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# **“YOU WANT INSURANCE WITH THAT?” USING BEHAVIORAL ECONOMICS TO PROTECT CONSUMERS FROM ADD-ON INSURANCE PRODUCTS**

TOM BAKER\*

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*Persistently high profits on “insurance” for small value losses sold as an add-on to other products or services (such as extended warranties sold with consumer electronics, loss damage waivers sold with a car rental, and credit life insurance sold with a loan) pose a twofold challenge to the standard economic analysis of insurance. First, expected utility theory teaches that people should not buy insurance for small value losses. Second, the market should not in the long run permit sellers to charge prices that greatly exceed the cost of providing the insurance. Combining the insights of the Gabaix and Laibson shrouded pricing model with the behavioral economics of insurance, this article explains why high profits for add-on insurance persist and describes the negative distributional and welfare consequences of an unregulated market for such insurance. The article explores four potential regulatory responses: enhanced disclosure, a ban on the point of sale offer of add-on insurance, price regulation, and the creation of a new, on-line market. Drawing on theoretical, empirical, and comparative law sources, the article explains why enhanced disclosure will not work, the circumstances under which a point of sale ban is desirable, and why a new, on-line market is preferable to price regulation in circumstances in which a point of sale ban is undesirable.*

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## I. INTRODUCTION

Informed observers of insurance markets have long marveled at the high prices charged for a wide variety of low value insurance products sold as “add-ons” to consumers buying other products and services. Examples include the extended warranties sold with electronics and home appliances, the credit life insurance and identity theft protection sold with mortgages, auto loans, and credit cards, and the collision damage waivers and short term liability insurance sold with car rentals. Unlike iPhones or Gucci bags, there is nothing obviously cool or distinctive about add-on insurance products. They are just contingent claims on money – often small amounts of money – that, like other forms of insurance, protect consumers from losses that are easy to predict in the aggregate and should, in theory, sell at prices that are close to insurers’ predicted costs. Yet sellers are able to charge prices for add-on insurance products that consistently and greatly exceed the cost of providing the insurance, well beyond what is possible in other parts of the consumer insurance market. These excess profits have negative distributional consequences and lead to substantial efficiency losses.

Insurance regulators have long suspected that these high profits reveal that there is something awry in the sale of insurance add-ons. Investigations of credit life insurance in the 1950s,<sup>1</sup> collision damage

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<sup>1</sup> See, e.g., *Sunderland v. Day*, 145 N.E.2d 39, 39 (Ill. 1957) (interpreting Ill. Small Loans Act to forbid a lender from requiring – as was apparently common – that borrower purchase credit life insurance as a condition precedent to the making of a loan); Leland J. Gordon, Book Review, 25 J. INS. 77 (1958) (discussing a finding of the U.S. Senate Subcommittee on Antitrust and Monopoly that significant “abuses in the consumer credit insurance business[,] which included sales of credit insurance far in excess of money loaned, failure to deliver the policy to the borrower, payment of excessive commissions, pyramiding of policies by requiring the borrower to purchase a second policy upon refinancing his loan without cancellation of the first policy, and failure to make a refund of unearned premiums”); NAT’L ASS’N OF INS. COMM’RS, A BACKGROUND STUDY OF THE REGULATION OF CREDIT LIFE AND DISABILITY INSURANCE 39-51 (1970) (chapter entitled “Credit Insurance Abuses”). Interestingly, the volume of scholarly literature on credit life seems to have peaked in the 1960s, and relatively little has been written about it since then; Philip H. Peters, *How Should Credit Life Insurance be Regulated*, 1958 INS. L. J. 529 (1958) (suggesting problems were widespread); William T. Beadles, *Control of Abuses Under Credit Life and Health Insurance*, 26 J. INS. 1 (1959) (detailing a litany of abuses and suggesting regulations to counter them).

waivers in the 1980s,<sup>2</sup> and extended warranties in recent years<sup>3</sup> have documented the excess profits earned on the sale of these insurance products, along with the abusive sales practices that such profits induce. Yet, regulators have struggled to identify how these excess profits are sustained. Indeed, an otherwise impressive study by the Competition Commission of the United Kingdom in 2003 attributes excess profits earned on the sale of extended warranties for consumer electronics to an ill-defined “complex monopoly situation” that the study never really explains.<sup>4</sup> Not surprisingly, the Commission’s solution – a set of information forcing measures adopted in 2005 – has not worked.<sup>5</sup>

The conceptual problem for the Competition Commission, state insurance departments, and most other consumer protection agencies that have examined add-on insurance markets can be traced to the economic model they use. The add-on insurance product market quite literally “does not compute” within the standard Insurance Economics 101 framework that

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<sup>2</sup> See, e.g., Iowa Dep’t of Ins., *Proposal to the Market Conduct of Consumer Affairs (EX3) Subcommittee re: Proposed Model Statute on Collision Damage Waivers*, 1 NAIC Proc. 173 (1985).

<sup>3</sup> COMPETITION COMM’N, A REPORT ON THE SUPPLY OF EXTENDED WARRANTIES ON DOMESTIC [HOUSEHOLD] ELECTRICAL GOODS WITHIN THE UK, 2003, 1, at 3 *available at* [http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/rep\\_pub/reports/2003/485xwars.htm#summary](http://webarchive.nationalarchives.gov.uk/+http://www.competition-commission.org.uk/rep_pub/reports/2003/485xwars.htm#summary). In the US, a 1985 lawsuit by Maine Attorney General James Tierney alleged that retailer Sears, Roebuck used unfair and deceptive trade practices to sell extended warranties. See *State v. Sears, Roebuck & Co.*, No. CV-84-133, 1985 LEXIS 239, at \*44 (Me. Super. Aug. 29, 1985). These allegedly included: (a) selling coverage that duplicated manufacturers’ express warranties that were already included in the purchase price, and (b) after the consumer had made the decision to purchase the product, overstating the need for warranties by exaggerating the probability that a product would fail. *Id.* While noting that extended warranties were “highly profitable” for Sears, *id.* at \*51, the court concluded that there were no deceptive trade practices involved because “the State . . . failed to demonstrate that Sears misleads customers when it sells maintenance agreements by making them believe that they must purchase, either through maintenance agreements or through prospective repair costs, what the law gives them for free.” *Id.* at \*76.

<sup>4</sup> COMPETITION COMM’N, *supra* note 3, at 6.

<sup>5</sup> Recently, the U.K. Office of Fair Trading – which has shown an appreciation for behavioral economics – has taken a fresh look at extended warranties, finding that the extended warranty market remains “unfair and uncompetitive” and proposing a new round of reforms. See OFFICE OF FAIR TRADING, EXTENDED WARRANTIES ON DOMESTIC ELECTRICAL GOODS, 2012, 1403 (U.K.), *available at* [http://www.offt.gov.uk/shared\\_offt/markets-work/OFT1403.pdf](http://www.offt.gov.uk/shared_offt/markets-work/OFT1403.pdf). For the OFT’s interest in behavioral economics, see, e.g., OFFICE OF FAIR TRADING, WHAT DOES BEHAVIORAL ECONOMICS MEAN FOR COMPETITION POLICY?, 2010, 1224 (U.K.), *available at* [http://www.offt.gov.uk/shared\\_offt/economic\\_research/oft1224.pdf](http://www.offt.gov.uk/shared_offt/economic_research/oft1224.pdf).

has informed insurance regulation, leaving regulators without a reliable guide to action. Regulators' intuition and common sense tell them that consumers are being exploited, but the dominant conceptual framework in their field cannot tell them how or why, or what to do to prevent that exploitation.

When they do try to address the perceived exploitation – as the Competition Commission did for extended warranties in 2005 – regulators understandably lack the confidence to go beyond non-controversial strategies, such as mandatory disclosure or other information-forcing mechanisms. Disclosure rarely improves consumer markets in any context,<sup>6</sup> and, as the Competition Commission experience demonstrates, does not provide meaningful protection to consumers purchasing add-on insurance products. In the end, regulators typically give up. This explains why, for example, many of the credit life insurance abuses identified in the 1950s and rental car insurance abuses identified in the 1980s persist today.<sup>7</sup>

The persistence of large profits in add-on insurance products poses two main conceptual problems for the standard economic analysis employed in insurance regulation. First, according to that analysis, there should not even be a robust market for most of these kinds of insurance products. The expected utility theory that lies at the core of the economic analysis of insurance teaches, unequivocally, that people should not buy insurance for low value losses.<sup>8</sup> The whole point of insurance under expected utility theory is to shift money from states of the world in which people do not need their last dollar very much (their marginal utility of money is low) to states of the world in which they could put that dollar to much better use (their marginal utility of money is high). The amounts of money at stake in most add-on insurance products are simply too small for that difference in marginal utility to explain consumer behavior. Moreover, whatever slight difference there may be in the marginal utility of money between the time a person buys the insurance and the time when she collects on it is more than offset by the transaction costs involved (even leaving aside the excess profits). This is Insurance Economics 101.<sup>9</sup>

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<sup>6</sup> See Omri Ben-Shahar & Carl E. Schnieder, *The Failure of Mandated Disclosure*, 159 U. PA. L. REV. 647 (2011).

<sup>7</sup> See *infra* text accompanying note 119.

<sup>8</sup> See SCOTT E. HARRINGTON & GREGORY R. NIEHAUS, RISK MANAGEMENT AND INSURANCE 176, 188 (2nd ed. 2004); Matthew Rabin & Richard H. Thaler, *Anomalies: Risk Aversion*, 15 J. ECON. PERSPECTIVES 219 (2001); KENNETH J. ARROW, *The Theory of Risk Aversion*, in ESSAYS IN THE THEORY OF RISK BEARING (1971); John W. Pratt, *Risk Aversion in the Small and in the Large*, 32 ECONOMETRICA 122 (1964).

<sup>9</sup> Harrington & Niehaus, *supra* note 8; *infra* text accompanying Figure 1.

Second, even if it did make sense for people to buy add-on insurance products, the market should not in the long run permit sellers to charge prices that greatly exceed the cost of providing the insurance. Excess profits should bring new competitors into the market. Even if most people are not careful shoppers, some are. Their careful shopping should benefit all consumers, as sellers compete for the careful shoppers by reducing prices for the add-on insurance products.<sup>10</sup> This is Microeconomics 101 applied to insurance markets.

As we will explain, the problem is not with economics, per se, but rather with the failure of insurance law and regulation to move beyond Economics 101. Behavioral economic analysis has addressed both of the conceptual problems presented by the 101-level analyses. First, borrowing from psychological research, behavioral economics provides a compelling explanation for why people choose to insure against small losses, even at prices that greatly exceed the cost of providing the insurance.<sup>11</sup> Second, using a simple (in retrospect) equilibrium model, behavioral economics provides a compelling explanation of why prices for add-on insurance so often greatly exceed cost, even when sellers operate in a competitive market for the primary product or service to which the insurance products are add-ons.<sup>12</sup>

Of the two parts to this behavioral economic explanation, the second is decidedly more important for improving insurance law and regulation. The first part simply puts more rigorous science behind what regulators, marketers, and ordinary people already knew: people are willing to pay for “peace of mind” to an extent that goes well beyond what expected utility theory would predict, especially when they are buying a

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<sup>10</sup> See, e.g., Alan Schwartz & Louis L. Wilde, *Intervening in Markets on the Basis of Imperfect Information: A Legal and Economic Analysis*, 127 U. PA. L. REV. 630, 638 (1979) (concluding that “the presence of at least some consumer search in a market creates the possibility of a ‘pecuniary externality’: persons who search sometimes protect nonsearchers from overreaching firms.”). Moreover, in their model, if at least one-third of consumers undertake comparison shopping, the market price will be close to the competitive price in market where all consumers are informed. *Id.* at 655.

<sup>11</sup> See, e.g., Eric Johnson, John Hershey, Jacqueline Meszaros & Howard Kunreuther, *Framing, Probability Distortions and Insurance Decisions*, 7 J. RISK & UNCERTAINTY 35, 42 (1993); Paul J. H. Shoemaker & Howard C. Kunreuther, *An Experimental Study of Insurance Decisions*, 46 J. RISK & INS. 603 (1979). For an extended treatment, see HOWARD C. KUNREUTHER, MARK V. PAULY & STACEY MCMORROW, *INSURANCE AND BEHAVIORAL ECONOMICS: IMPROVING DECISIONS IN THE MOST MISUNDERSTOOD INDUSTRY* (2013).

<sup>12</sup> See Xavier Gabaix & David Laibson, *Shrouded Attributes, Consumer Myopia, and Information Suppression in Competitive Markets*, 121 Q. J. ECON. 505 (2006).

product or service that puts their peace of mind in question. Indeed, taken all by itself, this first part could do more harm than good, at least in relation to the regulation of add-on insurance products. It is a short step from a better understanding of why people like peace of mind insurance to the claim that there is no need to do anything to protect consumers, other than perhaps mandating certain disclosures, because sellers are simply satisfying consumers' legitimate preferences. Some recent writing by highly regarded law and economics scholars points in that direction, using the language of consumer sovereignty.<sup>13</sup>

The second part of the behavioral economic analysis reveals the existence of heretofore unappreciated "situational monopolies"<sup>14</sup> that require – and hence authorize the use of – more powerful regulatory tools than mere disclosure to fix. This second part has not yet been taken into account in the law and economic analysis of insurance. Thus, there is reason to believe that scholars using consumer sovereignty to support a light touch to the regulation of peace of mind insurance products might reconsider their analysis, at least in the context of add-on insurance products.

It is important to emphasize that we are not merely adding together two disparate strands of behavioral economics. The combination of the shrouded pricing/situational monopoly model with the behavioral economics of low-value insurance yields a key insight into the welfare analysis of this market that is not present in either story by itself. As we spell-out in more detail below, the shrouded pricing model explains in general terms how supra-competitive prices for second-stage or supplemental products (e.g., razor blades, toner cartridges for laser printers) can be maintained in equilibrium. In these cases, the second stage product is an appropriate – or even necessary – complement to the first stage product: razor blades and toner cartridges have finite lives, and razors or printers are useless without them. Consumers may have a choice among

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<sup>13</sup> See, e.g., Colin Camerer, Samuel Issacharoff, George Loewenstein, Ted O'Donoghue & Matthew Rabin, *Regulation for Conservatives: Behavioral Economics and the Case for 'Asymmetric Paternalism,'* 151 U. PA. L. REV. 1211 (2003); Daniel Schwarcz, *Regulating Consumer Demand in Insurance Markets,* 3 ERASMUS L. REV. 23 (2010).

<sup>14</sup> The term "situational monopoly" has appeared in the law and economics literature in the analysis of secured transactions and the application of the contract doctrine of duress. See Thomas H. Jackson & Anthony T. Kronman, *Secured Financing and Priorities Among Creditors,* 88 YALE L.J. 1143, 1167-71 (1978-1979) on secured financing and the competitive advantage that a creditor with a security interest in after-acquired property enjoys over other lenders and MICHAEL J. TREBILCOCK, *THE LIMITS OF FREEDOM OF CONTRACT* 78 - 101 (1993) on duress.

competing second-stage products, but they cannot avoid purchasing any second-stage product at all.

That is decidedly *not* the case when the second-stage product is add-on insurance, the purchase of which is irrational to begin with. The option not to buy at all is not only real, it is compelling (at least to rational consumers). That, in turn, means that sellers must undertake efforts to convince customers to buy the add-on insurance product. Moreover, such efforts are highly profitable because of the supra-competitive prices charged for add-ons, which implies that all kinds of hard-sell tactics are virtually compulsory because the marginal return to a dollar spent on inducing a customer to purchase add-on insurance is high.

The efficiency consequences of such hard-sell practices are not trivial. Such tactics are deployed against all buyers (whether they actually purchase the add-on insurance or not), and are properly counted as a waste of customer and seller time, a real welfare loss that is not present in the original shrouding model.<sup>15</sup> In our view, “merely” protecting unsophisticated consumers from tactics that redistribute wealth to sophisticated consumers is a worthy goal in itself, and one that is shared by most insurance regulators. But the shrouded pricing of small-loss insurance has efficiency consequences as well, as we discuss below.

This Article is organized as follows. In Part I we describe three examples of add-on insurance products – extended warranties for consumer products, loss damage waivers for rental cars, and credit life insurance – and discuss the irrationality of purchasing these products under a standard expected utility approach. In Part II we develop a behavioral economic analysis of these products that helps explain why people buy them and, more importantly, why competition fails to reduce their prices to something approaching their cost. In Part III we discuss the implications of this analysis for insurance regulation, exploring four possible strategies: improved disclosure of the terms of add-on insurance products, a ban on the sale of the products as an add-on, price regulation, and the use of information technology to create a robust market at the point of sale. Drawing from recent U.K. experience, we recommend a mixed approach for the three specific products we examine: a ban on the sale of credit life insurance and extended warranties as add-ons and a new, on-line market for car rental insurance that customers can access at the car rental desk.

Ours is a more activist and decidedly old school approach – with a high tech twist for car rental insurance – than forward thinking insurance regulators have entertained in recent years, but there is new science and a

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<sup>15</sup> For example, East Coast readers may reflect on the need to check a box on the Amtrak website indicating that, no, you do not want to buy the \$10 travel insurance on a \$60 train ticket.



new regulatory environment behind our proposal. The new science is behavioral economics. The new regulatory environment is developing in response to the financial crisis of 2008. In the legislative process leading to the enactment of the Dodd-Frank financial reform statute, state insurance regulators successfully argued for the exemption of insurance products from the jurisdiction of the new Consumer Financial Protection Bureau, on the grounds that state insurance regulation was already looking out for consumers and that state-based regulation allowed for innovation and experimentation. Add-on insurance products present an excellent opportunity to test that claim.

## II. THREE EXAMPLES OF ADD-ON INSURANCE

In this part, we analyze three common forms of add-on insurance: extended warranties for consumer products, the loss or collision damage waivers sold with rental cars, and credit life insurance. Extended warranties – and, in most cases, damage waivers – have negative value in expected utility terms because the losses they protect against are small and the price charged for the insurance is high relative to the expected value. Rational expected utility maximizers should not be risk averse at all over such small stakes. Credit life insurance and, in some situations, damage waivers are a bad deal for slightly different reasons: The stakes can sometimes be high, and thus might be worth insuring; just not when the cost is so high relative to the expected value.

### A. EXTENDED WARRANTIES FOR CONSUMER PRODUCTS

An extended warranty is an optional contract that provides the purchaser with a longer period of protection from the failure of a specific product than the standard warranty offered by the manufacturer.<sup>16</sup> Extended warranties differ fundamentally from the *manufacturer's* warranties that are included in the price of a consumer product. Manufacturers' warranties

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<sup>16</sup> There are allegations that some major retailers push extended warranties on products such as power tools that already come with manufacturer's lifetime warranties. For example, Home Depot's Ridgid Power tools come with a lifetime warranty from the manufacturer, yet some customers complain that they were nevertheless sold an extended warranty on the item. *See, e.g., Scam Man, Rigid Extended Warranty Scam* (Jun. 2, 2012, 2:06 AM), <http://www.homedepotsucks.org/forum/viewtopic.php?f=1&t=11532#p13442> (last visited Jan. 29, 2013) (“[m]ost of these ridged [sic] products are not eligible for an extended warranty because [sic] they have lifetime service agreement. yet home depot has the cashiers promp [sic] you to buy them. shows you the greed of home depot and that is just one scam they do”).

do have the potential to provide substantial value, but not primarily because of their insurance function. Rather, the primary value of a manufacturer's warranty lies in the quality signal it sends. Consumers rationally conclude that the manufacturer would not offer a generous warranty if the product regularly failed within the warranty period and, thus, consumers appropriately prefer a product with a better manufacturer's warranty.<sup>17</sup>

An optional extended warranty, sold at an additional cost, does not signal high quality. Indeed, our personal shopping experience suggests the opposite. We have found that, once we have decided to buy a particular TV/refrigerator/washing machine/sound system at a retail establishment, the sales person who earnestly persuaded us of the high quality of the selected item disappears, and a "customer assistant" arrives with news of other disappointed customers whose very same TV/refrigerator/washing machine/sound system stopped working shortly after they bought them. Because the TV/refrigerator/washing machine/sound system might not actually be as good as it is supposed to be, the customer assistant explains, the store has arranged for an extended warranty that is available, at a small additional charge, to protect us from such disappointment.<sup>18</sup> This extended warranty is pure insurance (and almost pure profit for the store). For example, *Business Week* reported that extended warranties were responsible for 50% of Best Buy's profits and almost 100% of Circuit City's profits.<sup>19</sup>

Data on extended warranties are difficult to come by. As a result, there is very little empirical social science literature describing their workings, despite the frequent criticism of extended warranties by economists and consumer advocates.<sup>20</sup> One recent estimate put the size of

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<sup>17</sup> See generally George Priest, *A Theory of the Consumer Warranty*, 90 *YALE L. J.* 1297 (1981); Michael Spence, *Consumer Misperceptions, Product Failure and Producer Liability*, 44 *REV. ECON. STUD.* 561 (1977)..

<sup>18</sup> This practice turns out to be so well documented in the extended warranty context that it has a name, at least in the UK: "double hitting." Retailers "stressed to [the U.K. Competition Commission] the action they take to stop unacceptable selling practices, which they have told [the U.K.C.C.] would alienate customers." COMPETITION COMM'N, *supra* note 3, at 40. The "unacceptable selling practices" include "double hitting," providing "misleading information," and "persisting in trying to sell an EW when the customer has declined the offer." *Id.*

<sup>19</sup> Tao Chen, Ayay Kalra & Baohon Sun, *Why Do Consumers Buy Extended Service Contracts?*, 36 *J. CONSUMER RES.* 611, 615 (2009) (using 2003 data from a large retailer in an expected utility framework that assumes that demographic and product characteristics affect the purchase of warranties through differences in risk aversion between consumers).

<sup>20</sup> For exceptions, see Pranav Jindal, *Risk Preferences and Demand Drivers of Extended Warranties* (Dec. 2012) (working paper) (on file with Smeal College of Business, Pennsylvania State University), available at <http://ssrn.com/abstract=>

this market at \$16 billion,<sup>21</sup> but that appears to be a largely impressionistic number, with no derivation given. Better estimates are available for the UK – at least, for the consumer electric goods market – thanks to an investigation by the Competition Commission, which found that on total electric goods sales of £15-20 Billion in 2001, “18.5 million E[xtended] W[arrantie]s were supplied . . . with a total value of nearly £900 million (including a valuation of free EWs), about 5% of total sales.”<sup>22</sup> EWs were purchased by about one-third of all consumers who bought an electric good worth more than £50.<sup>23</sup> Extrapolating those figures to the US yields a rough estimate of about \$30 billion in electric goods sales in 2010, and about \$1.4 billion in extended warranties sold for these types of products.<sup>24</sup> Extended warranties are also sold as add-ons to other products. For example, the website Warranty Week estimated that the market for automobile extended warranties in the US represents another \$11.2 billion.<sup>25</sup>

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2196033 (using experimental data to decompose demand for extended warranties on washing machines as a function of risk, and loss, aversion); Chen, Kalra & Sun, *supra* note 19. Some economic theorists have modeled the market for extended warranties. See, e.g., Aidan Hollis, *Extended Warranties, Adverse Selection, and Aftermarkets*, 66 J. RISK & INS. 321 (1999) (surveying theoretical literature, and arguing on the basis of an adverse selection model that sellers of primary goods should not be able to exclude third-party extended warranties). At least in some contexts, extended warranties can be used to price-discriminate among consumers, even when buyers are rational, by increasing switching costs. See Edward Iacobucci, *A Switching Costs Explanation of Tying and Warranties*, 37 J. LEGAL STUD. 431 (2008).

<sup>21</sup> See *Extended Warranties*, WARRANTY WEEK, Nov. 21, 2006, available at <http://www.warrantyweek.com/archive/ww20061121.html> (suggesting that the total extended warranty market was worth \$16 Billion, but not specifying whether this is a stock measure of the value of warranties in force or an annualized flow).

<sup>22</sup> See COMPETITION COMM’N, EXTENDED WARRANTIES ON DOMESTIC ELECTRICAL GOODS, 2003, at vol. 1. p. 3 (U.K.). The OFT recently estimated the total value of the same market as about £1 billion. See OFFICE OF FAIR TRADING, EXTENDED WARRANTIES ON DOMESTIC ELECTRICAL GOODS, *supra* note 5, at 24.

<sup>23</sup> COMPETITION COMM’N, *supra* note 21, at 4.

<sup>24</sup> See generally, Bureau of Economic Analysis, Table 2.4.5. *Personal Consumption Expenditures by Type of Product (2013)*, available at <http://www.bea.gov/national/nipaweb/TableView.asp?SelectedTable=70&Freq=Year&FirstYear=2008&LastYear=2009>. There is no precise US equivalent to the U.K. definition of household electric goods. We used Bureau of Economic Analysis Table 2.4.5, and included the categories Small Electric Household Appliances, Video & Audio Equipment, and Information Processing Equipment. See *id.*

<sup>25</sup> *Vehicle Service Contract Administrators*, Warranty Week (Sept. 9, 2010), <http://www.warrantyweek.com/archive/ww20100909.html>.

Extended warranties sold as an add-on to the purchase of a consumer product are, in expected utility terms, the paradigmatic bad insurance deal.<sup>26</sup> They do not provide protection against any level of loss for which insurance at the prevailing price makes sense for a rational, expected-utility-maximizing individual.<sup>27</sup> The reason is simple: a rational consumer cannot be risk-averse for losses that are so “small” relative to her overall wealth. Classical risk-aversion only applies to large losses, those big enough to change the marginal utility of wealth. And for almost anyone buying a \$200 CD player or even a \$1,000 TV set, the amount of potential loss – the replacement cost of the item in question – is likely to be quite small in relation to assets or lifetime wealth. Even risk-averse consumers should be essentially risk-neutral for small-stakes gambles,<sup>28</sup> and recent survey research suggests that consumers in fact are risk neutral when it comes to extended warranties.<sup>29</sup>

Consider a consumer who purchases a Sony 55" Class Bravia® EX620- Series LED LCD HDTV sold by Sears on line for \$1619.99.<sup>30</sup> According to the Sears website, the extended warranty on this item –

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<sup>26</sup> See, e.g., David M. Cutler & Richard Zeckhauser, *Extending the Theory to Meet the Practice of Insurance*, in *Brookings-Wharton Papers on Financial Services* 1, 25-28 (Robert Liton & Richard Herring eds., 2004); Schwarcz, *supra* note 13; Rabin & Thaler, *supra* note 8.

<sup>27</sup> Except, possibly, for a purchaser who knows that she or he will use the product in an unusual manner that poses a high risk of product failure (but which is not considered misuse, voiding the warranty). The ability of such an individual to buy the warranty at the regular price represents a market failure, not a justification for the market. As the OFT observed, some have suggested that extended warranties may make more sense for liquidity constrained consumers, but there is no evidence that the purchase of extended warranties correlates with liquidity constraint. See OFFICE OF FAIR TRADING, *EXTENDED WARRANTIES ON DOMESTIC ELECTRICAL GOODS*, *supra* note 5, at 35.

<sup>28</sup> John W. Pratt, *Risk Aversion in the Small and in the Large*, 32 *Econometrica* 122, 122 (1964); Kenneth J. Arrow, *The Theory of Risk Aversion*, *Essays in The Theory of Risk Bearing*, 90, 90-91 (1971); Rabin & Thaler, *supra* note 8..

<sup>29</sup> See Jindal, *supra* note 20 (experimentally examining demand for extended warranties on washing machines and concluding that loss aversion, not risk aversion, explained the demand).

<sup>30</sup> See SEARS, [http://www.sears.com/shc/s/p\\_10153\\_12605\\_05771742000P?blockNo=3&blockType=G3&prdNo=3&i\\_cnr=1314814734858](http://www.sears.com/shc/s/p_10153_12605_05771742000P?blockNo=3&blockType=G3&prdNo=3&i_cnr=1314814734858) (last visited Aug. 31, 2011). Sears does note that the price includes a manufacturer’s warranty for “Service & Support: Limited warranty - parts and labor - 1 year.” *Id.* (Source shows a 3-yr warranty).

dubbed the “3 Year In-Home Master Protection Agreement” – costs an additional \$39.<sup>31</sup>

Table 1 evaluates the cost/benefit calculations for the extended warranty. On reasonable assumptions about frequency and cost of repair, the warranty costs ten times more than its expected monetary value. This calculation is conservative for at least two reasons. First, we ignore discounting, meaning that we treat a dollar paid in the future identically to a dollar paid today (despite the fact that we know that people greatly prefer dollars today over dollars in the future). Second, as Cutler & Zeckhauser point out, electronic goods tend to fall in price and increase in quality over time over time, with the result that the option to repair the product rather than junk it in favor of a better/cheaper model becomes increasingly less valuable.<sup>32</sup>

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<sup>31</sup> No information about any warranty is available on the main web page described above. *See id.* Only after you have “checked out” (clicked the button signifying that you wish to purchase the TV), are you informed about the possibility of an extended warranty. *See id.* This certainly constitutes an example of “shrouded” pricing. Moreover, although you can choose not to buy the extended warranty, the default is that it is included; you have to check a “decline warranty” box to avoid paying for it. *See id.* Here is how Sears describes the warranty:

Our coverage goes well beyond the original manufacturer’s warranty. No extra charge for covered repairs includes all parts and labor. Cosmetic defects are covered for the first 3 years. Schedule service day or night by calling 1-800-4-MY-HOME. Repairs are done by a force of more than 10,000 Authorized Sears Service Technicians, which means someone you can trust will be working on your products. Fast Help by Phone - we call it Rapid Resolution - provides you with non-technical and instructional assistance. Think of it as a talking owner’s manual. It also includes rental reimbursement and a 25% discount on the purchase of consumable parts like filters and blades ordered from Sear Parts Direct (1-800-252-1698). An annual Preventive Maintenance check can be scheduled at the customer’s request. The No Lemon Guarantee and Product Replacement includes delivery and installation if applicable. Coverage can be renewed and is transferable.

*Id.* The “5 year in-home master protection Agreement” costs \$519 (almost 1/3 the value of the TV set itself). *Id.*

<sup>32</sup> Cutler & Zeckhauser, *supra* note 27.

**Table 1: Extended Warranty Calculations**

<b>Assumptions</b>	
TV Lifetime	5 years
Lifetime probability of repair <sup>33</sup>	20%
Annual probability of repair	$1 - (1-.2)^{1/5} = 4.3\%$
Prob. of repair in 2 out-years (not covered by manufacturer's warranty)	$1 - (1-0.43)^2 = 8.5\%$
Cost of Repair <sup>34</sup>	\$400
<b>Results</b>	
Expected Value of Warranty	$0.085 \times \$400 = \$34.16$
Cost of 3 year Warranty	\$349
<b>Cost/Expected Monetary Value</b>	<b><math>\approx 10/1</math></b>

#### B. LOSS DAMAGE WAIVERS (LDWs) IN RENTAL CAR INSURANCE

Insurance against damage to a rented car is a complex maze of overlapping contracts, state-by-state regulation (or lack thereof) and insurance law doctrines (subrogation, primary vs. secondary coverage, etc.). The analytic problems are made worse by the absence of any consistent data on coverage or pricing. Since Collision and Loss Damage Waivers are not considered insurance for purposes of insurance regulation (wrongly in our view), they are regulated separately if at all, and there appear to be no systematic data on terms or prices.<sup>35</sup>

Under both CDWs and LDWs, the car owner (the car rental company) contracts with the renter to waive its right to be reimbursed for certain kinds of losses suffered while the renter has possession of the vehicle. CDWs traditionally covered damage from collision only,<sup>36</sup> while

<sup>33</sup>*Id.* at Table 5.

<sup>34</sup> This is a guess. Doubling the guess would reduce the cost/expected value ratio to 5:1, exactly the same as that for the low deductible in the homeowners' policy that Sydnor investigated. Recall that the risk aversion needed to explain that choice in expected utility terms would imply that the person would be unwilling to pay \$1000 for a 50% chance to win \$1 trillion.

<sup>35</sup> California, Hawaii, Illinois, Nevada and New York regulate C/LDWs by statute, apart from the ordinary insurance regulation mechanisms.

<sup>36</sup> LDW has been described as a descendant of CDW, which was "A more restrictive in that it waived the renter's responsibility for vehicle damage only when the damage resulted from a collision with another vehicle or object. The broader LDW option relieves the renter from responsibility for damage that results from virtually

LDWs covered, in addition, damage from such things as vandalism or theft. But the terms now appear to be used somewhat loosely.<sup>37</sup> For simplicity's sake, we will refer to all such agreements as LDWs. In essence, what the consumer buys with an LDW is the right to be free from any liability to the rental car company for any damage to the rented vehicle. From the customer's perspective this certainly feels like insurance, whether insurance law treats it as insurance as a technical matter or not.

LDWs are typical add-on insurance products. They are always priced separately from the car rental fee, and are presented to the customer after the baseline rental price has been announced.<sup>38</sup> When shopping online, for example, a typical setup is that the customer first inputs his or her rental location and dates. A second screen then allows for a choice of vehicle, and a third screen gives a list of options, including the LDW and other add-ons such as a booster seat or GPS device. In person, the transaction is typically structured much the same way – a baseline price is quoted, and once the renter has agreed to that price, she is then asked if she wants to “decline” the LDW by checking a box or series of boxes.<sup>39</sup>

In part because LDWs are not sold or regulated as insurance, they are apparently only loosely-based on actuarial principles.<sup>40</sup> Rental car companies

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any cause, including vandalism, theft, and glass breakage.” DENNIS STUTH, RENTAL CAR DECISIONS: WHAT YOU DON'T KNOW CAN HURT YOU 125 (2005).

<sup>37</sup> For example, Alamo's self-described “Collision Damage Waiver” covers more than just collision damages. In it, Alamo agrees “to contractually waive [renter's] responsibility for all or part of the cost of damage to, loss or theft of the vehicle.” See ALAMO, [https://www.alamo.com/en\\_US/car-rental/reservation/start-Reservation.html](https://www.alamo.com/en_US/car-rental/reservation/start-Reservation.html) (complete online rental form filling in location as “Bradley Intl Arpt (BDL)”, date of trip, renters age as “25 and up,” then click “continue.” On the next screen select a rental car by clicking “Add” next to one of the rental vehicles. This will then bring you to a screen with available “Add-On” features which include a category called “Protection Products.” Under the “Protection Products” category click the words “Collision Damage Waiver.”) (last visited Oct. 13, 2013).

<sup>38</sup> “It is a well-established sales principle that an individual is most susceptible to . . . upsell efforts [inducements to purchase add-ons] immediately after making the basic purchase decision.” STUTH, *supra* note 37, at 30.

<sup>39</sup> The purchase of the LDW, while optional, is structured as the default transaction, so that the renter has to make an affirmative choice *not* to buy the coverage. The renter is not asked whether she wishes to buy the LDW, but whether she wishes to “decline” it by checking a box to that effect. In that sense, the LDW is more “default-y” than an extended warranty, in which the consumer is asked to “buy,” rather than to “decline.” On the other hand, the initial quoted price does not include the LDW, which would give the LDW even more of a default structure.

<sup>40</sup> “In contrast to physical damage coverage . . . provided under a personal auto policy, the LDW daily rate is typically not actuarially based.” STUTH, *supra* note 37, at 129.

obviously need to charge a rate that covers their average loss, but beyond that, the rate charged for a LDW is highly dependent on competitive factors. It is not uncommon to find most car rental companies charging nearly the same LDW rate in a particular location.<sup>41</sup> It is therefore difficult to arrive at a typical cost for LDWs sold nationwide. Writing in 2005, industry insider Dennis Stuth suggested that rates ranged from \$5 to \$18 per day.<sup>42</sup> That seems much too low in today's market, however. Using examples from 3 cities and 3 different rental companies for a Toyota Corolla or similar car (see Table 2), we found prices for LDWs were in the range of \$22-\$28 per day, with an average of roughly \$27. Of course, this was a small and non-random sample (we were unable to uncover any systematic data on pricing), but a price of \$25 per day seems like a reasonable estimate.

**Table 2: LDW & Car Rental Rates at Selected Airport Locations, June 26, 2012**

Car	Rental Dates	Location (Airport)	Rental Company	LDW Cost, per day	Car Rental Base Rate Per day
Midsize	6/26 - 7/1	Hartford	Avis	\$27.99	\$67
Corolla	6/26 - 7/1	Hartford	Hertz	\$28.99	\$69
Corolla	6/26 - 7/1	Hartford	Alamo	\$22.99	\$66
Midsize	6/26 - 7/1	Dallas	Avis	\$27.99	\$40
Corolla	6/26 - 7/1	Dallas	Hertz	\$28.99	\$39
Corolla	6/26 - 7/1	Dallas	Alamo	\$22.99	\$31
Midsize	7/3 - 7/8*	Minneapolis	Avis	\$27.99	\$52
Corolla	6/26 - 7/1	Minneapolis	Hertz	\$28.99	\$54
Corolla	6/26 - 7/1	Minneapolis	Alamo	<u>\$24.99</u>	<u>\$56</u>
			Average:	\$26.88	\$52.56
			Std. Dev.:	\$2.38	\$12.89

Source: Rental company websites, visited 6/25/2012

\*No availability for 6/26-7/1; dates are 7/3-7/8

Memo Item: MSRP for new Corolla = \$17,980.

How much *should* someone be willing to pay for a LDW? This is a difficult question to answer because it depends on a great many idiosyncratic factors, including the extent of coverage under the renter's

<sup>41</sup>*Id.*

<sup>42</sup>*Id.*



own personal auto policy<sup>43</sup> and the credit card used to pay for the rental car in question.<sup>44</sup> Some renters are already covered for some or all of the losses covered by a CDW. For them, there is little or no point in buying additional coverage that duplicates what they already have. At most, the LDW will function to reduce their effective deductible to zero.<sup>45</sup>

Suppose, conservatively, that the renter has no prior coverage that would make the LDW unnecessary. The renter would then be buying coverage for an otherwise uncovered loss, at the rate of \$25 per day. This works out to roughly \$9,000 per year – far too much for a rational risk averse consumer to pay for coverage against harm to the vehicle.

One way to see why the LDW is overpriced is to compare its cost with ordinary automobile insurance. Typical automobile insurance covers vastly more than the LDW does (including, of course, liability to third parties, which could easily run many times the value of the insured vehicle itself), for far less money. For example, the first author's family auto policy, which covers three automobiles (including a 2013 Audi A6) and three adult drivers (one who is under 25), costs about \$3,000 per year. Of that total premium, the first party property insurance coverage costs only \$1100. By this metric, the LDW looks to be a very bad deal, since it covers less liability at many times the cost.<sup>46</sup>

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<sup>43</sup> Damage to a car rented by the policyholder is not covered under the standard Insurance Services Office PAP form, but some companies in some states do provide such coverage, which would make the C/LDW (almost) completely unnecessary. Even when damage to one's rented car is already covered, there might be a small side benefit to buying an LDW; since the rental company's loss would be waived, the renter would not need to turn to her or his insurer to cover it and would not risk an increased premium for having filed a claim.

<sup>44</sup> Some premium credit cards cover some kinds of losses (usually up to a relatively low limit) when a cardholder uses the card to rent a car.

<sup>45</sup> Even if someone is already covered by his or her own auto policy, STUTH, *supra* note 37, at 129, suggests that there might nevertheless be some reasons to purchase an LDW. These include: (a) Additional drivers: the renter's own insurance might not cover a driver who is nevertheless authorized under the LDW; and (b) Subrogation hassles: When the renter relies on his or her own insurer to cover any losses, the car rental company typically charges the renter for the losses, and then forces the renter to collect from his or her insurer. *See id.* at 130-31. This may involve considerable time and expense that would be saved by purchasing a LDW. Although they are not zero, these benefits seem very small for the typical rental car customer, and we ignore them.

<sup>46</sup> The moral hazard resulting from the LDW might lead rental drivers to behave more dangerously and get into more accidents than they would when driving their own cars. In turn, this might conceivably drive up the cost of the LDW relative to ordinary insurance on an owned vehicle. But it is difficult to imagine that rental drivers are so much more reckless than drivers of their own

A more standard way to think about the attractiveness of a LDW is to compare its cost to its expected payout (as we did in Table 1). Estimating the expected payout of a LDW is complicated, however, absent data on loss amounts and probabilities. Table 3 presents some back-of-the-envelope calculations. We assume that loss amounts are uniformly distributed in various ranges or “bins,” and somewhat arbitrarily assign probabilities to each range.

<u>Loss Amount</u>	<u>Loss Probability</u>	<u>Expected Loss</u>
\$0-\$100	52.0%	\$26
\$101-\$500	26.0%	\$78
\$501-\$1,000	13.0%	\$98
\$1001-\$10,000	6.5%	\$358
<u>\$10,001-\$18,000</u>	<u>2.5%</u>	<u>\$238</u>
TOTAL	100.0%	\$797
Cost of LDW		\$9000
Ratio: Cost/Expected Benefit	11.3:1	

Despite its crudity, the estimated expected loss in Table 3 is an order of magnitude smaller than the annual cost of a LDW, even with conservative (i.e., generous) assumptions about loss probabilities. As with the extended warranty, a LDW looks to be a very bad deal for the consumer. Expedia’s alternative loss damage waiver plan starts at \$9 per day; that’s still not worth buying in expected utility terms, but it is less than half the price of the rental car companies’ LDW.<sup>47</sup>

However, the calculations here are somewhat more complicated than in the case of the extended warranty. The reason is that although the *expected* loss in this context is, at about \$800, arguably quite small, there is

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cars, especially since so many renters have coverage for their own vehicles that largely mimics that of the LDW.

<sup>47</sup> *Car Rental Insurance*, EXPEDIA, [http://www.expedia.com/daily/promos/travel\\_protection\\_plans/car\\_rental.asp?opt=1\\_7](http://www.expedia.com/daily/promos/travel_protection_plans/car_rental.asp?opt=1_7) (last visited Oct. 13, 2013). The program was designed and administered for Expedia, Inc.’s clients by Berkely and is underwritten by Stonebridge Casualty Insurance Company. *Id.* In California, Berkely is a service mark of Aon Direct Insurance Administrators; in all other states Berkely is a division of Affinity Insurance Services, Inc. except AIS Affinity Insurance Agency, Inc. in Minnesota and Oklahoma, and AIS Affinity Insurance Agency in New York. *Id.* The website is interactive, but will not give you a quote unless you actually rent a car.

some chance of a much larger loss. If an \$18,000 loss represents a non-trivial fraction of lifetime wealth, then risk aversion may come into play, and the cost/benefit analysis needs to take account of the gains from substituting a certain payment for an uncertain loss amount. Such calculations were per se unnecessary in the case of extended warranties covering small losses.

So, could risk aversion be enough to justify the high premiums charged for a LDW? The short answer is “No.” We can reframe the issue of whether the LDW is overpriced by asking how much more than the actuarially fair value of the loss a risk averse consumer would be willing to pay as insurance against that loss, given assumptions about her wealth, the probability and size of the loss, and her degree of risk aversion.<sup>48</sup> This “excess premium” can then be compared to the actual premium charged for the LDW. We assume utility has the widely-used Constant Relative Risk Aversion (CRRA) form.<sup>49</sup>

Kenneth Arrow has argued that on theoretical grounds a CRRA coefficient of about 1.0 (logarithmic utility) should be reasonable; a coefficient of 50 is extraordinarily risk averse. Yet as the last row of Table 4 reveals, even an absurdly risk averse individual, with a coefficient of relative risk aversion of 50, should at most be willing to pay only \$1,000 more than the fair premium (of \$2,000) to insure against a 10% chance of a \$20,000 loss. That is, the most such an individual should be willing to pay for insurance against this loss is about \$3000, since anything more than this would make going uninsured the more attractive option. For more reasonable levels of risk aversion, the maximum premium is between \$2,036 and \$2,330. Of course, these are all far less than the roughly \$9,000 premium charged for a LDW by rental car companies and less than the \$4,300 premium charged through Expedia.

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<sup>48</sup> To do this, we find the expected utility of the consumer who purchases no insurance and faces an uncertain prospect – a gamble. We then determine the certainty equivalent wealth – defined as the wealth (held with certainty) that gives the same utility as the gamble does.

<sup>49</sup> We use the standard CRRA (constant relative risk aversion) utility function of the form  $U(W) = \frac{W^{1-\rho}}{1-\rho}$ , the limit of which, as  $\rho$  approaches 1, is  $U(W) = \ln(W)$ . According to Pierre-André Chiappori & Bernard Salanié, *Modeling Competition and Market Equilibrium in Insurance: Empirical Issues*, 98 AM. ECON. REV. 146, 147, (May 2008), “constant relative risk aversion provides a reasonably good approximation of individual attitude toward risk, at least in an expected utility setting.” Somewhat arbitrarily, we set wealth equal to \$500,000.

**Table 4: Maximum Willingness to Pay for a LDW as function of Risk Aversion**

<b>Assumptions</b>				
Wealth, W	\$500,000			
Probability of Loss, p	10%			
Loss Amount, L	\$20,000			
Fair Premium	\$2,000			
	Coefficient of Constant Relative Risk Aversion, $\rho$			
	1*	2	10	50
Certainty Equivalent Wealth <sup>50</sup>	\$481,963	\$481,925	\$481,668	\$480,885
Maximum Excess Premium	\$36.54	\$75.00	\$332.00	\$1,115.00

\*The CRRA utility function is defined as  $\ln(W)$  when  $\rho = 1$ .

These results make it all the more surprising that, according to one rental car insurance expert, 19% of renters always bought an LDW and another 19% sometimes did.<sup>51</sup>

### C. CREDIT LIFE INSURANCE

Arthur Morris invented the modern version of credit life insurance in the US in 1917.<sup>52</sup> Borrowers purchase credit life insurance to guarantee

<sup>50</sup> The certainty equivalent wealth is the amount of risk-free wealth that provides the same utility as the *expected* utility resulting from the gamble under consideration. In this context, the gamble consists of wealth of \$500,000, a loss of \$10,000, a probability of loss of 10%, and utility function characterized by a given degree of risk aversion. Since the individual dislikes risk, he is willing to pay more than the \$1,000 expected loss to avoid it. The difference between (\$500,000 minus the certainty equivalent) and \$1,000 represents the maximum excess premium the individual would be willing to pay, and this amount rises as risk aversion increases.

<sup>51</sup> STUTH, *supra* note 37, at 132 (quoting a 2002 survey performed by the Progressive group of insurance companies). Of those who bought, 63% said they did so because they wanted extra protection, but 24% said they bought because they weren't sure whether their PAPs covered the loss and 8% said they bought because the agent pressured them into doing so. *Id.*

<sup>52</sup> Arthur J. Morris, *The Origins of Credit Life Insurance*, 1957 INS. L.J. 329, 329; see also NAT'L ASS'N OF INS. COMM'RS, *supra* note 1, at 2 (noting that Morris' purpose was to allow the extension of credit to workers with no security or collateral). It's worth noting that the practice of buying life insurance to benefit creditors is much older than this. See *generally* GEOFFREY CLARK, BETTING ON

that if they die before repaying a particular outstanding debt (e.g., a mortgage or a car loan), the insurer will repay the lender. Closely related products such as credit health or credit disability work in much the same way, except that they are triggered by an event other than the death of the insured. The volume of credit life insurance sold in the US was about \$770 million in 2010; credit accident and health insurance amounted to an additional \$875 million.<sup>53</sup> Credit life is typically sold as an add-on to the financing of a primary purchase (a house, car, or other substantial consumer durable), by the entity making (or financing) the original sale – the car dealership, retailer, etc.<sup>54</sup>

The first thing to note about credit life insurance is that it does not *directly* protect the borrower, her estate, or her heirs. The primary beneficiary (in a legal and economic sense) is the *lender*, who is protected

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LIVES (1999) (describing the culture of life insurance in England from 1695 to 1775). Morris's innovation was extending the link between credit and life insurance to a mass market in a context in which the creditor did not require the debtor to purchase the insurance.

<sup>53</sup> NAT'L ASS'N OF INS. COMM'RS, CREDIT LIFE INSURANCE AND CREDIT ACCIDENT & HEALTH INSURANCE EXPERIENCE 2006-2010, 4 (2011). The roughly 30% drop in the volume of net written premiums between 2008 and 2010 presumably reflects the effects of the recession and the decline in overall consumption expenditures. Somewhat surprisingly, however, there has been a clear downward trend in the volume of both credit life and credit accident/health since 2001, with a drop-off of 62% over this period. *Id.* Patricia McCoy points out to us that under the National Bank Act, national banks are authorized to underwrite and sell insurance substitutes called "debt cancellation contracts" and "debt suspension agreements." 12 C.F.R. § 37.1(a) (2013). It is possible that the drop in credit life and credit accident insurance reflects a growth in the market for close substitutes – debt cancellation/suspension contracts. See Barnett, Sivon & Natter, P.C. and McIntyre & Lemon, P.L.L.C., *Debt Cancellation Contracts and Debt Suspension Agreements*, AM. BANKERS ASS'N (May 23, 2012), <http://www.aba.com/ABIA/Documents/36a3b8296aef4474b90d3e3f9a8896feGAODebtCancellationCoalitionFinal2810conformed.pdf>, for an overview of these contracts from the perspective of the Debt Cancellation Coalition, of which the American Bankers Insurance Association is an ex officio participant.

<sup>54</sup> We lack data for the US, but a UK Competition Commission report suggests that stand-alone sales of Protection Payment Insurance (PPI) "are very small compared to the total number of PPI policies sold by distributors . . . . [T]he stand-alone market accounts for less than 0.5 per cent of total P[ersonal]L[ oan]PPI sales, and less than 0.1 per cent of total C[redit]C[ard]PPI sales. . . . [Even at] a little under 9 per cent. . . ., the extent of M[ortgage]PPI policies sold on a stand-alone basis is still very small." *Market Investigation into Payment Protection Insurance*, COMPETITION COMM'N, 56-57 (Jan. 29, 2009), [http://www.competition-commission.org.uk/rep\\_pub/reports/2009/fulltext/542.pdf](http://www.competition-commission.org.uk/rep_pub/reports/2009/fulltext/542.pdf). We strongly suspect the same is true for the US.

from the risk that the debtor dies before repaying the loan and the estate cannot repay it.<sup>55</sup> It is true, however, that the purchase of credit life insurance does reduce or eliminate the risk of foreclosure if the borrower/insured dies. Some borrowers may want to leave the asset free and clear to their heirs, or may worry that the heirs can't afford the remaining obligations under the loan and would be forced to give up the asset whose purchase the loan originally financed.

Thus, there are circumstances under which credit life insurance may provide benefits for the purchaser. Suppose the wage-earning spouse buys a car for \$15,000, financing it with a loan secured by the car. If the borrower dies before the car loan has been repaid and the surviving spouse cannot make the remaining payments, the lender can take back the car; and if the remaining debt is less than the car's resale value, the lender can come after the estate for the rest of what's owed. Thus, there is a risk that one's survivor will have to repay the loan, and this risk does impinge on the utility of the person buying the insurance, thereby providing at least a superficially plausible motivation for buying credit life insurance. Credit life replaces the payments remaining at the time of the borrower's death, eliminating the risk that the deceased's estate will have to make those payments.

Credit life insurance is thus different from extended warranties and many LDWs for two reasons. First, the amounts at stake in credit life insurance can sometimes be large enough relative to overall wealth that a rational consumer might conceivably find insuring these risks attractive. That is generally not the case with extended warranties and LDWs (especially for a renter who has a personal auto policy with collision coverage), where the size of the risks involved is so much smaller. Second, the value of credit life depends not only on the insured's risk aversion, but also on his altruistic concern for the welfare of his beneficiaries, which

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<sup>55</sup> The lender has many other ways of protecting against this risk, of course, beginning with charging a higher interest rate to reflect the risk that the borrower would die before the loan was repaid. Note that the moral hazard problem with higher interest rates – that they induce borrowers to take on riskier projects – does not seem applicable in the context of credit life insurance. See Joseph E. Stiglitz & Andrew Weiss, *Credit Rationing in Markets with Imperfect Information*, 71 AM. ECON. REV. 393, 401 (June 1981) (suggesting that when lenders can't observe borrower behavior, higher interest rates will lead buyers to substitute towards riskier projects). Indeed, one plausible explanation for the existence of credit life insurance is that it offers a legal way to charge risky borrowers a higher interest rate, without running afoul of usury laws. Lenders often require collateral as an additional means of protection.

makes it more difficult for an outside observer to be certain when credit life insurance is a bad deal for an individual purchaser.<sup>56</sup>

Under ideal circumstances, credit life offers a way for borrowers to protect their survivors against the risk of having the borrower's estate drained by paying off a loan after the borrower dies. As many have noted, credit life is not a particularly good way to manage this risk – ordinary life insurance, if it is available, is typically both dramatically cheaper and more flexible, since proceeds are not dedicated to repayment of a particular loan.<sup>57</sup> This flexibility is especially valuable when the deceased borrower's estate is insolvent or if the loan is non-recourse. In either case, the debtor's family or other chosen beneficiary, not the creditor, gets the money, surely the result that is more consistent with the altruistic justification for the purchase of life insurance.

Moreover, some versions of credit life are even less defensible. For instance, many subprime mortgages were sold with so-called "Single Premium Credit Life," in which the total premium for the life of the policy is rolled into the initial mortgage. This meant that:

The borrower then pa[id] interest on this amount for the life of the loan and typically ha[d] not even begun reducing the loan's principal balance by the time the five-year credit life insurance coverage period expire[d]. Consequently, when a borrower move[d] or refinance[d] out of a subprime loan after five years, all of the premiums for the

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<sup>56</sup> That is, credit life – and indeed all life insurance – does not pay the insured, but rather his or her beneficiaries. Their utility matters to the insured, but only indirectly. Thus, although we can place plausible bounds on risk aversion, we cannot as readily put bounds on altruism (as measured by sources outside of insurance demand). For an attempt to do so using insurance data, see B. Douglas Bernheim, *How Strong are Bequest Motives? Evidence Based on Estimates of the Demand for Life Insurance and Annuities*, 99 J. POL. ECON. 899, 900 (1991), concluding that "most individuals are in part motivated by a desire to leave bequests."

<sup>57</sup> Many sources note that if it's available, ordinary life insurance is typically a much cheaper way to cover the risk that credit life also insures against. See, e.g., *Credit Insurance*, WIS. DEP'T OF FIN. INSTS., [http://www.wdfi.org/yymm/brochures/credit/credit\\_insurance.htm](http://www.wdfi.org/yymm/brochures/credit/credit_insurance.htm) (last visited Sept. 25, 2013) (suggesting that "credit insurance is expensive in comparison to other forms of insurance" and offering a chart showing that a typical policyholder, age 30 and in good health, could expect to pay \$342 per year for \$50,000 of credit life insurance, while the same amount of term life – which of course pays cash, and is not restricted to the repayment of a particular debt – would cost only \$70, only one-fifth as much).

terminated insurance [were] . . . stripped directly out of the borrower's home equity.<sup>58</sup>

Financing the entire credit life premium, rather than paying it month-by-month, thus worked out to be a very poor deal for virtually every consumer.

Many other credit life practices have been highly criticized for over 50 years. Among the abuses discussed in a report by the National Association of Insurance Commissioners report in 1970<sup>59</sup> were: excessive coverage (selling coverage for more than the amount borrowed), failure to refund unearned premiums when the debt was paid earlier than required, coercive selling practices, bad faith claims-adjusting, failures to inform the policyholder of coverage,<sup>60</sup> overcharging, and a host of other practices. While regulatory changes beginning in the 1960s attempted to restrict the most blatant of these abuses,<sup>61</sup> their efficacy is unclear, and at least some of these practices continue in some jurisdictions.

Rather than focusing on the worst practices, however, it's better to consider a typical policy. Unfortunately, data on a "typical" product are not easy to come by,<sup>62</sup> but the Wisconsin Department of Financial Institutions furnishes the details of one assertedly representative example.<sup>63</sup> Using this example, supplemented by some actuarial data, we can do a very conservative back-of-the-envelope calculation on the payback from an average credit life insurance policy, as summarized in Table 5.

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<sup>58</sup> ERIC STEIN, QUANTIFYING THE ECONOMIC COSTS OF PREDATORY LENDING 5 (2001), available at <http://www.selegal.org/Cost%20of%20Predatory%20Lending.pdf>. Under bans from state regulators and pressure from public opinion, the worst of these practices were abandoned by most sub-prime lenders in the mid-2000's.

<sup>59</sup> For an extensive discussion, see NAT'L ASS'N OF INS. COMM'RS, *supra* note 1, at 39-52.

<sup>60</sup> Borrowers were sometimes sold policies bundled with the primary loan, and were not even informed that they were being charged for coverage. In such cases, the estate of a borrower who died would not know to make a claim on the insurer.

<sup>61</sup> NAT'L ASSOC. OF INS. COMM'RS, *supra* note 1, at 52-87.

<sup>62</sup> This in itself is interesting. Much as Daniel Schwarcz found with home insurance, it appears to be very difficult to shop for credit life insurance on-line, see Daniel Schwarcz, *Reevaluating Standardized Insurance Policies*, 78 U. CHI. L. REV. 1263 (2011): we were not able to uncover any recent rate quotes or sample policies.

<sup>63</sup> WIS. DEP'T OF FIN. INSTS., *supra* note 57.



**Table 5: Hypothetical Credit Life Valuation****Assumptions:**

Male, 35	Sex, Age
\$15,000	Amount of car loan
4	Years to repay
\$2,917	Interest/finance charges <sup>64</sup>
\$265	Cost of credit life
\$8,172	Average Balance owed at death, if death occurs <sup>65</sup>
0.00175	Annual probability of death <sup>66</sup>
0.0072	Total probability of death during 4 year life of loan

**Results:**

\$58.84	<i>Expected</i> balance owed at death
\$20.98	Expected interest/finance charge <sup>67</sup>
\$79.82	Total Expected Payout from Credit Life

**Ratio: Premium Cost/Expected Payout = 3.3:1<sup>68</sup>**

Suppose a 35-year-old male in average health borrows \$15,000 to purchase a car, with no down payment. According to the Wisconsin Department of Financial Institutions, a typical credit life insurance policy costs the borrower \$265. That amount protects an average balance owed –

<sup>64</sup> Wisconsin DFI apparently assumes an effective annual interest rate of 9.4%.

<sup>65</sup> Assumes that if the borrower dies, on average, it will be at month 24, halfway through the life of the loan. (We inflate the value of credit life insurance by not discounting future cash flows to present value. Were this amount to be discounted to its present value – as seems appropriate – it would be 20 percent smaller.)

<sup>66</sup> Source: <http://www.ssa.gov/oact/STATS/table4c6.html> for annual death probabilities.

<sup>67</sup> Wisconsin DFI apparently assumes that the entire stream of interest payments are protected by credit life, which implies that the appropriate number is  $\$2,917 \times 0.0072 = \$20.98$ . But this is clearly conservative. A borrower who dies at month 24 owes only the interest on the remaining balance outstanding, which is roughly one-half of the total interest. (Again, since the interest would have been paid over the 24 months following the borrower's death, the present value of the remaining interest payments, as of the date of death is only \$797.80, when discounted at the borrowing rate of 9.4 percent. That amount discounted to the date the loan is signed is only \$667).

<sup>68</sup> With appropriate discounting of principal and interest payments insured by credit life, this ratio would be about 5:1.

over the 48-month life of the loan – of \$8,170. The average 35-year-old male stands a 0.72% (0.0072) chance of dying before age 39. Even assuming that the entire interest and finance charges would still be owed if the borrower died, the purchase of credit life insurance would prevent an expected monetary loss of only \$79.82. Of course, one should not expect that premiums would be equal to the expected payout, since such actuarially-fair pricing could not cover any of the other costs associated with running the insurance company. But at just over three to one, the ratio of expected payout to premium cost is extraordinarily low: not as low as the ten to one ratios for extended and damage waivers but still much too low to result from anything approaching rational behavior. Only someone who assigns astronomically high value to the wealth or consumption of his heirs should find this kind of ratio appealing. Even then, as noted earlier, there are typically much cheaper ways to protect against this kind of risk than through credit life.

Further proof of the problematic nature of credit life comes from data on industry loss ratios, which are calculated by dividing incurred losses by earned premiums.<sup>69</sup> According to state-by-state data compiled by the National Association of Insurance Commissioners (NAIC) in 2009, the loss ratio on credit life insurance averaged 44.1% for the US as a whole in the period 2003-2007.<sup>70</sup> Louisiana, Nebraska, South Dakota and Nevada all had loss ratios below 33%, and even the best states – Virginia, New York and Vermont – had loss ratios of only about 55%. Compared with a loss ratio of over 90% for group life insurance,<sup>71</sup> it's pretty clear that credit life purchasers are not getting a good return for the premiums they pay. These low loss ratios continue, despite the NAIC's proclamation, in 1959, of a resolution that "provided that any loss ratio for credit life insurance

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<sup>69</sup> If a credit life insurer pays out \$100 in losses in a given year and collects \$150 in premiums, its loss ratio is 2/3. From a consumer's perspective, the higher the loss ratio, the better, other things equal. Low loss ratios suggest that the premiums consumers pay are too high relative to the coverage they receive for incurred losses. (An actuarially-fair product would have a loss ratio of 1, which would of course leave no room to cover expenses.)

<sup>70</sup> This is the weighted five-year aggregated loss ratio, using states' credit life losses as weights and was computed from data in NAT'L ASS'N OF INS. COMM'RS, *supra* note 52. Using a shorter 3-year window does not make a substantial difference. The standard deviation of the loss ratio across states was 8.6%.

<sup>71</sup> The highly profitable nature of credit life is underscored by the virtual absence of any underwriting requirements for such policies. *See, e.g.,* UsLifeCredit Life Ins. Co. v. McAfee, 630 P.2d 450 (Wash. Ct. App. 1981) (failing to ask about policyholder's medical history did not bar recovery by insured's estate, even though policyholder knew she had cancer when she applied for credit life policies).

below 50 percent would be considered to produce an excessive rate,<sup>72</sup> and despite many attempts to enforce such a minimum over the succeeding 50 years.

To recap: credit life looks to be a bad deal for consumers for several reasons. First, even in principle, it's not clear why borrowers should want it, although a strong bequest motive could explain some of the demand for credit life. Second, there are often substantially cheaper ways of covering the same risks covered by credit life. Third, the worst versions of credit life are virtually certain losers for the insured, and even average policies look to be a bad deal, unless consumers place extraordinarily high value on protecting their heirs. Finally, the very low ratio of claims paid to premiums collected implies that consumers are not getting enough back for their premium dollars, especially as compared to widely available alternatives.

### III. THE BEHAVIORAL ECONOMICS OF ADD-ON INSURANCE PRODUCTS

The add-on insurance market poses two challenges to the standard economic analysis of insurance markets. First, the add-on insurance market largely consists of expensive insurance against relatively small losses, a combination that is unequivocally bad for consumers in expected utility terms. Second, sellers are able to sell the insurance at prices that far exceed the cost, notwithstanding what appears to be a robustly competitive market for the product or service to which the insurance is connected.

Extended warranties clearly pose both of these challenges. The damage waiver and credit life insurance situations are a bit more complicated. For a car renter with a personal auto insurance policy that includes collision coverage, a damage waiver functions simply to reduce the collision deductible to zero and, thus, is economically equivalent to an extended warranty – providing high cost insurance for small losses. But a car renter who does not have other collision coverage does face a small risk of a modest loss. Similarly, credit life insurance benefits can easily pay off in amounts that represent real money. These kinds of losses might barely be worth insuring, just not at the prices prevailing in the add-on insurance context.

In this Part we set out the behavioral economic explanation of why consumers like these products and why sellers can charge such high prices for the insurance, even in what appears to be a competitive market. We note that scholars and regulators have been skeptical about credit life for

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<sup>72</sup> NAT'L ASS'N OF INS. COMM'RS, *supra* note 1, at 69.

similar reasons since at least the 1950s,<sup>73</sup> so the behavioral critique is not new in spirit, even if some of the substance is novel.

#### A. THE APPEAL OF INSURANCE AGAINST SMALL LOSSES

We begin by reviewing why insurance against small losses is generally a bad deal in expected utility terms.<sup>74</sup> The explanation begins by assuming that people are risk averse and that it is this risk aversion that motivates insurance.<sup>75</sup> Risk aversion can be understood as a consequence of the declining marginal utility of money (meaning that people derive less benefit from each additional dollar that they possess). Insurance reduces financial risk by taking money from people, in the form of premiums, during times when the marginal utility of that money is comparatively low (they need it less, because they have more of it) and giving them money, in the form of claim payments, at times when their marginal utility for that money is high (they need it more because they have less of it, owing to the loss). Thus, a rational, risk-averse person should be willing to pay more than the expected value of a future financial loss to prevent that loss from occurring.

In a world of perfect information and no transaction costs, people would completely insure against all risks for which they could purchase fairly-priced insurance. Of course the real world is very different. For present purposes, the key difference is transaction costs. Insurers have to charge customers more than the present value of the expected loss, because insurers have to pay their employees, the rent on their headquarters, and so forth.

Insurance is a good deal in expected utility terms when the additional utility attributable to risk aversion exceeds the transaction costs and profits embedded in the insurance premiums. Other things equal, insurance that protects people from losses that are large in relation to their income and other assets is more valuable than insurance against small losses, because insurance against large losses provides a bigger marginal

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<sup>73</sup> See sources cited *supra* note 1.

<sup>74</sup> The uselessness of insurance for small losses is analyzed in detail in the sources cited *supra* note 8.

<sup>75</sup> There might be other motivations for purchasing insurance aside from classical risk aversion. For an extended treatment, see HOWARD C. KUNREUTHER ET AL., *INSURANCE AND BEHAVIORAL ECONOMICS: IMPROVING DECISIONS IN THE MOST MISUNDERSTOOD INDUSTRY* (2013). For a brief survey, see, e.g., TOM BAKER & PETER SIEGELMAN, *Behavioral Economics and Insurance Law: The Importance of Equilibrium Analysis*, in OXFORD HANDBOOK OF BEHAVIORAL ECONOMICS AND THE LAW (Doron Teichman & Eyal Zamir eds.) (forthcoming 2014).

utility boost. Conversely, higher transaction costs or profits make insurance less valuable, because less of the premiums go to pay loss costs. Most add-on insurance products are a bad deal on both of these dimensions. The losses covered by add-on insurance tend to be small in relation to consumer assets. Moreover, the extra amount that consumers pay for the risk spreading services provided by add-on insurance is very high in relation to other kinds of insurance.<sup>76</sup>

Consider, as a useful point of comparison, the choice of deductible in homeowners' insurance. Should a consumer choose a policy with a \$250 deductible, a \$500 deductible, or a \$1000 deductible? Choosing a low deductible in a homeowners' insurance policy is, from an expected utility perspective, similar to buying an add-on insurance product that provides a comparable amount of financial protection. (That is, choosing the \$250 deductible instead of the \$500 deductible is just buying an additional insurance policy that covers losses in the range of \$250-\$500, at a cost given by the difference between the two coverage plans.) Recent excellent research by Justin Sydnor precisely identifies the cost and expected benefit of different deductibles in the homeowners' insurance context, demonstrating that expected utility theory cannot explain why consumers choose low deductibles.<sup>77</sup> This analysis is directly applicable to add-on insurance products.

Importantly, however, the *institutional context* in which consumers choose the size of their insurance deductible differs significantly from that in which consumers choose whether to buy an add-on insurance product. As we will see, this difference in context nicely sets up the behavioral economic explanation for sustained high profits in add-on insurance (and the absence of such excess profits in low deductible insurance).

Sydnor uses data from a large homeowners' insurer to demonstrate that a substantial majority of consumers choose a deductible that is dramatically too small to be justified by any reasonable level of risk aversion or future expected claims. For example, many consumers choose a \$500 deductible, rather than the \$1,000 deductible they might have picked instead. The \$500 deductible policy costs about \$100 more than the \$1000 deductible policy. Given typical claiming rates, the average expected monetary benefit from the additional coverage is about \$20. This means that consumers pay \$100 to receive an expected \$20 monetary

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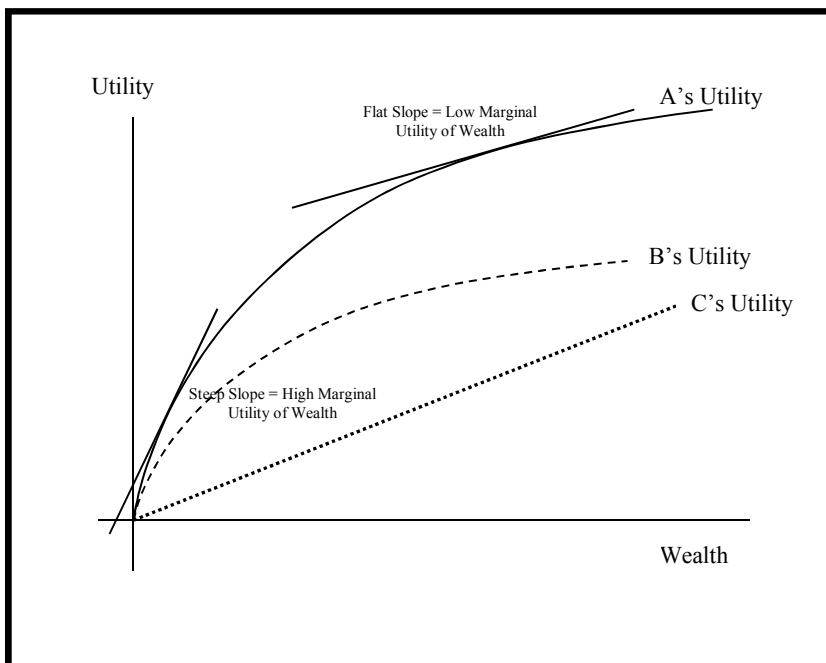
<sup>76</sup> Strictly speaking, not all that extra amount is a "transaction cost" as that term is used in economics. A significant amount is profit. For present purposes, this detail does not matter.

<sup>77</sup> Justin Sydnor, *(Over)insuring Modest Risks*, AM. ECON. J.: APPLIED ECON., Oct. 2010, at 177, 178 (showing that among the consumers insured by the company that provided the data, 83% choose a deductible that was too low).

benefit.<sup>78</sup> That is not as bad as the ten to one ratio we found in extended warranties and damage waivers, but it is worse than the three to one ratio in credit life insurance.<sup>79</sup>

To justify the lower deductible on risk aversion grounds, a rational consumer would need to have a utility function that was so astronomically risk-averse that she or he would almost-literally never be able to get out of bed.<sup>80</sup> As we discussed earlier, risk aversion varies across individuals, and depends – somewhat loosely speaking and in very abstract terms – on the curvature of the individual’s utility function in wealth/utility space, as illustrated in Figure 1.

Figure 1: Risk Aversion and Risk Neutrality



A highly risk averse person such as A (represented by the solid curve) has a marginal utility of wealth that declines very rapidly as her wealth increases (a highly-bowed utility function in wealth/utility space). Conversely, someone such as person C, who is completely risk neutral, has

<sup>78</sup> *Id.* at 196.

<sup>79</sup> Recall that using more realistic assumptions produced a 5:1 ratio for credit life insurance, right in line with Sydnor’s 5:1 ratio for the low deductible. See *supra* text accompanying note 67.

<sup>80</sup> Rabin and Thaler, *supra* note 8, at 226-27.

a constant marginal utility of wealth (a straight-line utility function represented by the dotted line in Figure 1). Person B (represented by the dashed curve) is more risk averse than C, but less-so than A, since B's marginal utility declines more slowly than A's as wealth increases.

As we explained, economists use a quantitative measure, called the "coefficient of risk aversion" to estimate the curvature of the utility function and hence, to measure an individual's degree of risk aversion.<sup>81</sup> Empirical studies estimate plausible values for the coefficient of relative risk aversion to be in the single digit range, i.e. from 0 (risk neutral) to 9.<sup>82</sup> Buying the lower deductible is a rational economic decision only if one's coefficient of relative risk aversion is implausibly (and astoundingly) high: between 1,840 and 5,064. Someone with a coefficient of relative risk aversion of 5000 would turn down a bet that offered a 50/50 chance of either losing \$1,000 or gaining *any amount of money* (including, say \$1,000,000,000,000).<sup>83</sup>

Why do so many people – for example, about 25% of the purchasers of consumer electronics in the UK<sup>84</sup> and 19% of car renters in the US<sup>85</sup> – buy something that is such a bad deal in expected utility terms? Camerer et al. describe one hypothesis in evocative terms. People who buy extended warranties are cognitively challenged "Homer Simpsons," who mistakenly think the warranties are a good deal, perhaps because they overestimate the cost of a repair or the frequency with which products fail and misunderstand the value of insurance against such relatively small losses.<sup>86</sup> We will call this the "mistaken calculator" hypothesis. The

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<sup>81</sup> The coefficient of relative risk aversion is defined as  $-WU''(W)/U'(W)$ , where  $U''$  is the second derivative of the utility function and  $U'$  is the first derivative, evaluated at some given wealth level  $W$ . This is the so-called "Arrow/Pratt" measure of risk aversion. See Arrow, *supra* note 8, at 94-95; Pratt, *supra* note 8, at 123, 135-36. Informed readers will realize that we are finessing a conceptually important issue, since risk aversion is measured only at a given point along an individual's utility function.

<sup>82</sup> Sydnor, *supra* note 77 at 178.

<sup>83</sup> *Id.* at 190, Table 3.

<sup>84</sup> See U.K. Competition Comm'n, *supra* note 3, at 4; Chen et al., *supra* note 19, at 615 (explaining that 31% of consumers in their data purchased an extended warranty during their observation period at one U.S. retailer and that extended warranties "constitute approximately 33% of all purchase occasions," suggesting that some people bought more than one).

<sup>85</sup> Stuth, *supra* n. 37 at 132.

<sup>86</sup> See Camerer et al., *supra* note 13, at 1254 n.144, writes that,

[I]n a classic Simpsons episode, Homer was having a crayon hammered into his nose to lower his I.Q. (Don't ask.) The writers indicated the lowering of his I.Q. by having Homer make ever

behavioral decision research suggests a second hypothesis, under which consumers buy the warranties as an emotional risk management device that reflects their (irrational but real) aversion to both loss and regret, and their mental accounting.

### 1. Emotional Risk Management

Behavioral economics offers a variety of potential explanations for preferring low deductibles and other forms of excessive insurance. We begin with regret aversion, which involves the present recognition that we will in the future evaluate our past decisions based on what actually happened, rather than (as in the expected utility analysis) based exclusively on what it was possible for us to know at the moment a decision is made.<sup>87</sup> Michael Braun and Alexander Muermann developed a model for insurance demand that adds regret aversion to the expected utility calculation and conclude that regret aversion leads otherwise rational actors to “hedge their bets” by buying insurance for low value losses.<sup>88</sup>

Regret aversion interacts with “mental accounting” – putting money into different mental categories with different emotional or other values – when people buy insurance against small losses, especially when that purchase is combined with another purchase, sometimes called “reference pricing.”<sup>89</sup> The add-on insurance premium is categorized as an

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stupider statements. The surgeon knew the operation was complete when Homer finally exclaimed: “Extended Warranty! How can I lose?”

Several readers pointed out that there is no need to put “cognitively challenged” in front of “Homer Simpson,” but we are aware that not all readers are as familiar with Homer Simpson.

<sup>87</sup> Following a classic article, regret is associated with having made a *choice* that works out badly. In their terms, “compare the sensation of losing £100 as a result of an increase in income tax rates, which you could have done nothing to prevent, with the sensation of losing £100 on a bet on a horse race.” Graham Loomes & Robert Sugden, *Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty*, 92 *ECON. J.* 805, 808 (1982).

<sup>88</sup> See Michael Braun & Alexander Muermann, *The Impact of Regret on the Demand for Insurance*, 71 *J. RISK & INS.* 737 (2004). Although this is not relevant to the present analysis, regret aversion leads people to buy less insurance than they should for severe but infrequent losses.

<sup>89</sup> See Pranav Jindal, *supra* note 20 at 6, 16 (providing an explanation and test for “reference pricing” in the extended warranty context); Richard H. Thaler, *Mental Accounting and Consumer Choice*, 4 *MARKETING SCIENCE* 199 (1985). See also Viviana Zelizer, *THE SOCIAL MEANING OF MONEY* (1995). Our favorite example is Orly Ashenfelter’s explanation of how to use mental accounting to



increase in “cost” rather than as a “loss,” making the premium payment less painful. By contrast, the financial consequences of the potentially insurable future event are categorized as a loss and over-weighted because of the emotional distress associated with loss.<sup>90</sup>

As Eric Johnson and his collaborators first fully explained in the insurance context in 1993, people experience gains and losses from a reference point. People value the first dollar of a gain the most and each additional dollar of gain less. At the same time, people hate the first dollar of a loss more than any additional dollar. In other words, they have a declining marginal *disutility* of loss that mirrors their declining marginal utility of gains. That means that people often will pay dearly to avoid a small “loss.” In the add-on insurance context, they pay what feels like a small additional cost to avoid the emotional distress associated with a larger future loss.

Behavioral economics offers several other explanations for add-on insurance products. The availability heuristic – judging an event’s probability by a particularly vivid example of that event – surely affects the purchase of all three of our examples.<sup>91</sup> The endowment effect – loosely, the tendency of people to prefer what they “have” just because they have it – likely impacts the purchase of extended warranties, and may explain why people buy the warranty once they bought the product, even though they

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drink great wine for nothing: buy cases as an “investment” and then pay nothing when you later drink a bottle.

<sup>90</sup> Johnson et al., *supra* note 11, at 42.

<sup>91</sup> JONATHAN BARON, THINKING AND DECIDING 153 (4th ed. 2007). See generally Daniel Kahneman & Amos Tversky, *Availability: A Heuristic for Judging Frequency and Probability*, 4 COGNITIVE PSYCHOLOGY 207 (1973). In the add-on insurance context, the availability heuristic could lead purchases to generalize from the examples of product failure, accidents, or death provided by the salesman to conclude that the likelihood of those events occurring was much larger than they, in fact are. In comments, Tess Wilkinson-Ryan (personal communication) put the point this way:

Dropping your iPhone, toppling your television, spilling water on your laptop – these are events that are really easy to imagine. Furthermore, when the salesperson asks, “Would you like to pay for insurance against theft, breakage, hardware malfunctions, software malfunctions, lightning strikes, etc.?” it becomes very easy to call to mind ways in which your iPhone might meet its demise.

did not plan to buy the warranty before.<sup>92</sup> The availability of the insurance (which as a general category is something that responsible people buy<sup>93</sup>), together with the salesman's helpful explanation of the benefits and the satisfied people who have bought it, can make purchasing the add-on insurance seem like the right thing to do.<sup>94</sup>

These heuristics work together to make purchasing the insurance feel like the right thing to do. As a result, many consumers are willing to pay a small additional "cost" to protect themselves against the negative emotions associated with a future "loss" that looms larger than it rationally should. While this process could be described in terms of mistakes about probabilities, we think that it is better understood as emotional risk management: paying for peace of mind

## 2. Tests of the mistaken calculator vs. emotional risk management explanations

A recent article by Marieke Huysentruyt and Daniel Read (H&R) reports the results of survey research into the purchase of extended warranties that provides some support for both the mistaken calculator and the emotional risk management hypotheses, while concluding that emotional risk management offers the better explanation.<sup>95</sup> Using convenience samples that were weighted toward people with a greater immediate need for money and, thus, more disinclined than usual to spend

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<sup>92</sup> Jonathan Baron explains that the endowment effect is a kind of status quo bias, in which "people are unwilling to give up their endowment, which they now 'have,' for what they would otherwise prefer to it." Baron, *supra* note 91, at 297.

<sup>93</sup> See TOM BAKER, *Risk, Insurance and the Social Construction of Responsibility*, EMBRACING RISK: THE CHANGING CULTURE OF INSURANCE AND RESPONSIBILITY 33, 38 (Tom Baker & Jonathan Simon eds., 2002).

<sup>94</sup> In comments, Tess Wilkinson-Ryan also offered a useful description of this point:

[S]ometimes an apparently neutral question or offer actually conveys some normative expectations. This is true for trivial questions like, "Would you like to wash your hands before we eat?" to the more serious: "Would you like to preserve your infant's cord blood?" People are being offered these weird insurance products and don't know what the prudent or responsible choice is. The limited information they have based on the offer is that apparently a market for these products exists.

<sup>95</sup> See Marieke Huysentruyt & Daniel Read, *How do People Value Extended Warranties? Evidence from Two Field Surveys*, 40 J. RISK & UNCERTAINTY 197, 215 (2010).

money today to buy future protection, H&R asked people to imagine buying a washing machine. They then asked two sets of questions that were directly related to an extended warranty offered in connection with that purchase. One set of questions elicited their evaluation of the expected financial value of the extended warranty.<sup>96</sup> A second set of questions elicited their assessment of the emotional benefits from purchasing the warranty.<sup>97</sup> They also asked a third, unrelated, set of questions that measured the cognitive capacities of the participants.<sup>98</sup>

The answers to all three sets of questions were correlated with the participants' predicted likelihood of buying the extended warranty. People who placed a higher financial value on the extended warranty were more likely to say they would buy it.<sup>99</sup> People who scored higher on the cognitive tests placed lower (but still inflated) financial values on the extended warranty and, thus, were *less* likely to say they would buy it. People who highly valued the emotional benefits were more likely to say that they would buy it. The first two correlations support the mistaken calculator hypothesis; the third supports the emotional risk management

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<sup>96</sup> These questions inquired into the fair price was for the warranty, the market price for the warranty, how often the washing machine would break down during the extended warranty period, and how much it would cost to repair the machine if it broke down. *Id.* at 203-04.

<sup>97</sup> Using a seven point Likert-scale, they asked participants to agree or disagree with six statements about the warranty:

1. It would give me peace of mind.
2. If I didn't buy it and the washing machine broke down, I would feel a lot of regret.
3. It would be comforting to have the protection of the warranty.
4. Even without the warranty I would not worry about repair costs.
5. I would feel more stress without the warranty.
6. Hopefully I won't need a repair, but I would rather not take the risk.

*Id.* at 207.

<sup>98</sup> They used the Cognitive Reflection Test discussed in detail in Shane Frederick, *Cognitive Reflection and Decision Making*, 19 J. ECON. PERSPECTIVES 25, 26-29 (2005).

<sup>99</sup> It was the predicted cost of the breakdown that most strongly affected the perceived financial value, rather than the predicted frequency of the breakdown. This is an example of probability neglect. *See* Huysentruyt & Read, *supra* note 95, at 208 (showing how participants generally overestimated the cost of repair and consequently overestimated the actuarial value).

hypothesis. Among these correlations, however, the emotional benefit assessment was by far the strongest.

Notably, the relationship between the emotional benefits reported by the individuals and their responses to the other two sets of questions was independent. In other words, the perceived emotional benefits strongly affected the willingness to buy the extended warranty, without affecting the expected financial value of the warranty. This same result holds true for participants with higher cognitive capacities. Higher cognitive functioning participants were less likely to buy the warranty, but that effect came entirely through their lower estimates of the expected financial value of the warranty, not through their emotional benefit score. Put another way, even the higher cognitive functioning people had heterogeneous assessments of the emotional benefits of an extended warranty, and the differences in those assessments strongly affected their reported willingness to buy the warranty.

Taken as a whole, the H&R result supports the emotional risk management hypothesis more strongly than the mistaken calculator hypothesis as an explanation for the demand for extended warranties. Some people were willing to buy extended warranties because they greatly exaggerated the costs of repairs, but more people – including the cognitively advantaged – were willing to buy the warranties because they highly valued the “peace of mind” the warranties provide. The logical extension of this finding is that, to at least some degree, people already know that the price for extended warranties significantly exceeds the expected cost for the company selling the warranty. People are willing to pay that (high) price because they value the emotional benefits the insurance provides.

A very recent working paper by Pranav Jindal provides some additional support for the emotional risk management explanation.<sup>100</sup> Jindal used conjoint analysis, a survey and statistical technique in which subjects choose among different combinations of features that are presented in a manner that allows the researcher to determine the relative importance of those features to the subjects.<sup>101</sup>

Jindal presented his subjects – executive and full time MBA students – with choices of washers and optional extended warranties.

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<sup>100</sup> See Jindal, *supra* note 20.

<sup>101</sup> The idea is similar to hedonic pricing models in economics. In both, the goal is to uncover valuations for individual attributes of a complex product. For example, new car buyers assign different weights to speed, looks, mileage, reliability, and so on, and the methods allow researchers to discern (average) valuations attached to each attribute. See generally Paul E. Green & V. Srinivasan, *Conjoint Analysis in Consumer Research: Issues and Outlook*, 5 J. CONS. RES. 103 (1978).

Importantly, he informed these, presumably numerate, subjects about the frequency and cost of the repairs that would be covered by the extended warranties, thereby reducing the likelihood that they would be “mistaken calculators.” He varied the choices presented to the subjects along a variety of dimensions, including the price of the washer, the price of the extended warranty, the probability of washer failure, and the cost of the repair. Using the resulting data Jindal then applied logistic regression and Bayesian modeling techniques to evaluate how subjects weighted the different features and to develop different models of the choices.<sup>102</sup>

Consistent with past experience (over half had previously purchased an extended warranty),<sup>103</sup> the subjects frequently chose the extended warranties offered in the surveys. Significantly, they were more likely to choose the warranty if they had already chosen to buy the washing machine than if they were offered the washing machine and warranty as a package, suggesting an endowment effect.<sup>104</sup> As with Sydnor’s homeowners insurance, ordinary expected utility analysis did a poor job of explaining the choices, requiring implausibly high levels of risk aversion. Allowing for loss aversion and mental accounting significantly improved Jindal’s ability to estimate a model that closely predicted the actual choices.<sup>105</sup>

While the details of Jindal’s analysis are complex, the bottom line is that incorporating loss aversion and mental accounting into the model led to a better alignment with choices, and more plausible estimates of risk aversion, than taking a pure expected utility, Economics 101 approach. While Jindal’s research cannot rule out the mistaken calculator hypothesis, the fact that there was significant variation in the preferences of his “good calculator” subjects and that this variation can be explained in good measure by differences in loss aversion lends support to the conclusions we reached on the basis of with the H&R results. People who are more loss averse place a higher value on the peace of mind that the warranties provide.

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<sup>102</sup> Consistent with standard practice in Bayesian modeling, Jindal selected a random set of cases to hold out of the models and then used the models to predict the choices made in those cases as a measure of the predictive quality of the models. Jindal, *supra* note 20, at 26.

<sup>103</sup> *Id.* at 15.

<sup>104</sup> *Id.* at 20 (“The two stage choices in the sequential survey could lead to a sense of ownership of the washer in the second stage, which manifests itself in a higher willingness to pay for the warranty”); *Id.* at 22 (“[S]ubjects are slightly more loss averse and have a higher intrinsic preference for warranties in the sequential study”).

<sup>105</sup> *Id.* at 35-36.

### 3. An important equilibrium point

As a result of these behavioral regularities, “Humans” (real people subject to ordinary behavioral biases) sometimes pay a great deal more for their insurance than would “Econs” (imaginary people who always behave as strictly rational expected utility maximizers).<sup>106</sup> Sydnor estimates, for instance, that other things equal, “homeowners could expect to save roughly \$4.8 billion per year by holding the highest available deductible”<sup>107</sup> instead of buying more expensive coverage.

As Sydnor points out, however, estimates of this sort can be seriously misleading as a guide for regulation, because they ignore the way markets equilibrate. Indeed, Sydnor concluded that the insurer he studied did not earn excess profits on its low-deductible policies, even though consumers “overpaid” for these policies relative to the expected value of the low deductible. That’s because low-deductible consumers had higher claim rates, presumably due to the presence of adverse selection. The low-deductible consumers, who had private information about their own elevated likelihood of making a claim, chose policies that reflected this information. In fact, those with a \$500 deductible had about a 50 percent higher claim rate than those with a \$1000 deductible, by various measures that controlled for the fact that people with a \$1000 deductible cannot make a claim for a \$900 loss.<sup>108</sup>

I may be able to get a better view at the ball game if I stand up, but this does not imply that *everyone* can simultaneously get a better view if we all do so. Similarly, Sydnor concludes that “[i]ndividual customers could benefit financially by avoiding over-insuring modest risk. However, if all homeowners changed their behavior, the company would likely need to raise insurance costs or create a new higher deductible in order to separate the more and less risky customers . . . . [I]f all customers had standard risk preferences, the new market equilibrium would not necessarily be welfare-improving for the customers.”<sup>109</sup>

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<sup>106</sup> RICHARD H. THALER & CASS R. SUNSTEIN, *NUDGE* (2008).

<sup>107</sup> Sydnor, *supra* note 77, at 187.

<sup>108</sup> Roughly 3-3.5% for the \$500 deductible, vs roughly 2% for the higher deductible. *Id.* at 198. It is important to control for the fact that those with a lower deductible can make claims (e.g., for between \$500 and \$1000) that those with a higher deductible cannot; thus, it is appropriate to use the rate of claims in excess of the higher deductible for this comparison. Some of the increased claiming may be the result of moral hazard. Teasing out which is a complex matter that was not necessary for Sydnor’s purposes. *Cf.* Liran Einav et al., *Selection on Moral Hazard in Health Insurance*, (NBER, Working Paper No. 16969, Apr. 2011), available at <http://www.nber.org/papers/w16969>.

<sup>109</sup> Sydnor, *supra* note 77, at 198.

To this point in the analysis, it is easy to see the appeal of insurance against small losses and, by extension, the appeal of the consumer sovereignty defense of a light touch to the regulation of that insurance. Colin Camerer and colleagues and Daniel Schwarcz follow this line of reasoning in arguing that mistakes can and should be corrected by disclosure, but that if consumers are buying, for example, extended warranties because of loss or regret aversion, or as relief for “anxiety,” they should be free to do so, because restricting their ability to make such decisions would leave them (subjectively) worse off.<sup>110</sup>

What the consumer sovereignty defense misses, however, is the institutional context. When insurance is sold as an add-on, the resulting equilibrium can, in effect, *require* the seller to exploit vulnerable consumers in order to compete in the market for the base product to which the add-on insurance is attached. Understood in this way, regulation protecting consumers from sellers pushing add-on insurance also frees up sellers to compete on the basis of what everyone understands to be their core function: selling the base product. We explain this institutional context and the equilibrium effects next, before turning to the distributional and efficiency benefits to be gained from regulating add-on insurance.

#### B. EXPLAINING THE HIGH PRICES CHARGED FOR ADD-ON INSURANCE

We begin with the “shrouding” model of two-stage or ‘tied’ purchases developed by Gabaix and Laibson.<sup>111</sup> We summarize that model here, stressing its prediction that when some actors are subject to a plausible behavioral anomaly – an anomaly that is consistent with observed behavior in the add-on insurance market – inefficient and discriminatory

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<sup>110</sup> Camerer et al., *supra* note 13, at 1253-54, noting that consumers purchase what seem to be extravagantly over-priced extended warranties and suggesting that the problem could be solved by disclosing the true frequency of repair because: “[i]f disclosure reduces warranty purchases by reminding consumers of the low chance of product breakage, then purchasing the warranty would have been a mistake rather than a preference. If informed consumers continue to purchase the warranties, then it is quite possible that they have good reason to do so, however unfathomable that decision may seem to an economist.”; Schwarcz, *supra* note 13, at 31, “[A]rgues that the insurance demand anomalies . . . can plausibly be explained as sophisticated consumer behavior to manage emotions such as anxiety, regret, and loss aversion. Moreover, the capacity of insurance to address these negative emotions is not necessarily an artifact of manipulative insurance sales or marketing. Rather, it may be a sophisticated and informed strategy on the part of consumers to manage emotions that exist independently of insurers’ (and their agents’) sales efforts.”

<sup>111</sup> Gabaix & Laibson, *supra* note 12, at 505–07.

terms can survive in equilibrium even if a substantial portion of consumers are careful shoppers.<sup>112</sup>

The shrouding model imagines a two-step purchase process of exactly the sort that takes place with add-on insurance products. In the first step, a consumer purchases a base good or service, and then in the second step *optionally* makes a secondary purchase that is somehow tied to the first. Gabaix and Laibson use examples such as a laser printer and replacement cartridges, a hotel room and telephone charges, and a car rental and a pre-paid tank of gas.

In constructing their model, Gabaix and Laibson recognize that consumers are not all alike in their shopping behavior. To simplify, they divide consumers into just two types: “myopes,” who don’t think about the possibility of future “add-ons” when they make their initial purchase, and “sophisticates,” who do. Consumers make the initial purchase in a competitive market, in which the prices charged by all sellers for the base product are completely observable. That first purchase then exposes the buyer to an optional add-on purchase from the same seller, in a market in which the price for the second purchase is unobservable at the time the initial purchase is made (unless one inquires about it). We think it is helpful to think of the second stage purchase as taking place in a “situational monopoly” in which the seller has a captive market for that purchase.<sup>113</sup> As Gabaix and Laibson observe, the second stage price – for the cartridge, the telephone charges, or the add-on insurance – typically is significantly above the marginal cost of providing the good or service. One could presumably buy an extended warranty separately from the primary purchase, but this turns out to be rare in practice,<sup>114</sup> with the result that

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<sup>112</sup> By contrast, models with heterogeneously informed consumers but *no* behavioral anomaly suggest that inefficient pricing is unlikely to survive an equilibrium. Schwartz & Wilde, *supra* note 10, at 638 conclude that “[t]he presence of at least some consumer search in a market creates the possibility of a ‘pecuniary externality’: persons who search sometimes protect nonsearchers from overreaching firms.” Moreover, in their model, if at least one third of consumers undertake comparison shopping, the market price will be close to the competitive price in a market where all consumers are informed. *See id.* at 653. But there are grounds to be skeptical about this dynamic. *See* Ben-Shahar & Snyder, *supra* note 6, at 742-49 (concluding that the empirical history of mandated disclosure has shown that there has been a history of failure in employing mandated disclosure to assist consumers in making choices in the market).

<sup>113</sup> *See supra*, n. 14.

<sup>114</sup> OFFICE OF FAIR TRADING, *supra* note 5, at 87 (indicating that 69% of extended warranties were purchased from the retailer/shop that consumers purchased the insured product from). Patricia McCoy (personal correspondence) points out to us that after she refinanced her own mortgage, she received numerous unsolicited offers for credit life insurance from insurers that were unaffiliated with



most extended warranties are sold at decidedly supra-competitive, monopoly-like prices. Their shrouded pricing model provides an explanation for why.

The explanation begins with the observation that in a competitive market, sellers must earn zero profit on the combination of TV set and extended warranty. Since the second stage monopoly allows the seller to extract supra-competitive prices for the extended warranty, the prices on TV sets must therefore be lower than they would be if they were sold on their own. Suppose now that a firm tries to compete by offering a lower second-stage price – e.g., on extended warranties – than its rival, and by alerting potential customers to the fact that its rivals charge more (“Come buy from us – we charge less for our extended warranties”). Doing so has two consequences. First, it educates the rival’s sophisticated consumers that the rival is using high profits on the add-on to subsidize low prices for the TV. The sophisticates will thus prefer to buy the TV from the rival (at the cross-subsidized price) and avoid the rival’s high add-on charges. They can do this by substituting a competitively-supplied extended warranty for that offered by the seller or, better yet, by not buying one at all and relying instead on savings or a credit card to replace the product if it breaks. Importantly, however, this advertising will have no effect on the rival’s myopic consumers, who aren’t paying attention to the second-stage transaction at all.<sup>115</sup> Thus, competitive attempts to unmask a rival’s high add-on prices will only succeed in driving sophisticated customers to the rival, and will not do anything for the firm providing the educational information. Hence, there will be no reason for any firm to try to unmask its rivals’ high add-on fees, which can then persist in equilibrium.

To bring this point home, try shopping for a rental car using Expedia or other web-based travel sites. All show a “total price” that is the base charge in Gaibaix and Laibson’s terms. None show the price for the collision damage waiver or supplemental liability insurance in any easily comparable way. If you spend enough time on the website you can find that information, but nowhere is it combined and presented in a table for

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her lender. She suggests that a separate market is possible (at least for those who do not purchase insurance from the lender at the time of borrowing), but that the disorganized state of the market and the inability of consumers to make comparisons creates a somewhat similar situational monopoly, if perhaps for different reasons.

<sup>115</sup> Consistent with the shrouded pricing model, the U.K. Office of Fair Trading reports that more than half of the people who purchase extended warranties had not considered purchasing an extended warranty before purchasing the covered product. *See* OFFICE OF FAIR TRADING, *supra* note 5, at 36 (only 39% of extended warranty holders agreed that they had intended to take out an extended warranty before purchasing the insured product).

easy comparison. Interestingly, Expedia offers a collision damage waiver that can be used at any car rental agency and that is much less expensive than those sold by the rental car companies.<sup>116</sup> If the market for collision damage waivers was competitive, rental car companies would not be able to charge so much more than Expedia. A “sophisticate” who wants a collision damage waiver will buy it from Expedia and rent the car from the company with the cheapest base charge.

We take some comfort from the fact that the existence of situational monopolies has been understood for a long time. Writing in 1958, Philip H. Peters, a Vice President at John Hancock Life Insurance, diagnosed the problem in credit life insurance as follows:

[A]buses [of consumers] are possible because *borrowers who take out personal loans or who buy on time are a captive insurance market*. Their lack of knowledge, their need or their diffidence makes them receptive when the lender or dealer suggests that the loan be insured, and they are usually unable to defend themselves against excessive charges or other overreaching. In these circumstances, competition among insurance companies does not protect the borrower. Insurers are competing for the lender’s patronage, not the borrower’s; the lender is interested in a high premium because his commission or dividend will be higher if the premium is larger.<sup>117</sup> (Emphasis supplied).

The presence of the situational monopoly undercuts the consumer sovereignty defense of a light touch, disclosure-only approach to the regulation of add-on insurance products.<sup>118</sup> Even if consumers are not “mistaken” in purchasing add-on insurance and, instead, are motivated to purchase that insurance by genuine (albeit irrational) fears or anxieties, it does not follow that they should over-pay for the insurance they purchase, as the shrouding model predicts and the evidence we reviewed in Part I shows to be the case. Even if the add-on product meets some real need that

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<sup>116</sup> Expedia, *Frequently Asked Questions*, EXPEDIA CAR RENTAL INSURANCE, <http://expediacri.berkelycare.com/product/contact-us/faq.jsf> (last visited Sept. 28, 2013); Expedia, *Why Should I buy?*, EXPEDIA CAR RENTAL INSURANCE, <http://expediacri.berkelycare.com/product/home.jsf> (last visited Sept. 28, 2013).

<sup>117</sup> Neither Peters nor the U.K. Competition Commission invoke consumer irrationality to explain the absence of competitive pricing in credit life. Peters, *supra* note 1; U.K. COMPETITION COMMISSION, *supra* note 3 at 3-10.

<sup>118</sup> See Schwarcz, *supra* note 13, at 39 (interventions monopolizing genuine consumer preferences for the benefit of those consumers are troubling because they undermine welfare economics and consumer sovereignty).

was not the product of seller-created pressure, framing, or advertising, consumers should not have to pay vastly more for such insurance than it costs to provide.

The situational monopoly that Peters identified – and that the shrouded pricing model explains – suggests a market failure that regulation could potentially address, even if insurance is purchased for “legitimate-but-non-standard” reasons such as regret- or loss-aversion. The market failure arises not from consumer motivation per se, but from the way such motivations shape the resultant market equilibrium and reduce the ability of competitive market forces to protect consumers from overpaying.

In this regard, add-on insurance products present a very different case than low deductible homeowner’s insurance. People who choose the low deductible homeowners’ insurance policies might appear to overpay for their insurance, because the low deductible is over-priced in relation to the expected benefit of the deductible considered in isolation. Yet, as Sydnor’s equilibrium analysis reveals, they do not actually overpay for their insurance as a group, because they have higher claim costs. Their preference for the low deductible functions as a sorting device that identifies them as more costly to insure.<sup>119</sup>

Add-on insurance also functions as a sorting device. But that sorting device has little or nothing to do with the cost of providing the add-on insurance. Instead, it sorts consumers according to their foresight and vulnerability to the shrouded pricing dynamic. The people who buy add-on insurance overpay for that insurance, compared to what would be paid in a competitive market, because the shrouded pricing dynamic gives the seller the ability to charge a situational monopoly price.<sup>120</sup> This price provides

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<sup>119</sup> Sydnor’s research suggests that the availability of different levels of deductibles in homeowners’ insurance facilitate what one of use has called “risk classification by design.” See Tom Baker, *Health Insurance, Risk, and Responsibility After the Patient Protection and Affordable Care Act*, 159 U. PA. L. REV. 1577, 1588 (2011) (a reduction in plan variation fosters “risk classification by design” which is the creation of separate risk pools as individuals self-select into different health care products according to their self-assessed health risk status). This is, of course, exactly what the famous Rothschild/Stiglitz model shows is the only possible (Nash) equilibrium in a world of asymmetric information. See Michael Rothschild & Joseph Stiglitz, *Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information*, 90 Q. J. OF ECON. 629, 633 (1976). The idea is to induce separation (self-selection) by offering a menu of policies such that: (i) both policies earn 0 profit, given who buys them and (ii) the high-deductible policy is cheaper but excludes just enough risk so that the high-risk group prefers the low-deductible policy. *Id.* at 636-37, 646.

<sup>120</sup> Huysentruyt & Read, *supra* note 95, at 217 (“The central feature of a functioning market is that because providers compete for the business of customers, prices are pushed downward, and consumers can get the best deal with

ample incentive to push people into buying protection that they don't really need or would be much better off buying somewhere else. The extra profits the retailers earn from that insurance reduces the base price that everyone pays for the underlying product or service, meaning that – as in the shrouded pricing model – the people who are vulnerable to the situational monopoly subsidize those who are not.

Moreover, if regret-aversion is the motivation for buying an add-on insurance product, it is not clear that the product in fact increases welfare in the manner that the defenders of consumer sovereignty assert. If there were no extended warranties available, the consumer could not experience regret for having failed to purchase one. Thus, a policy-maker who was convinced that regret-aversion was the reason for consumer purchase of insurance product could ban the insurance with no loss in welfare. This is a case where supply creates its own demand. If we think the demand is welfare-reducing, we can eliminate the supply *and* the demand at the same time.

#### 1. Efficiency Consequences of Add-on Insurance

Ending the redistribution of wealth from myopes to sophisticates is in our minds sufficient justification for regulatory action to eliminate situational monopolies. The justification is strengthened to the extent that the demand for add-on insurance products is seller-induced in the first place. But there are efficiency losses associated with add-on insurance as well, stemming from a key institutional fact that is not captured in Gaibaix and Laibson's model: the retailer's sales efforts.

In the original shrouded pricing story, sellers do not need to *induce* customers to buy the second stage product – if you own a laser printer, you can't use it for long without purchasing replacement toner cartridges. But add-on insurance is qualitatively different, because customers can and often do purchase the primary product (TV set, car rental) without ever needing to buy the insurance. We suspect that relatively few consumers would independently request extended warranties if they were not urged to buy them by sellers (though there may be more people who would continue to buy them in the future having first been persuaded to do so). At a minimum, the sellers are taking advantage of the availability heuristic (by

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the minimum cognitive effort – they do not have to combine breakdown probabilities and repair costs because warranty sellers have done it for them. To a first approximation, all consumers have to do is choose or reject the best deal amongst those available. If a consumer believes that a warranty is worth three times its objective value, but finds that she can buy it for one third of that price, she will buy it and obtain the benefits from knowing she has obtained a bargain as well as the warranty itself.”)

highlighting the possibility that the product will fail plus the certainty of death), the endowment effect (by selling the extended warranty in a second step, after the customer has decided to buy), and regret aversion (by causing consumers to imagine a future regret that would not exist absent the over-priced insurance). Quite likely they are doing even more to manipulate buyers, as the U.K. Competition Commission reported.<sup>121</sup> It would be astonishing if they were not, given the truly extraordinary profits that sellers earn on add-on insurance.

Seller efforts to induce consumers to purchase unneeded add-on insurance are a waste of salesperson and consumer time: Simply charging a higher price for the TV set and abandoning the extended warranty altogether would free up resources for more productive uses. A recent story in the New York Times gives a sense of the inefficient practices involved. According to one whistle-blower, Staples (the office products store)

[h]as in place a set of incentives that make it unpleasant, to put it mildly, for staffers to sell a computer without a whole bunch of accessories, particularly a service plan. Staples . . . has a system called Market Basket that tracks how many dollars' worth of add-ons each staffer sells. [E]ach time you sell a computer, you need to sell, on average, \$200 worth of other stuff. And that average is carefully tracked. Sales staffers who aren't meeting their goals are coached, and if that doesn't work . . . there will be disciplinary action that can lead up to termination; underperformers can also end up with lots of night and weekends shifts or even a reduction in scheduled hours.<sup>122</sup>

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<sup>121</sup> Ian Ayres, *Fair Driving: Gender and Race Discrimination in Retail Car Negotiations*, 104 HARV. L. REV. 817, 872 (1991) long ago pointed out that a few "home run" sales (those with extraordinary markups) accounted for a significant proportion of a new car dealers' profits. The pursuit of such large markups plausibly drives much of the hard sell behavior for which car sales are well-known, and an analogous set of incentives operates in the add-on insurance market. See also U.K. COMPETITION COMMISSION, *supra* note 3, at app. 2.1 (list of unacceptable practices).

<sup>122</sup> Moreover, store managers who can't keep their storewide "Market Basket" numbers up face "conference calls with district managers" and other discipline. One store manager was told: "If you can't do the job, you can go sell fries at McDonald's." David Segal, *Selling It With Extras, or Not at All*, N.Y. TIMES (Sept. 8, 2012), [http://www.nytimes.com/2012/09/09/your-money/sales-incentives-atstaples-draw-complaints-the-haggler.html?pagewanted=1&\\_r=0&emc=eta1](http://www.nytimes.com/2012/09/09/your-money/sales-incentives-atstaples-draw-complaints-the-haggler.html?pagewanted=1&_r=0&emc=eta1).

As a result, sales personnel seeking to keep their Market Basket average high will actually refuse to sell a computer to a customer who declines to purchase the extended warranty. This practice is common enough to have a name: “Walking the customer,” “because consumers are essentially shooed out the door empty-handed” if they want to buy a computer without the warranty.<sup>123</sup> While it is difficult to quantify the time and hassle consumed by such hard-sell tactics, anyone reading the customer complaints about these practices would recognize that they generate considerable frustration.

These last observations suggest a possible role for regulation that would attempt to make extended warranties and other forms of add-on insurance a better deal for consumers by addressing the market failure attributable to the situational monopoly enjoyed by the product retailer.

#### IV. REGULATORY STRATEGIES

There are four potential regulatory strategies to address the situational monopoly prices charged for add-on insurance: mandating enhanced disclosure, banning the sale of the insurance as an add-on, regulating the price of the insurance, and using information technology to eliminate the situational monopoly. Enhanced disclosure has been tried many times, including in the add-on insurance context, and the evidence shows that disclosure does not work, at least not for add-on insurance products. By contrast, banning the sale of the insurance as an add-on works well, perhaps even too well in some contexts. We recommend banning insurance add-on sales when consumers do not really need to purchase insurance together with the primary product or service, such as extended warranties and credit life insurance. But a ban goes too far when some consumers need to be able to buy the insurance as an add-on. The one example we have identified is when a consumer without a personal auto policy rents a car, but there may be other examples that have not

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<sup>123</sup> David Segal, *A Hard Sell on the Extras, Revisited*, N.Y. TIMES (Dec. 1, 2012), <http://www.nytimes.com/2012/12/02/your-money/another-look-at-a-hard-sell-on-extras-at-staples-stores.html?emc=eta1>. For another recent example, consider the practice of overbilling for collision damage waivers. Tara Siegel Bernard, *A Quick Electronic Signature at the Car Rental Office, and Then Trouble*, N.Y. TIMES (Apr. 5, 2013), <http://www.nytimes.com/2013/04/06/your-money/for-car-renters-signing-on-the-electronic-tablet-may-mean-trouble.html?emc=eta1>. According to one source, Dollar Rent a Car charged at least 100 consumers for collision damage waivers that they had explicitly denied to purchase by checking a box on an electronic data entry form. Whether this kind of overbilling represents a deliberate policy or simply a computer glitch, it is clear that the profitability of CDW’s drastically reduces the incentives to correct this problem.

occurred to us. Price regulation *could* help protect consumers from the situational monopoly pricing in such situations. We greatly prefer the fourth strategy, however: using information technology to eliminate the situational monopoly. There is some precedent for this approach. The Office of Fair Trading in the UK is in the process of implementing an information technology solution as a result of their investigation into why the Competition Commission's disclosure strategy for extended warranties didn't work. This part briefly describes these four strategies and explains our recommendations among them.

#### A. ENHANCED DISCLOSURE

Historically, enhanced disclosure has been the preferred free market regulatory strategy, including for add-on insurance.<sup>124</sup> Omri Ben-Shahar and Carl Schneider have recently described in great detail the failure of disclosure as a regulatory strategy.<sup>125</sup> One need not endorse their across-the-board rejection of disclosure to agree with their conclusions in the add-on insurance context. The shrouded pricing model fits the add-on insurance product too well to expect disclosure to work. This conclusion is borne out by the available evidence. A highly regarded U.K. government agency – the Competition Commission – recently tried a well-calibrated enhanced disclosure approach for extended warranties. It failed.

The Competition Commission conducted an investigation of extended warranties sold in connection with consumer electronics, producing an impressive and extensive report that we have relied upon for some of our empirical assertions about extended warranties.<sup>126</sup> The Commission's principle recommendation was to mandate advertising of the extended warranty price along with the price of the covered product, thereby allowing consumers to shop on the basis of the combined price.<sup>127</sup> The Commission also proposed three reforms designed to reduce the likelihood of the customer being pressured into buying the extended warranty: (1) obligating the retailer to provide an offer of an extended warranty that could be accepted at any time during the first 30 days after the purchase (so the consumer could think about it); (2) requiring the warranties to be cancellable with full refund rights for the first 30 days and on a pro rata basis for the life of the warranty; and (3) obligating the retailer to provide an informational booklet at the time of the sale that would explain to the consumer how to get an extended warranty from an

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<sup>124</sup> See Camerer, et al., *supra* note 13, at 1254; Schwarcz, *supra* note 13, at 42.

<sup>125</sup> Ben-Shahar & Schneider, *supra* note 6, at 742-43.

<sup>126</sup> See U.K. COMPETITION COMMISSION, *supra* note 3, at 15-16 (summary of the study).

<sup>127</sup> *Id.* at 10.

independent third party provider.<sup>128</sup> All four reforms were adopted by regulation, effective April 2005.<sup>129</sup>

Taken together, these reforms reflected the Commission's conclusion at the time that the excess profits from extended warranties resulted from a combination of (a) collusion among retailers to refrain from advertising the extended warranty prices and (b) improper selling practices. Because retailers know that they can make so much money from pressuring customers into buying overpriced extended warranties, the retailers collude to preserve their collective ability to charge excessive prices, or so the Commission seemed to suggest.

We are skeptical that retailers could successfully collude in this manner, however. There are hundreds (maybe even thousands) of retailers offering extended warranties, and it seems highly implausible that they could collusively agree to maintain high prices without chiseling. If making the price of the extended warranty more transparent would actually change the behavior of consumers, such that they would prefer to buy the product from the seller with the cheapest price for both the product and the warranty, then some retailer in the crowded and, to our eyes, intensely competitive consumer electronic product market would at least try competing on that basis.

The behaviorally-informed shrouded pricing model offers a much more compelling story about how supra-competitive pricing could be sustained in equilibrium, without any resort to implausible assumptions about collusion. The shrouding model accepts the behavioral decision research finding that people regularly depart from the rational actor model, focuses on the fact that people are not all the same in this regard, and then incorporates an equilibrium analysis that takes into account the behavior of both buyers and sellers. Thus, at a minimum, it provides a much more compelling explanation for the observed evidence of over-priced extended warranties than does the Competition Commission's story about seller collusion.

Our skepticism is supported by the fact that profits from extended warranties on consumer electronic products in the UK continue to be very high, despite the reforms, and the U.K. Office of Fair Trading still sees the

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<sup>128</sup> A minority of the Commission would have limited point of sale extended warranties to a maximum of one year.

<sup>129</sup> The regulation as adopted allowed for a 45 day cancellation period. See COMPETITION COMMISSION, EXTENDED WARRANTIES ON DOMESTIC ELECTRICAL GOODS: A REPORT ON THE SUPPLY OF EXTENDED WARRANTIES ON DOMESTIC ELECTRICAL GOODS WITHIN THE U.K., (December 2003), at 10 (U.K.), *available at* <http://www.competitioncommission.org.uk/inquiries/completed/2003/warranty/index/htm>; <http://www.legislation.gov.uk/uksi/2005/37/contents/made>.



market as “unfair and uncompetitive.”<sup>130</sup> As the shrouded pricing model would predict, disclosure did not work. The Office of Fair Trading conducted a follow-up investigation that concluded in 2011 that disclosure is not working and recommended, instead, recommended an information technology solution that would eliminate the situational monopoly. British retailers recently accepted that recommendation as an “agreed remedy,” perhaps to avoid the ban that we recommend for extended warranties in the add-on context.<sup>131</sup> We discuss this information technology solution below.

### 1. Why more information is unlikely to be effective

Ben-Shahar and Schneider provide an elegant taxonomy of the reasons why mandatory disclosure regimes almost never provide much protection for those they are designed to benefit. First, regulators can rarely design appropriate disclosure regimes that adequately specify what needs to be disclosed and what constitutes sufficient disclosure. Second, even when they want to comply in good faith – and this is only sometimes the case – disclosers invariably struggle to interpret the disclosure mandate, assemble the required data, and communicate it in meaningful ways. And finally, consumers routinely ignore the information disclosed (i.e., they fail to read contract terms, nutrition labels and so on), fail to understand the terms, even when they are aware of them, and fail to make appropriate use of them, if they’re understood.<sup>132</sup> As Ben-Shahar and Schneider put it:

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<sup>130</sup> See Rupert Neate, *OFT to look into extended warranties*, THE DAILY TELEGRAPH, Apr. 15, 2011, Bus. Section at p. 3 (reporting that the Office of Fair Trading (OFT) is going to examine the £750M market for extended warranties for electrical goods again; one in four customers purchase extended warranties; and the warranties are still seen by OFT as “unfair and uncompetitive.”). Prices of extended warranties have declined at traditional retailers since the reforms, but that appears to be the result of competition from internet retailers and big box stores. See *Evaluating the Impact of the Supply of Extended Warranties on Domestic Electrical Goods Order 2005*, OFFICE OF FAIR TRADING, 5-6, (October 2008), available at [http://www.offt.gov.uk/shared\\_offt/reports/Evaluating-OFTs-work/offt1024.pdf](http://www.offt.gov.uk/shared_offt/reports/Evaluating-OFTs-work/offt1024.pdf).

<sup>131</sup> *Market Review of Domestic Electrical Goods*, OFFICE OF FAIR TRADING (June 27, 2012), <http://www.offt.gov.uk/OFTwork/markets-work/othermarketswork/electrical-goods/>.

<sup>132</sup> It strikes us as ironic that Camerer, Issacharoff, Loewenstein, O’Donohue and Thaler – all distinguished behavioral economists who have made careers out of demonstrating that most of us are less-than-fully rational most of the time – suggest disclosure as the preferred regulatory solution for dealing with Homer Simpson problems. See Camerer, et al., *supra* note 86, at 1254.

[M]andated disclosure rests on false assumptions: that people want to make all the consequential decisions about their lives, and that they want to do so by assembling all the relevant information, reviewing all the possible outcomes, reviewing all their relevant values, and deciding which choice best promotes their preferences. These assumptions so poorly describe how human beings live that mandated disclosure cannot reliably improve people's decisions.<sup>133</sup>

Consider applying this schema to the disclosure of information regarding, say, extended warranties. One might be tempted to imagine that the first prong – deciding what needs to be disclosed and how – could be satisfied fairly easily (albeit at a non-trivial cost): retailers would need to compile and disclose information on the probability and cost of repair for each item on which a warranty is offered. That is, a consumer purchasing an extended warranty on the Sony TV discussed earlier<sup>134</sup> might be told: “This TV has a 2.5 percent chance of needing a repair during the warranty period, and that repair costs, on average, \$400.” But characterizing the relevant probability of repair is not straightforward, especially for new products. And cost-of-repair data are also probably difficult to describe and subject to considerable misrepresentation. Moreover, disclosure would have to be regulated as to its timing in the transaction, its precise wording, and so on. These all pose considerable challenges.

As to the second prong – implementing the disclosure regime – since sellers earn substantial profits from the extended warranties, it seems obvious that they would have a strong incentive to manipulate the information disclosed in an effort to make the warranty look more

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<sup>133</sup> Ben-Shahar & Schneider, *supra* note 6, at 705. Cf. Andrei Shleifer, *Psychologists at the Gate*, 50 J. ECON. LIT. 1080, 1089 (2012) (reviewing DANIEL KAHNEMAN, THINKING, FAST AND SLOW):

Faced with bad choices by consumers, such as smoking or undersaving, economists as System 2 thinkers tend to focus on education as a remedy. Show people statistics on deaths from lung cancer, or graphs of consumption drops after retirement, or data on returns on stocks versus bonds, and they will do better. As we have come to realize, such education usually fails. Kahneman's book explains why: System 2 might not really engage until System 1 processes the message. If the message is ignored by System 1, it might never get anywhere.

<sup>134</sup> See *supra* text accompanying notes 30-31.

appealing. One way to do this would be to exaggerate the frequency or cost of repairs (but only, of course, after the consumer has agreed to buy the TV). Another would be to focus on other aspects of the warranty – for example, stressing the hassle-reducing benefits of the warranty (“we’ll take care of everything...”). Another would be to exaggerate the length and complexity of the disclosures, and to offer, helpfully, to summarize or skip the disclosure. “Oh, yes, here’s another one of those corporate forms for you to pretend to read and sign. I hate those things? Don’t you?” Still another would be to threaten to walk customers out the door if they don’t buy the insurance after reading the disclosures.<sup>135</sup>

Finally, the third prong – getting consumers to use the information. Suppose that consumers were given the relevant data that would allow them to compare the expected cost of repair (probability of repair × cost of repair) with the cost of the warranty. And suppose this information were displayed prominently and conveyed clearly. Even so, the consumer’s decision problem is a difficult one. Consumers presumably differ in their discount rates, and in their degree of risk aversion. We suspect that many would not even know that paying \$349 for a warranty that insures against an 8.5 percent chance of a \$400 repair is a bad deal, at least not unless the disclosure stated: “Only a fool would purchase this product.”<sup>136</sup> Even then we suspect that there are plenty of salespeople who could still get consumers to buy the insurance using the methods we described along with others that we are not devious enough to think up.

#### B. BANNING ADD-ON SALES OF INSURANCE

The simplest, most straightforward way to protect consumers from situational monopoly prices in the add-on insurance market is to prohibit what the U.K. Competition Commission calls “point of sale purchase” of add-on insurance products.<sup>137</sup> This is the regulatory strategy we endorse for extended warranties, credit life insurance, and any other add-insurance product that could easily be purchased elsewhere, and for which immediate

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<sup>135</sup> See *supra* text accompanying notes 122-123. See *supra* pp. 42-43.

<sup>136</sup> It is well known that many individuals have a very difficult time understanding percentages. See Gerd Gigerenzer, *How To Make Cognitive Illusions Disappear: Beyond Heuristics and Biases*, 2 EUR. REV. SOC. PSYCH. 83 (1991).

<sup>137</sup> COMPETITION COMMISSION, MARKET INVESTIGATION INTO PAYMENT PROTECTION INSURANCE, Jan. 29, 2009, at 13 (U.K.). Patricia McCoy (personal communication) points out that Congress or the Comptroller of the Currency would also have to ban debt cancellation/suspension contracts that are very close substitutes for credit life insurance. Otherwise, the possibility for regulatory arbitrage would allow the transactions to continue in a new form.

coverage is not truly necessary. If people really want extended warranties or other kinds of add-on insurance for emotional risk management purposes, they will find that insurance in all the ways that people find other things that they want: on the internet, in the yellow pages, or through a print or direct mail advertisement.

Our proposed ban on retailers' sale of add-on insurance products is similar to, but simpler and stronger than, the complex package of reforms that the U.K. Competition Commission recommended in 2009 for payment protection insurance.<sup>138</sup> Payment protection insurance (PPI) is a commonly purchased form of insurance in the UK that combines credit life insurance with disability and unemployment protection insurance. Where credit life insurance pays the creditor only in the event of the death of the insured, PPI pays the creditor in the event of "involuntary unemployment or incapacity as a result of accident or sickness."<sup>139</sup> The Commission found that the common practice of selling PPI at the point of sale adversely affected competition in the PPI market, disadvantaging, in particular, "providers of stand-alone PPI."<sup>140</sup> The Commission prohibited the purchase of PPI at the point of sale of credit, requiring creditors to wait to sell PPI until seven days after issuing credit and mandating competition enhancing disclosures to consumers and to a regulatory oversight body in connection with the sale of PPI.<sup>141</sup>

We recommend a flat prohibition on the sale of most add-on insurance by product or service retailers. We would not allow them to sell the insurance after some cooling off window, because there are too many ways that retailers can structure the sale of the basic product or service to gain advantage in the insurance purchase even after the cooling off period. The complexity of the measures that the Competition Commission imposed to attempt to reduce this advantage makes our point. A summary

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<sup>138</sup> *Supra* note 137 at 13 (concluding that the best approach to regulating credit life and similar products is to simply prohibit distributors and intermediaries from selling payment protection insurance to their credit customers within seven days of a credit sale).

<sup>139</sup> COMPETITION COMMISSION, PAYMENT PROTECTION INSURANCE MARKET INVESTIGATION ORDER 2011, 2011, at 8 (defining "PPI") (U.K.).

<sup>140</sup> *Id.* at 3.

<sup>141</sup> The Commission initially decided to prohibit entirely the purchase of PPI at the point of sale of credit, allowing creditors to sell PPI only seven days after issuing credit and mandating competition enhancing disclosures in connection with the offer of PPI. After an administrative appeal, the Commission relaxed the prohibition slightly, allowing point of sale purchase in connection with certain retail credit arrangements (e.g., with a department store), and allowing creditors to sell PPI to their customers one day after the credit sale in certain limited circumstances. *Id.* at 2.

description of these measures fills one half of the Commission's Notice of making an order, and the measures themselves comprise 80% of the fifty-five page Order.<sup>142</sup> If product or service retailers were to be permitted to sell the insurance after some kind of cooling off period, however, similar pro-competition disclosure and reporting requirements would be necessary.

We would exclude from this prohibition the sale of damage waivers and auto liability protection by rental car companies to customers who do not have their own auto insurance policies. Such customers must have liability protection from somewhere, and they should also be able to purchase auto property damage protection. Because these customers would otherwise remain vulnerable to the shrouded pricing dynamic, however, we recommend that insurance commissioners employ the measures described in subsection 4 to eliminate the situational monopoly.

### C. PRICE REGULATION

Price regulation is a well-established approach to the monopoly pricing problem,<sup>143</sup> and has long been used in regulating insurance. Situational monopolies for add-on insurance are not classic monopolies like public utilities, but they present similar opportunities for monopoly pricing. And add-on insurance does bear some resemblance to traditional insurance, so regulating it the way we regulate many other forms of insurance might seem plausible. We do not advocate price regulation for add-on insurance, however, because of the transaction costs involved.

There is a vast literature critiquing price regulation in insurance.<sup>144</sup> Much of that literature concludes that price regulation does not in fact lower insurance prices, because the insurance market would be sufficiently competitive in the absence of such regulation.<sup>145</sup> That is unlikely to be the case here: because of the shrouded pricing dynamic and the resulting

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<sup>142</sup> COMPETITION COMMISSION, *Order*, *supra* note 139, § 2.1 at 8; COMPETITION COMMISSION, *Notice*, *supra* note 139, at 1-4.

<sup>143</sup> For a survey of regulation of monopolies, *see generally* Rick Geddes, *Public Utilities*, ENCYCLOPEDIA OF LAW & ECONOMICS (1999), available at <http://encyclo.findlaw.com/5940book.pdf>.

<sup>144</sup> *See, e.g.*, Scott E. Harrington, *Effects of Prior Approval Regulation in Automobile Insurance*, in DEREGULATING PROPERTY-LIABILITY INSURANCE: RESTORING COMPETITION AND INCREASING MARKET EFFICIENCY 285 (J. David Cummins ed., 2002) (noting that rate regulation fails to reduce average rates in competitive markets); Scott E. Harrington, *Insurance Rate Regulation in the 20th Century*, 19 J. OF INS. REG. 204 (2000) (finding that prior approval rate regulation failed to lower average rate levels or expand coverage availability in competitive markets).

<sup>145</sup> *E.g.*, Harrington, *supra* note 144, at 216; *Id.* at 309-10.

situational monopoly, competition clearly does not constrain add-on insurance pricing. That does not mean that price regulation is likely to be effective, however.

In theory, prices should be set at a level that gives sellers of add-on insurance a reasonable rate of return. In other words, regulators would ideally set prices at the actuarially fair value plus some markup for overhead, marketing, and profit. But just figuring out the actuarially fair price for extended warranties on a constantly changing array of thousands of different consumer products sold by hundreds of different retailers is a daunting task. Estimating reasonable markups for overhead and marketing costs constitutes another enormous problem, and the result would clearly be subject to manipulation by retailers in obvious ways. Nevertheless, price regulation almost certainly would be better than nothing, just not better than our preferred alternatives.

We prefer, instead, a ban on the sale of add-on insurance by product and service retailers, except in the limited exception described earlier (when a significant number of consumers need immediate coverage). For those situations we prefer eliminating the situational monopoly in the manner we describe next.

#### D. BUSTING THE SITUATIONAL MONOPOLY

The final strategy is a new regulatory approach made possible by information technology. This strategy would eliminate the situational monopoly by obligating the entity providing the core product or service (e.g., the car rental) to allow the customer to select a desired insurance product through an independently operated website accessed at the point of sale. This website would list the insurance products, features and prices, and allow consumers to use a simple comparison tool. The insurance selection feature of the website would be similar to – but much simpler than – the insurance selection feature of existing health insurance exchange websites.<sup>146</sup> For consumers who did not want the hassle of having to

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<sup>146</sup> The website for the Massachusetts health insurance exchange, known as the Massachusetts Connector (which served as the model for the health insurance exchange provisions of the Affordable Care Act), can be accessed at <http://www.mahealthconnector.org>. The leading private health insurance exchange is ehealth.com. The ehealth.com selection process is much more complicated than the Massachusetts Connector process because ehealth.com cannot provide consumers with a definitive price, due to the fact that health insurance companies are currently authorized to engage in medical underwriting. *See generally* Baker, *supra* note 119 (providing an examination of the distribution of health insurance risk and responsibility under the Affordable Care Act). For research on the complexity of health insurance choice and what to do to make that choice easier,

choose, the website could be programmed to provide a default product based on the consumer answering a few questions, or even without answering any questions other than responding with a “Yes” to “Do you want the standard protection for someone who doesn’t have their own auto insurance policy?”<sup>147</sup>

The company providing the core product or service should be permitted to receive a reasonable servicing fee when the customer buys the insurance, but this fee should be based on a formula established by the state insurance commission. The company providing the core product or service should not be permitted to obtain any other material benefit from the purchase of the insurance or from the operator of the independent website.<sup>148</sup> Otherwise, some or all of the situational monopoly profits will continue to flow to the company providing the core product or service. To explain why this is so, we will begin by critiquing a similarly motivated regulatory strategy suggested by Huysentruyt and Read, who conducted the research on extended warranties that we discussed in Part II.

Huysentruyt and Read suggested two reforms for the extended warranty market that attempt to counteract the situational monopoly that results from the shrouded pricing dynamic: (a) requiring retailers to give consumers a choice among extended warranty providers at the point of sale, and (b) allowing retailers to sell only extended warranties that were selected through a competitive bidding process conducted “on behalf of consumers.”<sup>149</sup>

Although we agree with H&R’s description of the market failure, we are skeptical that their proposals would be effective. Our skepticism is easier to explain for the first proposal: requiring retailers to give consumers a choice. As long as the retailer gets to decide which extended warranties to offer, obligating the retailer to offer consumers a choice will not reduce the situational monopoly prices. If the retailer gets to decide which choices to provide to the consumers, extended warranty providers will have to compete to be selected by the retailer. The way to win that competition is by offering the highest commissions to the retailer, not by offering the

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see Eric Johnson et al., *Can Consumers Make Affordable Care Affordable? The Value of Choice Architecture* (Univ. of Pa. Law Sch. Inst. for Law and Econ., Working Paper No. 13-28, 2012).

<sup>147</sup> The website could easily be programmed to randomly assign the customer to the standard product of one of the insurance sellers, on a turn taking basis, on the basis of market share, or any other method that the regulator prescribed.

<sup>148</sup> Note that add-on insurance is “insurance” for regulatory purposes in all states when the entity providing the insurance is different than the entity that provides the core product or service.

<sup>149</sup> Huysentruyt & Read, *supra* note 95, at 216. Note that they discuss the shrouded pricing model.

cheapest price to consumers.<sup>150</sup> Consumers may end up with a choice, but the choice will be among extended warranties sold at or near the situational monopoly price.

Our skepticism about H&R's second proposal – competitive bidding – takes a bit more work to explain. Initially, we shared H&R's intuition that a competitive bidding process would drive out the situational monopoly prices. Our intuition shifted, however, when we realized that a competitive bidding process would only break through the situational monopoly if retailers did not have the ability to influence consumers' choice among extended warranties.

If the retailer can steer the consumer to the warranty paying the higher commission, then a warranty supplier will submit a bid that builds in high commissions (so the retailer steers customers to the supplier's extended warranty). This point is pretty obvious. What is not as obvious is the following: even if all the retailer can do is influence whether the consumer buys a warranty (but not which warranty), warranty suppliers will submit bids that include high commissions.<sup>151</sup> The reason is this: if retailers are able to influence whether the consumers buy the extended warranties (a reasonable assumption in our view), then the retailers, in effect, control access to those consumers who will only buy the warranty if the retailer engages in the effort needed to persuade them to buy it. Even if the consumer who decides to buy a warranty always chooses the lowest priced warranty available, warranty suppliers will have to build into their prices compensation sufficient to motivate the retailer to make the effort needed to persuade the marginal consumer.

It would take a model that we have not created in order to work out all of the relationships among these assumptions in order to develop a thorough understanding of what will emerge from a competitive bidding process for the right to offer extended warranties to consumers.

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<sup>150</sup> This dynamic explains the very high prices for “forced place” auto and homeowners insurance. It also explains the high and discriminatory prices for credit paid by buyers of new cars who finance their purchases through the dealership that is selling them the car. *See, e.g.,* *Coleman v. Gen. Motors Acceptance Corp.*, 296 F.3d 443, 445 (6th Cir. 2002) (class action suit alleging that a car dealership's retail credit pricing system resulted in discrimination against African-American buyers); Ian Ayres, *Market Power and Inequality: A Competitive Conduct Standard for Assessing When Disparate Impacts are Justified*, 95 CAL. L. REV. 669, 692-717 (2007) (analyzing consumer policies in the automobile industry that adversely affect minority purchasers).

<sup>151</sup> Note that heterogeneity in susceptibility to retailers' sales pressure could help to explain the shrouded pricing dynamic, if we assume that people either are unaware of their susceptibility or mistakenly believe that they will be able to resist the pressure this time.



Nevertheless, we are confident that this price will reflect compensation to the retailer for “selling” the extended warranty to consumers who would not buy it if the retailer didn’t put forth some costly effort to persuade them.

H&R’s proposed reforms should be rejected for the same reasons the retailer’s commission must be fixed by regulation and retailers cannot be permitted to obtain any other material benefit from the customer’s purchase of the add-on insurance. A retailer who gets a benefit from the purchase of one kind of add-on insurance but not another will have an incentive to steer the customer. And even if the additional benefits are the same for all add-on insurance, those additional benefits will motivate sales practices that induce customers to buy add-on insurance that they do not need.

These reasons also point to a fatal weakness in the consumer sovereignty defense of a light touch, disclosure approach to regulating extended warranties. Recall that the consumer sovereignty challenge was based on research supporting the view that buying extended warranties may in at least some cases represent “sophisticated consumer behavior to manage emotions such as anxiety, regret, and loss aversion” and “a sophisticated and informed strategy on the part of consumers to manage emotions that exist independently of insurers’ (and their agents’) sales efforts.”<sup>152</sup> Yet, as long as we accept that retailers have the capacity to influence the number of consumers who buy the add-on insurance, we can see that the consumer sovereignty justification actually protects (a) sales to people who have to be persuaded, (b) a sales context that provides significant opportunity to exploit behavioral biases, and (c) a product – add-on insurance – that is demonstrably not in the average buyer’s financial interest in most situations (even if some buyers can be persuaded that it will make them feel better). Separating the buying from the selling, and the selling from the swindling is almost certainly an impossible task.<sup>153</sup> The U.K. Competition Commission’s reforms did not work in this regard, and we doubt that any real world regulator can do a better job.<sup>154</sup> Moreover, the shrouded pricing model demonstrates that, even if consumers value extended warranties for legitimate, if non-standard, reasons, the market can still be distorted in a way that leads them to pay far more than the cost of

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<sup>152</sup> Schwarcz, *supra* note 13, at 31.

<sup>153</sup> See generally ARTHUR LEFF, SWINDLING AND SELLING (1976).

<sup>154</sup> See LECG, Ltd., *Evaluating the Impact of the Supply of Extended Warranties on Domestic Electrical Goods Order 2005*, OFFICE OF FAIR TRADING 7 (Oct. 2008), available at [http://www.offt.gov.uk/shared\\_offt/reports/Evaluating-OFTs-work/oft1024.pdf](http://www.offt.gov.uk/shared_offt/reports/Evaluating-OFTs-work/oft1024.pdf) (finding spotty compliance with the disclosure requirements, misinformation regarding consumer rights, and other sales practices inconsistent with legal requirements).

providing the warranties in question. It is hard to imagine a “sovereign” consumer who would prefer that situation.

The U.K. Office of Fair Trading has recently imposed a similar, situational monopoly-busting reform of the consumer electronic extended warranty market in the UK. Like the Competition Commission’s reform of the PPI market, however, the OFT’s reform of the extended warranty market contains some loopholes that significantly increase the complexity of the regulatory apparatus.<sup>155</sup> Simpler is better in our view. If our situational monopoly busting reform for auto rental insurance were to be subject to the same kinds of exceptions as the extended warranties in the U.K. context, however, some of same kinds of regulatory complexities would be needed to prevent the re-emergence of situational monopoly pricing.

#### E. EQUILIBRIUM EFFECTS AND PRICE DISCRIMINATION

Under any of the approaches that would actually work – a ban, price regulation, or busting the situational monopoly – there would be general equilibrium effects of the sort that Justin Sydnor explored in the homeowners’ insurance deductible context. The list prices for some products and services would likely increase, Gabaix and Laibson’s “sophisticates” would receive smaller subsidies from the “myopes,” and core product sellers who depend disproportionately on profits from add-on insurance would suffer in relation to sellers who do not. One result may be to increase the share of internet commerce, as the British experience suggests that traditional retailers depend more on profits from extended warranties than internet sellers.<sup>156</sup> This latter possibility, together with the political clout of the numerous, geographically distributed traditional retail establishments (and their employees and suppliers) may provide the best explanation for why the Competition Commission failed to propose a ban on retailers’ sale of extended warranties in 2005, and why the OFT watered down its situational monopoly busting reform of the extended warranty market in 2012.

Some readers – and some of the literature on extended warranties – suggest that the resulting equilibrium might be welfare reducing, if retailers are using the add-on insurance to engage in (welfare-enhancing) price discrimination.<sup>157</sup> The idea is that the excess profits from the add-on

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<sup>155</sup> See *supra* note 5.

<sup>156</sup> See OFFICE OF FAIR TRADING, *supra* note 5, at 26.

<sup>157</sup> By extending the size of the market via selective discounts, price discrimination reduces deadweight loss. Suppose a monopolist’s profit-maximizing single price for a movie ticket is \$8. There are some older customers with reservation prices of \$5 who do not find it worthwhile to purchase a ticket at that

insurance allow retailers to lower the price of the core product. This in turn permits some additional sales to customers who would not buy at the higher price that would result if our proposal were adopted. It might ultimately be the case that the loss in welfare to those priced out of the market for TV sets exceeds the gain in welfare to those who no longer buy add-on insurance they don't need (or who buy it at a discount).<sup>158</sup> This is, of course, an empirical question, and different people will have different intuitions about the welfare analysis. Our intuition is that the savings to everyone from not being "nudged," or worse, to buy the add-on insurance, plus the large savings to the people who don't buy or don't overpay for the add-on insurance outweigh the loss in welfare from those priced out of the market by the higher price for the base product or service. But we freely admit that the alternative is possible (albeit unlikely in our view).

This empirical question raises the important normative question of what we think about price discrimination based on heterogeneity in violations of rationality, especially those that encourage sellers to exploit cognitive and other limitations. At least in the realm of insurance, where expected utility theory offers a powerful guide to value and society is already committed to strong consumer protection, we are troubled by such price discrimination, and we expect that insurance regulators are as well.

## V. CONCLUSION

We have focused on one kind of insurance that people often buy, even though a reasonably informed, rational person would not buy it (extended warranties) and two other kinds of insurance that makes sense for only some of the people who buy them (rental car damage waivers and credit life insurance) and which are just as over-priced as the first. Many of the behavioral explanations for the gap between expected utility theory and

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price. Since the marginal cost of showing the movie is zero, it is inefficient for the older customers to be priced out of seeing it. So if the monopolist can selectively lower the price for older customers without reducing the price it charges everyone else, then it will earn higher revenue, the older customers will see the movie, and other customers will be unaffected, leaving everyone better off.

<sup>158</sup> For a basic reference, see Walter Y. Oi, *A Disneyland Dilemma: Two-Part Tariffs for a Mickey Mouse Monopoly*, 85 Q. J. ECON. 77 (1971) (explaining how charging a flat fee plus a per-unit charge allows for greater extraction of consumer surplus while simultaneously reducing deadweight loss). In the extended warranty context; see Jindal, *supra* note 20 (raising this possibility in the context of results that do not allow him to determine whether this is the case); Junhong Chu and Pradeep K. Chintagunta, *Quantifying the Economic Value of Warranties in the U.S. Server Market*, 28 *MARKETING SCI.* 99 (2009) (analyzing extended warranties as a means of facilitating price discrimination in the U.S. server market and estimating their price discrimination value).

insurance purchasing practice make some sense in terms of emotional risk management. On this view, buying these kinds of insurance comes to look more like a conscious, understandable choice to buy something with real value, and less like a cognitive processing mistake that we should de-bias or ignore. If correct, this emotional risk management explanation could be understood to support a consumer sovereignty justification for these forms of insurance that leads directly to a light touch, disclosure approach to their regulation.

We conclude that this line of reasoning is wrong, at least in the case of these kinds of insurance. It fails to take into account the equilibrium analysis of the shrouded pricing model, the supply-induced nature of demand for these products, and the practical difficulties inherent in the choice/mistake distinction upon which the reasoning depends. Behavioral (and other) research has not been kind to the proposition that disclosure corrects decisional errors.<sup>159</sup> Precisely because consumers who buy add-on insurance are not fully rational, frequency-of-repair statistics and other forms of “de-biasing” education will be difficult for them to process. Behavioral research might help to make disclosure more effective,<sup>160</sup> but we see no reason to be optimistic that disclosure can fully overcome even the most minimal behavioral impediments to appropriate decision-making. This in turn implies that the distinction between mistakes (based on incorrect information) and non-standard preferences as motives for insurance purchases does not provide a solid basis for regulatory policy. Unless we define “mistakes” tautologically (as those decisions that can be altered by disclosure), *effectively* correcting mistakes will often require

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<sup>159</sup> See generally, e.g., Ben-Shahar and Schnieder, *supra* note 6 (general literature on de-biasing, w/spotty results). Nor is financial education likely to improve consumer decision-making. See, e.g., Lauren E. Willis, *Against Financial-Literacy Education*, 94 IOWA L. REV. 197 (2008) (arguing that financial education actually leads to worse consumer decisions).

<sup>160</sup> See, e.g., George Loewenstein & Peter Ubel, *Economics Behaving Badly*, N.Y. TIMES (July 15, 2010), <http://www.nytimes.com/2010/07/15/opinion/15loewenstein.html>, who write:

Behavioral economics should complement, not substitute for, more substantive economic interventions. If traditional economics suggests that we should have a larger price difference between sugar-free and sugared drinks, behavioral economics could suggest whether consumers would respond better to a subsidy on unsweetened drinks or a tax on sugary drinks. But that’s the most it can do. For all of its insights, behavioral economics alone is not a viable alternative to the kinds of far-reaching policies we need to tackle our nation’s challenges.

something more than disclosure, and thus entails making it difficult or impossible for consumers to do what they “want.”

The shrouding model we have relied on so heavily in this article offers several important insights for the application of behavioral economics to the regulation of consumer products and services more broadly. Most significantly, it shows that behavioral “flaws” don’t just influence the consumer’s decision about what/how much to buy. These flaws also shape the structure of competition between firms and the resultant market equilibrium. An analysis that focuses only on consumers’ deviations from perfect rationality (or non-standard preferences) will miss important properties of this equilibrium. Sadly, there is thus no short-cut from behavioral anomaly directly to policy recommendations: rather, as Justin Syndor’s homeowner’s insurance analysis also demonstrates, the behavioral anomalies have to be inserted into an overall model of market functioning to predict how policy can influence welfare.

We have proposed a three step regulatory solution to the add-on insurance problem. First, unless there is a compelling case that a significant group of consumers truly needs to purchase the add-on insurance product together with the underlying product or service, the sale of the insurance at the same time as the base product should be banned. Second, if there is a compelling case that a significant number of consumers truly need to purchase the insurance at the same time and place as the base product, then regulators should consider whether it is possible to create a transparent and competitive on-line market for the add-on insurance. If so, then the sellers of the base product should be prohibited from selling the add-on insurance themselves and required to provide a web access point in their establishments or on their web pages that directs the consumers to the on-line market. When a consumer purchases the add-on product at a store or from a product seller’s web link, the core product or service seller should receive a standard, state-regulated commission that will fairly compensate the seller for the cost of maintaining the terminal or the web link, without motivating the seller to push the add-on insurance. Finally, if the regulator is not persuaded that it is possible to create a transparent and competitive on-line market, then the regulator should set the prices for the add-on insurance.