop. Nicolas Treich thanks the SCOR chair at TSE-Partnership as well as the ANR under grants ANR-17-EURE-0010 and ANR-24-CE26-2813-02 (SentientBCA) for financial support. All errors are our own. Contacts: armantier@chapman.edu and nicolas.treich@inrae.fr.

1 Introduction

The pet insurance market is growing rapidly in the U.S. and in many other countries. Yet, pet insurance remains poorly understood. In particular, little is known about the factors that shape the demand for pet insurance and how pet insurance decisions compare with more traditional forms of insurance. Understanding these decisions is challenging because pets differ from conventional insurable goods by providing non-monetary benefits, such as companionship. This distinctive feature raises questions about whether insights from the existing insurance literature extend to pet insurance. In this paper, we provide the first theoretical and empirical analysis of pet insurance demand in the economics literature.

We develop a simple model that incorporates both the financial risk of veterinary expenditures and a non-financial factor, the companionship value the owner assigns to the pet. The model compares three options available to a pet owner facing the risk that the pet develops a fatal disease: doing nothing, paying veterinary expenses out of pocket if the pet becomes ill, or purchasing insurance that covers treatment costs. The owner derives utility from wealth and from the pet's companionship. Pet insurance therefore differs from standard property insurance because it ultimately preserves a nonfinancial benefit. The model predicts that insurance coverage increases with the pet's companionship value, but decreases with the probability of illness. Under decreasing absolute risk aversion (DARA), insurance demand is nonmonotonic in wealth: low-wealth pet owners choose not to treat or insure, middle-wealth owners may purchase insurance, and high-wealth owners prefer to self-insure by paying veterinary expenses directly.

As a first step to test these predictions and better understand pet insurance, we fielded a small survey as part of the Federal Reserve Bank of New York's Survey of Consumer Expectations. Our module collected information on pet ownership, pet insurance, pet characteristics, household characteristics, and several measures of owners' attachment to their pets. The results provide evidence in support of the model's predictions. First, we find that insurance demand increases significantly with the companionship value assigned to the pet. To the best of our knowledge, this is the first field evidence that attachment to an insured

good, a non-monetary source of utility, is associated with insurance demand.¹ Second, we find an inverse U-shaped relationship between insurance demand and wealth: Pet owners with intermediate wealth are significantly more likely to have pet insurance than their poorer and wealthier counterparts. While consistent with our model, this pattern contrasts with the prediction of a standard property insurance model, under which insurance demand decreases with wealth under DARA. It also contrasts with empirical evidence showing that car and homeowner insurance coverage increases with wealth (Armantier et al. 2023, Gropper and Kuhnen 2025). Finally, we find mixed evidence for the prediction that pet insurance decreases with the pet’s health risk.

Our estimation results also suggest that pet insurance demand is shaped by several significant determinants, including education, low financial literacy, risk attitudes, and liquidity constraints. Interestingly, similar effects have been identified for property insurance, suggesting that insurance decisions share common determinants and frictions across domains. We also find that pet insurance decisions are more closely associated with health insurance than with car insurance decisions, suggesting that they have more in common with other forms of non-property insurance. These results appear quite robust as they hold broadly for both actual and hypothetical pet insurance choices, as well as for various measures of the pet’s companionship value.

To the best of our knowledge, there is relatively little existing research to which our analysis can be directly compared. From a theoretical perspective, our paper is most closely related to the literature on insurance for irreplaceable goods, initiated by Cook and Graham (1977), and extended by Schlesinger (1984) and Huang and Tzeng (2006), among others. As discussed in Section 3, our model relies on different assumptions and generates different comparative statics. From an empirical perspective, the literature on pet insurance is sparse and seems to lie entirely outside economics. The most closely related studies are Chiu et al. (2021) and Springer et al. (2026), both published in the veterinary literature. These papers are descriptive in nature and do not test predictions from an insurance model.

The remainder of the paper is organized as follows. Section 2 summarizes what is cur-

¹Hsee and Kunreuther (2000) and Aseervatham et al. (2015) provide lab evidence that affective attachment to a good increases insurance demand.

rently known about the pet insurance market. Section 3 presents the model and derives its main theoretical predictions. Section 4 presents the empirical analysis. Section 5 concludes.

2 The pet insurance market

Because the pet insurance market is still emerging, the scientific literature remains limited. Reliable, widely accepted statistics are still lacking. We therefore draw heavily on data from the *grey literature*, including reports from associations and unions representing the pet industry, insurers, and veterinarians.

2.1 Pet insurance and global trends

The primary purpose of pet insurance is to reimburse veterinary expenses. Dogs and cats appear to account for the vast majority of covered pets. For instance, in the U.K., around 95% of pet insurance claims concern dogs or cats according to the Association of British Insurers (2025). Policies generally fall into two broad categories: accident-only contracts, which cover injuries resulting from accidents, and comprehensive contracts, which cover both accidents and illnesses. Comprehensive coverage seems to be by far the most common, reflecting the importance of illness-related veterinary expenses.

Pet insurance penetration differs substantially across countries. According to available estimates, the market is highly developed in Sweden, where Hansson-Hamlin et al. (2025) report that close to 95% of dogs are insured, and relatively mature in the U.K., where roughly one-quarter of dogs are covered according to Murray et al. (2010). Owner-level evidence also points to substantial cross-country differences. In a 2022 survey of 2,100 dog and cat owners in three European countries, Springer et al. (2026) find that about 41% have at least one insured pet, with uptake ranging from 21% in Austria to 52% in the U.K and 56% in Denmark. Interestingly, less than 7% of respondents report having both insured and uninsured pets, suggesting that partial pet insurance within households is relatively uncommon. By contrast, pet insurance often appears to be an emerging product in other European countries. In France, available estimates suggest that about two-thirds of households own at least one pet but only about 5% of pets are insured. Goullet et al. (2026)

argue that this low adoption rate may reflect limited understanding of insurance products and the perception that premiums are too expensive.

Despite relatively low take-up in some markets, recent industry estimates suggest that pet insurance has experienced rapid growth in several countries. In the U.K., the Association of British Insurers (2025) reported a 33% increase in the number of insured pet owners between 2019 and 2024. Similarly, the HelloSafe Global Pet Insurance Barometer suggests annual growth rates of 16% in Spain, 18% in Australia and Hong Kong, 13% in Germany, and 28% in China (HelloSafe 2026).

2.2 The U.S. context

Pet ownership in the U.S. is widespread. In particular, the American Pet Products Association (2026a) reports that roughly 70% (or 95 million) of U.S. households had at least one pet in 2025. According to the American Pet Products Association (2026b), about 53% of U.S. households own a dog and 39% own a cat. The American Veterinary Medical Association (2025) estimates that the U.S. has approximately 87 million pet dogs and 76 million pet cats in 2025.

The American Pet Products Association (2026a) reports that U.S. households spent more than \$150 billion on their pets in 2025, with nearly a quarter (\$41 billion) devoted solely to veterinary and health-related products. Einav et al. (2017) argue that in the U.S. spending on health care for pets outpaced spending on human health care between 1996 and 2012, growing by approximately 60% versus 50%, respectively. They also document similarities between the two sectors, including rapid expenditure growth, strong income gradients, and substantial end-of-life spending.

The substantial financial resources that households devote to their pets may reflect the strong attachment owners have to their animals. A survey conducted by the Pew Research Center in 2023 finds that 97% of pet owners consider their pets part of their family, while 51% regard them as just as much a part of the family as a human member. This latter proportion is 53% among dog-only owners and 48% among cat-only owners (Brown 2023). Using a contingent valuation exercise, Carlson et al. (2019) estimate the value of a statistical dog life at approximately \$10,000, far above a dog’s replacement value in the pet market.

This gap is consistent with owners assigning substantial attachment to their pets.

Pet insurance penetration in the U.S. appears to remain limited but to be growing rapidly. The North American Pet Health Insurance Association (2025) estimates that about 6% of pet dogs and 2% of pet cats were insured in 2024, which nevertheless represented an annual growth rate of roughly 21%. Existing data suggest that pet insurance coverage may be substantially higher when measured at the owner level. In particular, a 2023 survey estimated that 24% of U.S. dog or cat owners had pet insurance (Renter 2024). Pet insurance premiums appear to differ substantially between dogs and cats. According to the North American Pet Health Insurance Association (2025), the average annual premium in 2024 for a comprehensive policy was around \$749 for dogs versus \$386 for cats. The report also suggests that the total U.S. pet insurance premium volume reached about \$5 billion in 2024, representing annual growth of more than 20%.

3 The model

In this section, we develop a simple model of pet insurance. Its purpose is to identify the main mechanisms suggested by basic insurance demand theory and to guide the empirical analysis presented later.

3.1 Basic setup

An individual has utility over wealth given by $u(w)$, where u is increasing, concave, and differentiable, and w denotes initial wealth. The individual owns a pet and derives a non-monetary utility from the pet companionship $\alpha \geq 0$. We assume that utility is additive in wealth and companionship value, so that total utility simply equals $U(w, \alpha) = u(w) + \alpha$. The parameter α captures the emotional attachment to the pet and the enjoyment derived from its companionship. A higher value of α represents a stronger attachment to the pet and, consequently, a greater utility loss if the pet dies. The additive specification implies that the marginal utility of wealth is independent of the companionship value, so that this value does not directly affect the individual's risk preferences over wealth.

With probability p , the pet develops a fatal disease. In that case, the individual can

spend a fixed amount e on veterinary care and save the pet. This decision may be viewed as self-insurance. Alternatively, the individual may purchase insurance *ex ante*. The insurance premium is $\pi = (1 + \lambda)pe$, where $\lambda \geq 0$ denotes the loading factor. If the pet becomes ill, the insurer reimburses the veterinary expenditure e . This setting thus gives rise to three possible expected utility levels:

i) Baseline: No treatment

$$U_{\text{baseline}} = u(w) + (1 - p)\alpha.$$

In this case, which corresponds to the baseline without treatment and without insurance, the individual retains full wealth but loses the companionship value if the pet becomes ill.

ii) Self-insurance through out-of-pocket treatment

$$U_{\text{self}} = (1 - p)u(w) + pu(w - e) + \alpha.$$

Here, the individual pays the veterinary cost e out of pocket if the pet becomes ill. The pet is therefore safe in both states, and the companionship value α is preserved.

iii) Market insurance

$$U_{\text{insurance}} = u(w - \pi) + \alpha, \quad \pi = (1 + \lambda)pe.$$

In this case, the individual pays the insurance premium in advance and is reimbursed for the veterinary expenditure if the pet becomes ill. Wealth is therefore certain, and the companionship value α is preserved in both states.

Before proceeding, we discuss the main specificities of the model. First, we actually consider two decisions: whether to pay for veterinary expenditures and whether to purchase market insurance as in some insurance models with multiple decisions (Ehrlich and Becker 1972, Bourgeon and Picard 2026). Second, we assume that the companionship value, α , enters utility additively. This assumption is central to our analysis, as it distinguishes pet insurance from standard property insurance models, in which utility typically takes the form $U(w, L) = u(w + L)$ where the potential loss L is purely financial (Mossin 1968, Schlesinger

2013), and from health insurance models in which health status h and wealth typically interact multiplicatively, as in $U(w, h) = hu(w)$ (Viscusi and Evans 1990, Rey and Rochet 2004).² Third, we assume that the risk is binary: the pet either develops the disease or remains healthy. Finally, we assume that the insurer knows p and e (the probability of illness and the treatment cost), and sets the premium as $\pi = (1 + \lambda)pe$, which may not be optimal in this context of non-financial risks (Huang and Tzeng 2006). Hence, the model abstracts from adverse selection and moral hazard.

3.2 Comparative statics

We now explore how different model's parameters affects the utility levels, and thus the decisions to insure and self-insure.

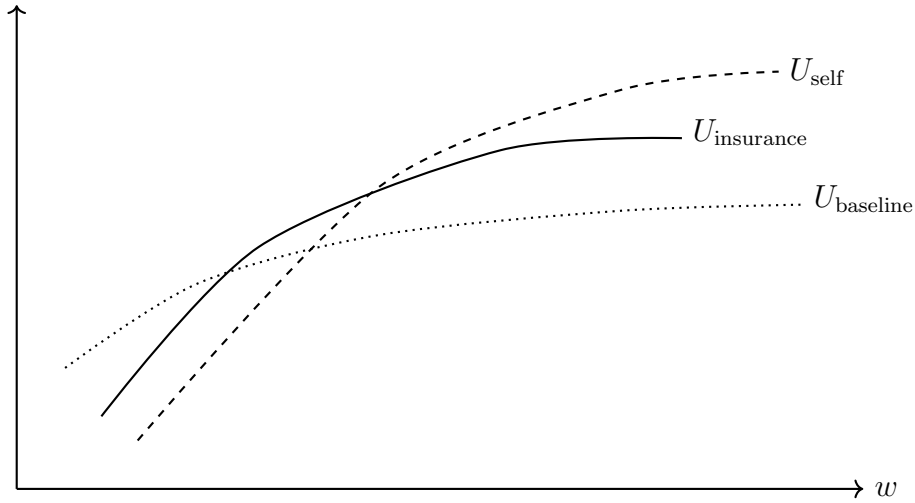
We begin by examining the role of the companionship value. When α approaches zero, the baseline option (no treatment) dominates both self-insurance and market insurance. This result is intuitive: if the individual attaches little or no value to the pet's companionship, there is no incentive to incur either veterinary expenditures or insurance premiums to save the pet. It is also important to note that α does not affect the choice between self-insurance and market insurance. Indeed, the companionship value enters both U_{self} and $U_{\text{insurance}}$ additively and in the same way. Hence, conditional on choosing to save the pet, the comparison between self-insurance and insurance depends only on the distribution of wealth across states. When insurance is actuarially fair, so that $\lambda = 0$, market insurance always dominates self-insurance. Nevertheless, even actuarially fair insurance is not optimal when α is sufficiently small. Again, the individual prefers not to save the pet and chooses the baseline option instead. Thus, the standard full insurance result of Mossin (1968) does not apply in such a model as already shown by Schlesinger (1984). Moreover, since the difference $U_{\text{insurance}} - U_{\text{baseline}}$ is increasing in α , whereas the difference $U_{\text{insurance}} - U_{\text{self}}$ is independent of α , it follows that the demand for insurance is weakly increasing in the companionship value α .

We next examine how the probability of illness, p , affects the demand for insurance. When $p = 0$, the pet never becomes ill, so all three options yield the same utility: $U_{\text{baseline}} = U_{\text{self}} = U_{\text{insurance}} = u(w) + \alpha$. At the other extreme, when $p = 1$, the pet becomes ill with

²As discussed in Appendix A.3, such health insurance models yield different comparative statics from ours.

certainty. In this case, $U_{\text{insurance}} \leq U_{\text{self}}$, with a strict inequality whenever $\lambda > 0$. When the loss is certain, insurance provides no risk-sharing benefit and merely adds the loading cost. To characterize the effect of p more generally, observe that U_{baseline} and U_{self} are both decreasing and affine in p . By contrast, $U_{\text{insurance}}$ is decreasing and concave in p . It follows that $U_{\text{insurance}}$ can only cross U_{self} and U_{baseline} once from above. Thus, once market insurance ceases to be optimal, it cannot become optimal again at a higher probability of illness. It follows that the demand for insurance is weakly decreasing in p .

Figure 1: Expected utility levels as a function of wealth w .



Note: In this illustration, insurance is purchased only for intermediate levels of wealth.

We next examine how wealth w affects the individual's choice. By concavity of u , we have $u'(w) \leq (1-p)u'(w) + pu'(w-e)$ and $u'(w) \leq u'(w-\pi)$. Thus, a reduction in wealth favors the baseline option relative to insurance and self-insurance. Intuitively, poor individuals are unwilling to devote resources necessary for either veterinary treatment or the purchase of insurance. Moreover, under DARA, self-insurance is preferred to market insurance when wealth is sufficiently high: As wealth increases, the individual becomes more willing to bear the financial risk associated with paying the veterinary expenditure out of pocket and less willing to pay the insurance loading. Hence, DARA typically yields a non-monotonic relationship between wealth and insurance demand.³ At low enough levels of wealth, the individual chooses the baseline option and does not incur veterinary expenditures. At inter-

³This occurs whenever each of the three options is optimal over some range of wealth. However, if the insurance loading is sufficiently high, purchasing insurance may never be optimal.

mediate levels of wealth, market insurance is preferred. At sufficiently high levels of wealth, the individual prefers to self-insure and pay veterinary expenses out of pocket. Thus, under the standard DARA assumption, pet insurance is purchased only over an intermediate range of wealth, as illustrated in Figure 1.

We now briefly discuss the remaining parameters. A higher loading factor, λ , raises the premium and therefore reduces insurance demand. Insurance is optimal only for intermediate values of veterinary expenditure, e : when e is low, self-insurance is preferred, whereas when e is high, the baseline option dominates. Finally, greater risk aversion (through an increase in the curvature of u) favors market insurance over self-insurance.⁴

3.3 Theoretical predictions

To conclude this section, we formulate the three theoretical predictions to be tested in the empirical analysis below. In doing so, we discuss how these predictions differ from standard property insurance theory.

P1: The demand for pet insurance weakly increases with the pet’s companionship value.

This prediction is specific to our model. Canonical property insurance models focus exclusively on the financial value of the insured good. Hence, non-monetary factors such as a psychological or emotional attachment to the good insured, have no effect on property insurance. In contrast, if a pet affects utility through a companionship value, then our model predicts that the demand for pet insurance should rise with the companionship value the owner assigns to the pet.

P2: The demand for pet insurance first increases and then decreases with wealth.

This prediction of an inverse U-shaped relationship between wealth and pet insurance is derived under DARA. In contrast, under the same assumption, the standard model predicts that the demand for property insurance decreases with wealth (Schlesinger 2013).

⁴We do not examine how risk aversion comparatively affects the baseline option, as doing so would require a more general treatment of risk aversion under state-dependent utility, which lies beyond the scope of this paper (Karni 1983).

P3: The demand for pet insurance weakly decreases with the pet’s future health risk.

To understand the intuition behind this result, observe that when the probability of disease is sufficiently high, the individual prefers self-insurance to avoid the additional cost of the insurance loading factor. By contrast, in the standard insurance model, the effect of an increase in the probability of a financial loss on insurance demand is ambiguous under DARA (Jang and Hadar 1995).

4 The empirical analysis

4.1 The data

We use data from the Survey of Consumer Expectations (SCE). The SCE is a monthly, internet-based survey conducted by the Federal Reserve Bank of New York since June 2013. It consists in a 12-month rotating panel with a nationally representative sample of U.S. household heads.⁵ The SCE is a well-established survey that has been used extensively for both policy and academic research.⁶ In addition to the monthly SCE, special modules are occasionally fielded on an ad hoc basis. Our data come from such a special module on household finance and insurance coverage fielded to 342 respondents in April 2021. Although the sample size is modest, the respondent-level information collected is unusually rich (see below), thereby providing a unique perspective on pet insurance demand and its determinants. Nevertheless, we view the results presented in this section mostly as preliminary evidence that should not be overgeneralized.

Pet and pet insurance data. Respondents were asked whether anyone in their household owned a dog or a cat. Those with more than one pet were asked to focus on their oldest pet. Respondents reported the pet’s age and assessed the pet’s health on a seven-point Likert scale ranging from 1 (very poor) to 7 (excellent). To construct a comprehensive measure of the pet’s companionship value, we asked respondents three questions about the extent to which

⁵See Armantier et al. (2017) for a discussion of the SCE technical features, including the sampling frame, implementation, response rate, and representativeness.

⁶See e.g., Armona et al. (2019), Mueller et al. (2021), Armantier et al. (2023), or Koşar and van der Klaauw (2025).

they agreed that their pet is i) a member of their family, ii) one of their best friends, and iii) unique (in the sense that the owner would never have the same feelings toward another pet). Responses to each question were recorded on a seven-point scale from 1 (totally disagree) to 7 (totally agree). Our primary measure of companionship is the average response across the three questions.⁷ Respondents were also asked whether they had pet insurance. Those without pet insurance provided reasons for not purchasing it. Finally, we elicited each pet owner’s willingness to pay (WTP) for a hypothetical pet insurance policy that covers all health expenses without a deductible.

Car and health insurance data. We elicited both an objective and a subjective measure of each respondent’s car and health insurance coverage. For the objective measure of car insurance, vehicle owners were asked about seven components of their coverage (e.g., liability, collision, uninsured coverage) for their main vehicle (defined as the one with the highest value). To summarize this information, we follow Armantier et al. (2023) and construct an index of car insurance coverage equal to the normalized sum of the components. The index thus varies from 0 (no coverage) to 7 (full coverage). Similarly, we asked respondents about 10 components of their health insurance coverage (e.g., deductible, out-of-pocket maximum, network access, out-of-network coverage, prescription drug coverage). Following the same approach, we construct an index of health insurance coverage ranging from 0 (no coverage) to 10 (full coverage). For the subjective measures, respondents rated the perceived quality of their car and health insurance coverage separately on a seven-point Likert scale ranging from 1 (no coverage at all) to 7 (best coverage possible).

Demographic characteristics. The SCE elicits detailed demographic information for each respondent. Our analysis controls for standard characteristics such as the respondent’s age, gender, education, marital and employment status, family composition (i.e., whether the household includes children), credit score, and wealth (the sum of all the household’s assets minus liabilities). In addition, we control for behavioral characteristics such as financial literacy (adapted from Lusardi and Mitchell 2007), liquidity constraints, and risk tolerance

⁷We also consider each question separately in the analysis. However, responses to individual questions have substantially less cross-sectional variation than our average measure. For instance, nearly two-thirds of pet owners assign the highest rating of 7 to the family-member question.

(based on Dohmen et al. 2011).⁸

Descriptive statistics. Table A.1 in the appendix shows that 69% of respondents report having a pet, and that 18% of them have pet insurance. The average pet is about 8 years old and generally perceived to be in good health, with an average health rating of 5.5 out of 7. Respondents also report strong pet attachment. The average ratings for viewing the pet as a family member, one of their best friends, and unique are 6.2, 5.7, and 4.8, respectively, yielding an average companionship value of 5.6 out of 7. Among uninsured pet owners, the reasons most frequently mentioned for not purchasing pet insurance are that it is too costly (53%) or not needed (51%). In addition, more than one-third of uninsured pet owners (36%) report not knowing enough about pet insurance.

The average WTP for the hypothetical pet insurance is \$83 per month. This average, however, masks the fact that 19% of pet owners report a WTP of \$0. Consistent with intuition, nearly all of these respondents report being uninsured and not needing pet insurance. Conditional on being positive, the average WTP is \$103.

With respect to demographic characteristics, and consistent with Armantier et al. (2017, 2023), our sample is broadly representative of household heads in the Census with respect to gender, race, geographic location, and age, although our respondents are slightly more affluent and educated.

Regarding behavioral characteristics, respondents report an average risk tolerance of 3.7 out of 7, suggesting slight risk-aversion (if the midpoint of 4 is interpreted as risk neutrality). In addition, 25% of respondents are classified as having low financial numeracy and 14% as liquidity constrained. These shares are comparable to those in Armantier et al. (2023).

⁸As an illustration, one of the questions used to elicit financial literacy is: “If you have \$100 in a savings account, the interest rate is 10% per year and you never withdraw money or interest payments, how much will you have in the account after: one year? Two years?”. We define respondents as liquidity constrained if they report less than a 50% chance of being able to come up with \$2,000 if the need arose. Risk tolerance is measured by asking “How would you rate your willingness to take risk regarding financial matters?” with responses ranging from 1 (not willing at all) to 7 (very willing). This instrument has been shown to produce meaningful measures of risk preferences and to correlate with actual behavior (e.g., Falk et al. 2023).

4.2 The pet insurance decision

Test of theoretical predictions. We use a probit specification to model which respondents have pet insurance. The first model we estimate includes only the variables relevant for testing the theoretical predictions in Section 3.3: the pet’s characteristics, the pet owner’s wealth, and our average measure of companionship value. To account for possible nonlinearities, the last two variables are discretized into terciles.

The results in column 1 of Table 1 reveal a highly significant and nearly linear positive relationship between companionship value and pet insurance demand. Respondents in the top (respectively, bottom) tercile of companionship value are about 10 percentage points (pp) more (respectively, less) likely to insure their pet than pet owners in the middle tercile. These results provide strong empirical support for Prediction P1, under which insurance coverage increases with the pet’s companionship value. To the best of our knowledge, this is the first field evidence in the literature that attachment to the insured good is associated with the demand for an insurance product. In particular, our result contrasts with Armantier et al. (2023), who found no evidence that non-financial considerations such as “sentimental attachment” influence the demand for car and homeowner insurance.

Table 1 also indicates that the relationship between insurance demand and wealth is inverse U-shaped. Compared with pet owners in the middle tercile of wealth, those in the top and bottom terciles are 10 pp and 25 pp less likely to insure their pet, respectively. In other words, consistent with Prediction P2, poor respondents are less likely to have pet insurance, while wealthy respondents are not the most likely to purchase it. The non-monotonic relationship between wealth and pet insurance demand therefore contrasts with the prediction of a standard property insurance model, under which demand decreases with wealth under DARA. It also contrasts with empirical evidence showing that car and homeowner insurance coverages actually increase with wealth (Armantier et al. 2023, Gropper and Kuhnen 2025).

Our data do not provide a clean measure for testing Prediction P3, which states that pet insurance demand decreases with the pet’s health risk. If the best proxy for future health risk is the pet’s current health status, then the data provide no support for P3. Instead, if the pet’s age is a better measure of future health risk, then Table 1 provides some support

Table 1: The Decision to Have Pet Insurance

	Has Insurance	Has Insurance	Has Insurance	Has Insurance	Has Insurance
Bottom tercile of companionship	-0.133** (0.067)	-0.139*** (0.050)	-0.136*** (0.051)	-0.130** (0.051)	-0.127** (0.051)
Top tercile of companionship	0.097** (0.049)	0.096** (0.043)	0.091** (0.043)	0.101** (0.042)	0.095** (0.042)
Bottom tercile of wealth	-0.251*** (0.069)	-0.153** (0.064)	-0.160** (0.066)	-0.155** (0.062)	-0.159** (0.062)
Top tercile of wealth	-0.103** (0.047)	-0.079** (0.040)	-0.081** (0.041)	-0.092** (0.042)	-0.092** (0.042)
Pet's age	-0.014*** (0.005)	-0.010** (0.004)	-0.010** (0.005)	-0.010** (0.004)	-0.010** (0.004)
Pet's health	0.027 (0.018)	0.010 (0.016)	0.010 (0.016)	0.004 (0.016)	0.006 (0.016)
Owner's age		-0.004** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)
High Education		0.095** (0.045)	0.099** (0.045)	0.092** (0.045)	0.097** (0.045)
Low Education		-0.137* (0.073)	-0.129* (0.074)	-0.152* (0.078)	-0.141* (0.079)
Risk tolerance		-0.027** (0.012)	-0.026** (0.012)	-0.028** (0.012)	-0.027** (0.012)
Low financial numeracy		-0.158** (0.063)	-0.170*** (0.065)	-0.153** (0.060)	-0.161*** (0.060)
Liquidity constrained		-0.159** (0.078)	-0.159** (0.075)	-0.154** (0.075)	-0.157** (0.073)
Car insurance coverage			0.019* (0.011)		0.016 (0.011)
Health insurance coverage				0.024** (0.010)	0.023** (0.011)
Observations	235	234	231	234	231
Pseudo R^2	0.196	0.410	0.410	0.424	0.423
AIC	191.868	173.808	173.296	172.604	172.488

Notes: The table reports average marginal effects from probit regressions. The dependent variable equals one if the respondent reports having pet insurance, and zero otherwise. The sample is restricted to pet owners. The table reports a subset of the covariates included in the regressions. The complete results are reported in Table A.2. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

for P3, as pet insurance coverage decreases significantly with the pet's age.

To sum up, despite the limited sample size, the data provide strong statistical support for Predictions P1 and P2, and partial support for P3. These results appear to be robust. In particular, they hold when we augment the econometric specification by controlling for additional covariates in columns 2 to 5 of Table 1. The results also generally hold when we measure companionship value using each of the three components (family, friend, unique) separately (see Table A.3 in the appendix).

Determinants and frictions. We augment the specification by controlling for demographic and behavioral characteristics. The results in column 2 of Table 1 reveal several significant determinants and frictions that shape the demand for pet insurance. In particu-

lar, respondents with higher (respectively, lower) educational attainment are roughly 10 pp more (respectively, less) likely to purchase pet insurance. Furthermore, respondents with low financial numeracy and those who report being liquidity constrained are each about 16 pp less likely to be insured. Consistent with theory, respondents who report being more risk tolerant are less likely to have pet insurance. Finally, pet insurance take-up decreases significantly with the owner’s age. In contrast, other demographic characteristics such as gender, employment, marital status, family composition, and creditworthiness do not seem to significantly influence the demand for pet insurance (see Table A.2 in the appendix). We also find no evidence that respondents living in urban areas (i.e., in more densely populated Zip codes) are more likely to purchase pet insurance.

Interestingly, Armantier et al. (2023) document similar significant effects of education, financial literacy, liquidity constraints and age on the demand for car and homeowner insurance. Hence, it appears that insurance decisions share common determinants and frictions across domains. More broadly, these findings underscore the role of information and knowledge in insurance and financial decisions, consistent with the work of Guiso and Jappelli (2005) and Gargano and Rossi (2018). In particular, our study provides additional evidence that low education and low financial numeracy may be important barriers to insurance take-up. This interpretation is further supported by the fact that more than one-third of uninsured pet owners in our sample report insufficient knowledge about pet insurance as a reason for not purchasing it. It is also consistent with the hypothetical information experiment of Chiu et al. (2021) who find that providing information about pet health risks and veterinary costs increases stated insurance take-up.

Pet, car and health insurance. Our final set of specifications controls for objective measures of the respondent’s car and health insurance coverage. Columns 3 and 4 of Table 1 show that pet insurance is positively associated with both car and health insurance. However, only health insurance remains significant when both measures are included simultaneously (column 5). These results appear to be robust, as they hold when we use the subjective rather than the objective measures of car and health insurance coverage (see Table A.4 in the appendix). Hence, insurance decisions appear to be linked across domains. However, pet insurance seems more closely associated with health insurance than with car insurance,

suggesting that it has more in common with another form of non-property insurance.

4.3 Willingness to pay for insurance

To gain additional insight into the demand for pet insurance, we now study respondents' WTP for the hypothetical pet insurance policy. Recall that the data exhibit a substantial mass point at zero, with 19% of pet owners unwilling to purchase the pet insurance (i.e., with a WTP of \$0). Furthermore, the likelihood of reporting a zero WTP varies substantially across respondents. In particular, the share of zero-WTP pet owners increases from about 1 in 5 overall to nearly 1 in 4 (24%) among respondents in the top tercile of wealth. Because the WTP is a semi-continuous outcome with a substantial mass point, we estimate a two-part model: a probit model for the extensive margin (i.e., the decision to report a strictly positive WTP), and a linear model for the intensive margin (i.e., the WTP for respondents with strictly positive WTP).

The results presented in Table 2 are remarkably similar to those in Section 4.2. In particular, the WTP analysis provides additional support for our theoretical predictions. Both the extensive and intensive margins increase significantly with the pet's companionship value, consistent with Prediction P1, and decrease significantly with the pet's age, thereby providing partial support for Prediction P3. The probability to insure (i.e., to report a strictly positive WTP) also exhibits the predicted inverse U-shaped relationship with wealth, consistent with Prediction P2. The coefficient associated with the top wealth tercile in the intensive margin equation, however, is positive but not statistically significant, thereby providing no additional support for Prediction P2.

Moreover, a similar set of determinants and frictions emerges. Respondents with higher (respectively, lower) educational achievement are more likely to purchase the insurance, and they are willing to pay significantly more (respectively, less). Relatedly, low financial numeracy negatively affects both the extensive and intensive margins, although the latter effect is statistically insignificant. The impacts of liquidity constraints and risk aversion are consistent with intuition. Liquidity constraints reduce both the probability of purchasing and the WTP for insurance, whereas greater risk aversion increases both. Finally, older respondents are less likely to purchase the insurance, although age has no significant effect

Table 2: The Willingness to Pay for Pet Insurance

	Extensive margin	Intensive margin
Bottom tercile of companionship	-0.116** (0.053)	-29.640** (14.276)
Top tercile of companionship	0.130** (0.058)	23.004* (12.326)
Bottom tercile of wealth	-0.113* (0.064)	-25.421** (12.875)
Top tercile of wealth	-0.121** (0.058)	21.157 (13.105)
Pet's age	-0.008* (0.005)	-2.203* (1.197)
Pet's health	-0.013 (0.017)	4.234 (3.678)
Owner's age	-0.004** (0.002)	-0.071 (0.339)
High Education	0.120** (0.059)	24.571** (12.337)
Low Education	-0.009 (0.054)	-29.144** (13.617)
Risk tolerance	-0.034** (0.015)	-6.720* (3.424)
Low financial numeracy	-0.123** (0.051)	-12.347 (12.685)
Liquidity constrained	-0.129** (0.064)	-33.038** (15.165)
Observations	234	189
Adjusted R^2	.	0.234
Pseudo R^2	0.197	.
AIC	225.948	2161.748

Notes: The table reports the results from a two-part model of respondents' willingness to pay (WTP) for pet insurance. The first column reports average marginal effects from a probit model in which the dependent variable equals one if the respondent reports a strictly positive WTP, and zero otherwise (extensive margin). The second column reports OLS estimates of the WTP conditional on being strictly positive (intensive margin). The sample is restricted to pet owners. The table reports a subset of the covariates included in the regressions. The complete results are reported in Table A.5. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

on the WTP.

To sum up, the analysis of respondents' WTP for a hypothetical pet insurance provides additional support for our model. In particular, it confirms that the companionship value assigned to pets is a major factor in pet insurance decisions. The WTP results also provide further evidence that knowledge and information play an important role in shaping the demand for insurance. Finally, it is worth noting that our analysis of actual choices (whether the respondent has pet insurance) and hypothetical choices (the WTP for a pet insurance) yielded remarkably similar conclusions. More generally, the robustness of our results to various specifications and measures of the key variables (pet insurance and companionship value) is reassuring.

5 Conclusion

This paper provides a theoretical and empirical analysis of the demand for pet insurance. We develop a simple model in which pet owners can pay veterinary expenses out of pocket, purchase insurance, or do neither. A key feature of the model is that the pet contributes to the owner’s utility through a companionship value. The model predicts that insurance demand increases with the companionship value, decreases with the probability of the pet’s illness, and is inverse U-shaped in wealth. Data from a module of the Survey of Consumer Expectations provide some support for these predictions. In particular, we find that pet insurance increases significantly with companionship value. To the best of our knowledge, this is the first evidence that attachment to the asset, a non-monetary source of utility, is associated with insurance demand. The data also suggest that pet insurance is related to other forms of insurance, and shaped by similar factors such as knowledge and information frictions.

While these results may be viewed as a first step in understanding the demand for pet insurance, they should not be overgeneralized. In particular, our model is highly stylized and likely omits relevant features. A better understanding of the human–pet relationship, companionship value and pet welfare (Treich 2025), could help develop richer behavioral economic models. In addition, endogenizing pet ownership could shed light on *economic euthanasia* (Treich 2025), the decision to let go and possibly replace a pet when treatment is expensive. Moreover, although our empirical results are robust (e.g., to using actual or hypothetical pet insurance decisions), our survey is modest in size and U.S.-focused. Hence, our results may need to be confirmed in larger-scale studies and in other countries. Nevertheless, our paper provides initial evidence that pet insurance decisions i) involve a substantial non-financial component, ii) are broadly consistent with theory, iii) share several important determinants with auto and homeowner insurance, and iv) differ in meaningful ways from property insurance.

These findings may have important implications for pet insurance markets. First, they highlight the central role of the pet’s companionship value, a behavioral characteristic that is important for insurance demand but not easily observed by insurers. Better understanding

and measuring this dimension could therefore have strategic value for insurers, for instance in product design, communication, and market segmentation. Second, rather than focusing on the wealthy, insurers may benefit from targeting intermediate-wealth pet owners, whom we found to be the most likely to purchase pet insurance. Third, our findings suggest that increasing consumer awareness of pet insurance may increase its market penetration. This is particularly relevant in a nascent market where consumers (one third in our survey) may not purchase a new product for lack of knowledge.

Additionally, our findings may have broader implications for the study of insurance in general. In particular, they complement Armantier et al. (2023) by suggesting that insurance decisions across different domains (e.g., auto, homeowner, and pet insurance) are related and driven by similar economic forces. Despite these commonalities, our results also point to a fundamental difference: some insurance decisions do not necessarily boil down to purely financial considerations. Instead, we find that the utility generated by a good can affect the decision to insure it. This perspective may help broaden existing theories of insurance and inform the analysis of other insurance decisions with similar features, such as health insurance for family members, life insurance, or insurance for irreplaceable goods with sentimental value.

References

- American Pet Products Association (2026a). 2026 state of the industry report. <https://americanpetproducts.org/2026-state-of-the-industry>. Based on the 2025 National Pet Owners Survey.
- American Pet Products Association (2026b). America’s dog owners are becoming smarter spenders. <https://americanpetproducts.org/news/americas-dog-owners-are-becoming-smarter-spenders>. Results from the 2026 Dog Report.
- American Veterinary Medical Association (2025). Pet ownership and demographics sourcebook. Estimates based primarily on nationwide surveys conducted between 2023 and 2025.
- Armantier, O., J. Foncel, and N. Treich (2023). Insurance and portfolio decisions: Two sides of the same coin? *Journal of Financial Economics* 148(3), 201–219.

- Armantier, O., G. Topa, W. van der Klaauw, and B. Zafar (2017). An overview of the survey of consumer expectations. *Economic Policy Review* (23-2), 51–72.
- Armona, L., A. Fuster, and B. Zafar (2019). Home price expectations and behaviour: Evidence from a randomized information experiment. *Review of Economic Studies* 86(4), 1371–1410.
- Aseervatham, V., J. G. Jaspersen, and A. Richter (2015). The affection effect in an incentive compatible insurance demand experiment. *Economics Letters* 131, 34–37.
- Association of British Insurers (2025). Insurance payouts for ‘pawly’ pets top £1 billion for third year in a row. <https://www.abi.org.uk/media-hub/news-post/insurance-payouts-for-pawly-pets-top-1-billion-for-third-year-in-a-row>. Accessed: 6 August 2026.
- Bourgeon, J.-M. and P. Picard (2026). Self-insurance and market insurance substitutability: an established tenet reconsidered. *Journal of Economic Theory*, 106180.
- Brown, A. (2023). About half of u.s. pet owners say their pets are as much a part of their family as a human member. <https://www.pewresearch.org/short-reads/>. Accessed: 6 August 2026.
- Carlson, D., S. Haeder, H. Jenkins-Smith, J. Ripberger, C. Silva, and D. Weimer (2019). Monetizing bowser: A contingent valuation of the statistical value of dog life. *Journal of Benefit-Cost Analysis* 11(1), 131–149.
- Chiu, L. J. V., J. Li, G. Lhermie, and C. Cazer (2021). Analysis of the demand for pet insurance among uninsured pet owners in the United States. *Veterinary Record* 189(1), e243.
- Cook, P. J. and D. A. Graham (1977). The demand for insurance and protection: The case of irreplaceable commodities. *The Quarterly Journal of Economics* 91(1), 143–156.
- Dohmen, T., A. Falk, D. Huffman, U. Sunde, J. Schupp, and G. G. Wagner (2011). Individual risk attitudes: Measurement, determinants, and behavioral consequences. *Journal of the European Economic Association* 9(3), 522–550.
- Ehrlich, I. and G. S. Becker (1972). Market insurance, self-insurance, and self-protection. *Journal of Political Economy* 80(4), 623–648.
- Einav, L., A. Finkelstein, and A. Gupta (2017). Is american pet health care (also) uniquely inefficient? *American Economic Review* 107(5), 491–495.
- Falk, A., A. Becker, T. Dohmen, D. Huffman, and U. Sunde (2023). The preference survey module: A validated instrument for measuring risk, time, and social preferences. *Management Science* 69(4), 1935–1950.
- Gargano, A. and A. G. Rossi (2018). Does it pay to pay attention? *Review of Financial Studies* 31(12), 4595–4649.

- Goullet, Z., M. Máté, and L. Ózsvári (2026). Pet health insurance in France: Costs, coverage differences and veterinary care implications. In *Pets*, Volume 3, pp. 9. MDPI.
- Gropper, M. J. and C. M. Kuhnen (2025). Wealth and insurance choices: Evidence from U.S. households. *The Journal of Finance* 80(2), 1127–1170.
- Guiso, L. and T. Jappelli (2005). Awareness and stock market participation. *Review of Finance* 9(4), 537–567.
- Hansson-Hamlin, H. et al. (2025). Prices for veterinary care of dogs, cats, and horses in sweden and norway: Comparisons between corporate chain, government-run, and independent clinics. *Frontiers in Veterinary Science* 12.
- HelloSafe (2026). Pet insurance barometer united kingdom 2026: Key stats and trends. <https://hellosafe.co.uk/pet-insurance/market>. Global Pet Insurance Barometer covering 22 countries. Accessed: 6 August 2026.
- Hsee, C. K. and H. C. Kunreuther (2000). The affection effect in insurance decisions. *Journal of Risk and Uncertainty* 20(2), 141–159.
- Huang, R. J. and L. Y. Tzeng (2006). The design of an optimal insurance contract for irreplaceable commodities. *The Geneva Risk and Insurance Review* 31(1), 11–21.
- Jang, Y.-S. and J. Hadar (1995). A note on increased probability of loss and the demand for insurance. *The Geneva Papers on Risk and Insurance Theory* 20(2), 213–216.
- Karni, E. (1983). Risk aversion for state-dependent utility functions: Measurement and applications. *International Economic Review* 24(3), 637–647.
- Koç, Ç. (2004). The effects of uncertainty on the demand for health insurance. *Journal of Risk and Insurance* 71(1), 41–61.
- Koşar, G. and W. van der Klaauw (2025). Workers’ perceptions of earnings growth and employment risk. *Journal of Labor Economics* 43(S1), S83–S121.
- Lusardi, A. and O. S. Mitchell (2007). Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business Economics* 42(1), 35–44.
- Mossin, J. (1968). Aspects of rational insurance purchasing. *Journal of Political Economy* 76(4, Part 1), 553–568.
- Mueller, A. I., J. Spinnewijn, and G. Topa (2021). Job seekers’ perceptions and employment prospects: Heterogeneity, duration dependence, and bias. *American Economic Review* 111(1), 324–363.
- Murray, J. K., W. J. Browne, M. A. Roberts, A. Whitmarsh, and T. J. Gruffydd-Jones (2010). Estimation of the number and demographics of companion dogs in the U.K. *BMC Veterinary Research* 6, 63.

- North American Pet Health Insurance Association (2025). North american pet health insurance industry market reaches \$5.2 billion in written premium. <https://naphia.org/news/naphia-news/soi-report-2025/>. State of the Industry Report. Accessed: 6 August 2026.
- Renter, E. (2024). Survey: Nearly one-fourth of u.s. pet owners insure their pets. <https://www.nerdwallet.com/insurance/pet/studies/pet-insurance-survey-data>. Survey conducted by The Harris Poll in December 2023 among 1,366 U.S. dog and cat owners. Accessed: 6 August 2026.
- Rey, B. and J.-C. Rochet (2004). Health and wealth: How do they affect individual preferences? *The Geneva Papers on Risk and Insurance Theory* 29(1), 43–54.
- Schlesinger, H. (1984). Optimal insurance for irreplaceable commodities. *The Journal of Risk and Insurance* 51(1), 131–137.
- Schlesinger, H. (2013). The theory of insurance demand. In *Handbook of Insurance*, pp. 167–184. Springer.
- Springer, S., T. B. Lund, P. Sandøe, and S. A. Corr (2026). Investigating dog and cat owners’ uptake of pet health insurance and spending on veterinary treatment. *Veterinary Record*.
- Treich, N. (2025). *Animal Economics: Directly and Indirectly Accounting for Animal Welfare*. Cambridge University Press.
- Viscusi, W. K. and W. N. Evans (1990). Utility functions that depend on health status: Estimates and economic implications. *The American Economic Review*, 353–374.
- Zeckhauser, R. (1970). Medical insurance: A case study of the tradeoff between risk spreading and appropriate incentives. *Journal of Economic Theory* 2(1), 10–26.

A Appendix

A.1 Survey Questionnaire

We include below the module in the Survey of Consumer Expectations (SCE)’s questionnaire specifically concerning pet insurance. The other part of the questionnaire may be found in [Armantier et al. \(2023\)](#).

QPet1 Do you or any members of your household have a pet like a dog or a cat?

- Yes (1)
- No (2)

If $QPet1 = 1$, ask $QPet2$.

QPet2 Do you have any pet insurance?

- Yes, all my pets are insured (1)
- Yes, some of my pets are insured (2)
- No, none of my pets are insured (3)

If QPet2 = 3, ask QPet3. If QPet2 = 1 or 2, show insured-pet instruction below.

QPet3 You mentioned earlier that you do not have pet insurance. Why is that?

Please select all that apply.

- ☐ I do not know enough about pet insurance
- ☐ It is too costly for the service
- ☐ I have no money for this
- ☐ I intend to buy one soon, but I have not yet taken the time to do so.
- ☐ I do not need it.
- ☐ Other (please specify): _____

If $QP_{\text{Pet}2} = 1$ or 2 :

You mentioned earlier that your pets are insured. For the questions below, please consider your *oldest insured* pet.

If $QP_{\text{Pet}2} = 3$:

For the questions below, please consider your *oldest* pet.

QPet4 How old is your pet? _____ years or _____ months

QPet5 How would you assess the health of your pet?

Very poor ○ ○ ○ ○ ○ ○ ○ Excellent
 1 2 3 4 5 6 7

QPet6 Suppose your pet has a fatal disease. A surgery has a 90% chance of curing your pet. How much would you be willing to pay out of pocket for the

surgery?

I would be willing to pay up to \$_____

QPet7 Suppose there is a pet insurance that covers all your pet's health expenses without any deductible. How much would you be willing to pay for this insurance?

I would be willing to pay up to \$_____

QPet8 To what extent do you agree or disagree with the following statements?

I consider my pet as a member of my family.

Totally disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Totally agree

1 2 3 4 5 6 7

My pet is one of my best friends.

Totally disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Totally agree

1 2 3 4 5 6 7

My pet is unique, and I will never have the same feelings toward another pet.

Totally disagree ☐ ☐ ☐ ☐ ☐ ☐ ☐ Totally agree

1 2 3 4 5 6 7

A.2 Additional Tables

Table A.1: Descriptive Statistics

	Count	Average	Median	Std Dev	Min	Max
Has pet	342	0.69	1.00	0.46	0.00	1.00
Has pet insurance	236	0.18	0.00	0.39	0.00	1.00
Pet's age	236	7.96	8.00	4.98	0.50	21.00
Pet's health	236	5.49	6.00	1.58	1.00	7.00
Average companionship	236	5.56	5.67	1.09	1.33	7.00
Pet is family	236	6.21	7.00	1.31	1.00	7.00
Pet is best friend	236	5.69	6.00	1.43	1.00	7.00
Pet is unique	236	4.78	5.00	1.80	1.00	7.00
WTP for pet insurance	236	83.17	50.00	82.40	0.00	350.00
Do not know insurance	193	0.36	0.00	0.48	0.00	1.00
Insurance is too costly	193	0.53	1.00	0.50	0.00	1.00
No money for insurance	193	0.27	0.00	0.45	0.00	1.00
Will get insurance soon	193	0.07	0.00	0.26	0.00	1.00
I do not need insurance	193	0.51	1.00	0.50	0.00	1.00
Owner's age	339	48.67	45.00	15.21	18.00	94.00
High education	339	0.26	0.00	0.44	0.00	1.00
Low education	339	0.26	0.00	0.44	0.00	1.00
Wealth (in \$1,000)	339	424.31	145.80	739.92	-465.00	6,050.00
Gender	339	0.52	1.00	0.50	0.00	1.00
Married	339	0.65	1.00	0.48	0.00	1.00
Have children	339	0.35	0.00	0.48	0.00	1.00
Latino	339	0.13	0.00	0.34	0.00	1.00
Black	338	0.14	0.00	0.35	0.00	1.00
Zip density	338	6.82	7.05	1.82	1.39	11.27
Unemployed	339	0.05	0.00	0.22	0.00	1.00
Homeowner	339	0.73	1.00	0.45	0.00	1.00
Risk tolerance	339	3.74	4.00	1.65	1.00	7.00
Low financial numeracy	339	0.25	0.00	0.44	0.00	1.00
Liquidity constrained	341	0.14	0.00	0.35	0.00	1.00
Credit score	339	4.23	5.00	1.16	1.00	5.00
Car insurance coverage	327	4.20	4.25	1.58	0.00	7.00
Health insurance coverage	339	5.64	6.00	2.09	0.00	10.00

Notes: The sample consists of 342 respondents from the April 2021 special module of the Survey of Consumer Expectations. Variables specific to pets are reported only for pet owners, while reasons for not purchasing pet insurance are reported only by uninsured pet owners.

Pet's health is the respondent's rating of their pet's health on a seven-point scale from 1 (very poor) to 7 (excellent).

Pet is family, *Pet is best friend*, and *Pet is unique* are respondents' ratings of the extent to which they agree with each statement on a seven-point scale from 1 (totally disagree) to 7 (totally agree).

Average companionship is the average of these three ratings.

WTP for pet insurance is the respondent's willingness to pay for a hypothetical policy covering all veterinary expenses without a deductible.

Gender equals one for female respondents.

High education equals one for respondents with at least a bachelor's degree.

Low education equals one for respondents with no education beyond high school.

Risk tolerance is measured on a seven-point scale from 1 (not willing at all) to 7 (very willing) to take financial risks.

Low financial numeracy equals one for respondents with low financial numeracy.

Liquidity constrained equals one if the respondent reports less than a 50% chance of being able to come up with \$2,000 if the need arose.

Car insurance coverage is an index ranging from 0 to 7 summarizing seven components of coverage for the respondent's main vehicle.

Health insurance coverage is an index ranging from 0 to 10 summarizing ten components of health insurance coverage.

Table A.2: The Decision to Have Pet Insurance
Complete Set of Results

	Has Insurance	Has Insurance	Has Insurance	Has Insurance	Has Insurance
Bottom tercile of companionship	-0.133** (0.067)	-0.139*** (0.050)	-0.136*** (0.051)	-0.130** (0.051)	-0.127** (0.051)
Top tercile of companionship	0.097** (0.049)	0.096** (0.043)	0.091** (0.043)	0.101** (0.042)	0.095** (0.042)
Bottom tercile of wealth	-0.251*** (0.069)	-0.153** (0.064)	-0.160** (0.066)	-0.155** (0.062)	-0.159** (0.062)
Top tercile of wealth	-0.103** (0.047)	-0.079** (0.040)	-0.081** (0.041)	-0.092** (0.042)	-0.092** (0.042)
Pet's age	-0.014*** (0.005)	-0.010** (0.004)	-0.010** (0.005)	-0.010** (0.004)	-0.010** (0.004)
Pet's health	0.027 (0.018)	0.010 (0.016)	0.010 (0.016)	0.004 (0.016)	0.006 (0.016)
Owner's age		-0.004** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)
High Education		0.095** (0.045)	0.099** (0.045)	0.092** (0.045)	0.097** (0.045)
Low Education		-0.137* (0.073)	-0.129* (0.074)	-0.152* (0.078)	-0.141* (0.079)
Unemployed		0.012 (0.074)	0.007 (0.076)	-0.010 (0.074)	-0.013 (0.075)
Gender		0.013 (0.040)	0.010 (0.040)	0.017 (0.041)	0.012 (0.041)
Married		-0.008 (0.043)	-0.009 (0.046)	-0.011 (0.043)	-0.010 (0.045)
Have children		0.057 (0.044)	0.057 (0.044)	0.047 (0.044)	0.046 (0.044)
Latino		-0.027 (0.066)	-0.028 (0.066)	-0.011 (0.069)	-0.011 (0.068)
Black		-0.008 (0.046)	-0.001 (0.045)	-0.017 (0.047)	-0.008 (0.047)
Homeowner		0.048 (0.057)	0.047 (0.056)	0.042 (0.057)	0.041 (0.057)
Zip density		-0.000 (0.011)	-0.001 (0.011)	0.000 (0.011)	-0.000 (0.011)
Risk tolerance		-0.027** (0.012)	-0.026** (0.012)	-0.028** (0.012)	-0.027** (0.012)
Low financial numeracy		-0.158** (0.063)	-0.170*** (0.065)	-0.153** (0.060)	-0.161*** (0.060)
Liquidity constrained		-0.159** (0.078)	-0.159** (0.075)	-0.154** (0.075)	-0.157** (0.073)
Credit Score		0.032 (0.025)	0.030 (0.025)	0.028 (0.024)	0.026 (0.025)
Car insurance coverage			0.019* (0.011)		0.016 (0.011)
Health insurance coverage				0.024** (0.010)	0.023** (0.011)
Observations	235	234	231	234	231
Pseudo R^2	0.196	0.410	0.410	0.424	0.423
AIC	191.868	173.808	173.296	172.604	172.488

Notes: The table reports average marginal effects from probit regressions. The dependent variable equals one if the respondent reports having pet insurance, and zero otherwise. The sample is restricted to pet owners. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.3: The Decision to Have Pet Insurance
Separate Measures of Companionship Value

	Has Insurance	Has Insurance	Has Insurance
Bottom tercile of wealth	-0.153** (0.063)	-0.166** (0.067)	-0.155** (0.064)
Top tercile of wealth	-0.080* (0.043)	-0.071* (0.042)	-0.077* (0.042)
Pet's age	-0.010** (0.004)	-0.010** (0.004)	-0.011** (0.004)
Pet's health	0.012 (0.016)	0.011 (0.015)	0.007 (0.016)
Owner's age	-0.005** (0.002)	-0.004** (0.002)	-0.005*** (0.002)
High Education	0.081* (0.046)	0.079* (0.044)	0.092** (0.045)
Low Education	-0.143* (0.078)	-0.154* (0.080)	-0.145* (0.077)
Unemployed	-0.028 (0.079)	-0.055 (0.086)	-0.002 (0.079)
Gender	0.024 (0.041)	0.007 (0.043)	0.023 (0.041)
Married	0.003 (0.044)	-0.003 (0.046)	0.007 (0.044)
Have children	0.053 (0.047)	0.075* (0.046)	0.061 (0.046)
Latino	-0.048 (0.074)	-0.063 (0.072)	-0.009 (0.073)
Black	-0.006 (0.057)	-0.032 (0.055)	-0.018 (0.055)
Homeowner	0.059 (0.060)	0.016 (0.056)	0.051 (0.057)
Zip density	0.002 (0.011)	0.002 (0.011)	-0.001 (0.012)
Risk tolerance	-0.021 (0.013)	-0.028** (0.012)	-0.029** (0.013)
Low financial numeracy	-0.161** (0.064)	-0.164** (0.069)	-0.163*** (0.063)
Liquidity constrained	-0.154** (0.074)	-0.133* (0.070)	-0.159** (0.074)
Credit Score	0.028 (0.024)	0.026 (0.024)	0.027 (0.024)
Bottom tercile of Family rating	-0.135* (0.071)		
Top tercile of Family rating	0.009 (0.061)		
Bottom tercile of Unique rating		-0.100* (0.055)	
Top tercile of Unique rating		0.082* (0.047)	
Bottom tercile of Friend rating			-0.107** (0.051)
Top tercile of Friend rating			0.090* (0.046)
Observations	234	234	234
Pseudo R^2	0.366	0.379	0.394
AIC	183.625	180.617	177.380

Notes: The table reports average marginal effects from probit regressions. The dependent variable equals one if the respondent reports having pet insurance, and zero otherwise. The sample is restricted to pet owners. The companionship variables measure the extent to which respondents view their pet as a family member, a best friend, or unique. These ratings have little cross-sectional variation; for instance, nearly two-thirds assign a rating of seven to the family-member question. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: The Decision to Have Pet Insurance
Subjective Measures of Car and Health Insurance

	Has Insurance	Has Insurance	Has Insurance
Bottom tercile of companionship	-0.136*** (0.050)	-0.135*** (0.051)	-0.131** (0.051)
Top tercile of companionship	0.086** (0.043)	0.106** (0.043)	0.095** (0.043)
Bottom tercile of wealth	-0.153** (0.066)	-0.150** (0.061)	-0.152** (0.062)
Top tercile of wealth	-0.081** (0.040)	-0.085** (0.040)	-0.087** (0.041)
Pet's age	-0.010** (0.004)	-0.010** (0.004)	-0.010** (0.004)
Pet's health	0.011 (0.017)	0.004 (0.016)	0.006 (0.017)
Owner's age	-0.004** (0.002)	-0.005*** (0.002)	-0.005*** (0.002)
High Education	0.104** (0.045)	0.091** (0.044)	0.101** (0.045)
Low Education	-0.128* (0.076)	-0.167** (0.081)	-0.155* (0.085)
Unemployed	0.002 (0.079)	-0.002 (0.077)	-0.009 (0.079)
Gender	0.007 (0.041)	0.011 (0.041)	0.005 (0.042)
Married	-0.013 (0.045)	-0.012 (0.043)	-0.015 (0.045)
Have children	0.060 (0.044)	0.059 (0.043)	0.061 (0.044)
Latino	-0.038 (0.068)	-0.019 (0.067)	-0.029 (0.068)
Black	0.003 (0.045)	-0.021 (0.051)	-0.008 (0.051)
Homeowner	0.038 (0.057)	0.046 (0.056)	0.038 (0.057)
Zip density	-0.001 (0.011)	-0.000 (0.011)	-0.001 (0.011)
Risk tolerance	-0.028** (0.012)	-0.029** (0.012)	-0.029** (0.012)
Low financial numeracy	-0.170*** (0.064)	-0.153** (0.060)	-0.164*** (0.060)
Liquidity constrained	-0.170** (0.078)	-0.171** (0.078)	-0.179** (0.079)
Credit Score	0.029 (0.024)	0.031 (0.025)	0.028 (0.024)
Subjective car insurance coverage	0.019** (0.009)		0.016 (0.010)
Subjective health insurance coverage		0.027** (0.011)	0.025** (0.011)
Observations	231	234	231
Pseudo R^2	0.412	0.427	0.427
AIC	172.724	171.937	171.608

Notes: The table reports average marginal effects from probit regressions. The dependent variable equals one if the respondent reports having pet insurance, and zero otherwise. The sample is restricted to pet owners. Robust standard errors are reported in parentheses. The subjective car and health insurance coverage variables are respondents' ratings of their respective coverage on a seven-point scale from 1 (no coverage) to 7 (best possible coverage). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: The Willingness to Pay for Pet Insurance
Complete Set of Results

	Extensive margin	Intensive margin
Bottom tercile of companionship	-0.116** (0.053)	-29.640** (14.276)
Top tercile of companionship	0.130** (0.058)	23.004* (12.326)
Bottom tercile of wealth	-0.113* (0.064)	-25.421** (12.875)
Top tercile of wealth	-0.121** (0.058)	21.157 (13.105)
Pet's age	-0.008* (0.005)	-2.203* (1.197)
Pet's health	-0.013 (0.017)	4.234 (3.678)
Owner's age	-0.004** (0.002)	-0.071 (0.339)
High Education	0.120** (0.059)	24.571** (12.337)
Low Education	-0.009 (0.054)	-29.144** (13.617)
Unemployed	-0.120 (0.084)	25.678 (26.802)
Gender	-0.068 (0.052)	-11.324 (11.320)
Married	-0.069 (0.053)	12.438 (10.968)
Have children	0.009 (0.048)	0.266 (10.722)
Latino	-0.019 (0.062)	17.839 (18.657)
Black	-0.013 (0.070)	-18.280 (14.368)
Homeowner	-0.059 (0.059)	14.536 (12.016)
Zip density	0.003 (0.013)	1.102 (2.975)
Risk tolerance	-0.034** (0.015)	-6.720* (3.424)
Low financial numeracy	-0.123** (0.051)	-12.347 (12.685)
Liquidity constrained	-0.129** (0.064)	-33.038** (15.165)
Credit Score	0.007 (0.022)	2.923 (5.584)
Constant	.	92.400* (52.079)
Observations	234	189
Adjusted R^2	.	0.234
Pseudo R^2	0.197	.
AIC	225.948	2161.748

Notes: The table reports the results from a two-part model of respondents' willingness to pay (WTP) for pet insurance. The first column reports average marginal effects from a probit model in which the dependent variable equals one if the respondent reports a strictly positive WTP, and zero otherwise (extensive margin). The second column reports OLS estimates of the WTP conditional on being strictly positive (intensive margin). The sample is restricted to pet owners. Robust standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.3 WTP for health insurance

In this appendix, we briefly discuss models of health insurance and how their predictions compare to those of our pet insurance model. A small theoretical literature examines the demand for health insurance. The comparative statics in these models depend on several assumptions, notably the specification of utility and health production functions, the design of insurance contracts, and the interaction between insurance and medical expenditures (Zeckhauser 1970, Cook and Graham 1977, Koç 2004, Rey and Rochet 2004). A systematic analysis of these different mechanisms is beyond the scope of this paper. In the rest of this appendix, we show in a very simple model that the WTP for health insurance increases with the probability of disease and decreases with wealth under DARA.

Consider an individual facing a probability p of becoming sick. Expected utility without health insurance is

$$(1 - p)u(w) + phu(w - c(h)),$$

where $h \in (0, 1)$ captures the utility effect of poor health and $c(h)$ is the financial cost of illness. Let k denote the WTP for full health insurance, paying for the financial cost of illness. It is defined by

$$(1 - p)u(w - k) + phu(w - k) = (1 - p)u(w) + phu(w - c(h)).$$

Defining $\tilde{p} = ph/(1 - p + ph)$, this condition can be rewritten as

$$u(w - k) = (1 - \tilde{p})u(w) + \tilde{p}u(w - c(h)).$$

Hence, we retrieve the same WTP expression as for a pure financial risk. It is thus immediate that an increase in wealth w decreases the WTP k under u DARA.

Moreover, note that an increase in $\tilde{p}$ increases the WTP k . Since $\frac{\partial \tilde{p}}{\partial p} = \frac{h}{(1 - p + ph)^2} > 0$, an increase in the probability of illness p thus increases the WTP for health insurance.

This simple model therefore illustrates that models of health insurance do not necessarily yield the same comparative statics as our model of pet insurance.

Statements and declarations

Funding. No specific funding was received for conducting this study.

Competing interests. The authors have no competing interests to declare that are relevant to the content of this article.

Ethics approval. The research uses data collected by the Federal Reserve Bank of New York which is not subject to IRB approval.

Consent to participate. The authors confirm that informed consent was obtained from all survey participants.

Data and code availability. All data and codes will be made available at the time of publication.

Author contributions. Both authors have contributed equally to the paper. Both share first authorship.